DEPARTMENT OF MEDICINE – RESIDENCY PROGRAM IN INTERNAL MEDICINE

Lincoln Medical and Mental Health Center

LEARNING OBJECTIVES- 2007

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LEARNING OBJECTIVES IN INTERNAL MEDICINE

Internal Medicine is an exciting field, which has grown tremendously in the last 2 decades. At one time, it was not very hard to become a good internist. Medical knowledge acquired in the medical school, supplemented by reading around the patients' problem was sufficient to graduate from the program and be able to function independently as an internist. Now there is an enormous amount of knowledge to be acquired. Many new diseases have emerged. There are more options for investigations, treatment and guidelines for prevention and management of medical conditions that internists deal with. To attain our goal of providing comprehensive, patient centered education and making sure that at the completion of your training here, you have acquired knowledge, skills and attitude to practice successfully as an internist, we have developed learning objectives in all specialties. These documents were prepared by the Program Director in consultation with the Division Chiefs of specialties, and reviewed by the Curriculum Committee which consists of key faculty members and representatives from trainees. We have incorporated the new competencies in Internal Medicine, in accordance with the ACGME requirements which are outcome based. In addition, the objectives have been tailored to ensure that diversity of diseases in Downtown Bronx, and community needs are addressed.

We would like you to review all of the documents, educate yourself about the goals and objectives of each rotation. It is important that you review all of them, even though you may not be scheduled for a particular elective till later in the year, as the expectation is that you will have an opportunity to take care of patients with various diseases on inpatient units and continuity clinic, and not just during the elective.

To ensure that you are making progress, we advise you to do a self assessment employing the tool that has been developed. The tool includes elements specific to each specialty, to ensure that skills unique to each specialty are mastered. The self evaluation is to become part of your portfolio and will be reviewed with the Program Director or designee twice a year, to follow your growth as a physician.

Vihren Dimitrov, MD. Program Director
Anita Soni, M.D. Chair, Department of Medicine

Abdul Mondul, M.D., Associate Program Director
Balavenkatesh Kanna, M.D., Associate Program Director
Nehad Shabarek, M.D., Associate Program Director

AMBULATORY CARE MEDICINE

Goal: The goal of curriculum in Ambulatory care is to ensure that residents acquire knowledge, skills and attitude necessary for management of patients with chronic diseases, preventive medicine and disease management.

Primary Teaching Method and Setting
Primary care medicine is taught in the continuity clinic and block rotation in clinic. Residents acquire their patients from three sources, from departing senior residents, patients discharge from inpatient service and patients referred from Emergency Department. In the continuity clinic the residents follow their own patients for the duration of training at Lincoln Medical Center. Each resident has a preceptor. The resident performs history and physical examination, orders appropriate investigations, analyzes the data available and formulates a diagnosis and management plan.
Resident presents the case to preceptor who goes over the findings providing critique when necessary, writes a brief note and countersigns the resident's note. Preventive guidelines are discussed and appropriate referrals made.

Learning Objectives in Ambulatory Care Medicine
Physical examination skills
Residents are expected to perform a detailed history and physical examination on all patients on initial visit, particularly for complications of chronic diseases, such as Fundus exam for changes of hypertensive and diabetic retinopathy, foot, and peripheral circulation examination for in patients with atherosclerosis (which means most of the patients). On follow up visits, residents are expected to do a focused examination with emphasis on essentials such as foot exam in diabetic at every visit.

Presenting complaints
Residents are expected to be able to evaluate presenting complaints such as headache, weight loss, rash, fatigue, dizziness, pruritis, abdominal pain, sexual dysfunction, urinary symptoms suggestive of infection an prostate enlargement, cough, shortness of breath, palpitations, gynecologic problems such as menstrual dysfunction, urinary incontinence, menopause, backache, carpal tunnel syndrome, etc.

Differential diagnosis, evaluation and management of diseases
These include: management of chronic diseases such as DM, HTN, asthma, obesity; preventive guidelines for breast, cervical, colorectal and prostate cancer; preventive guidelines for coronary artery disease, risk stratification; preventive guidelines for osteoporosis; guidelines for management of DM, HTN, asthma.

Use and interpretation of specific tests and procedures
Residents are expected to be able to interpret commonly done tests such as LFTs, TFTs, mammogram results, bone density.

Competencies
Residents are expected to develop competencies that are particularly relevant to the care of patients with chronic diseases and address elements of all 6 Internal Medicine Core Competencies. Specific examples are listed below:

Patient care
Residents are expected to develop and implement effective management plans and integration of patient care using evidence based approach. It is essential to be culturally sensitive and be aware of the barriers to health care resulting in disparity in health care. It is also important to know principles of managed care.

Medical Knowledge
Residents are expected to learn : to manage chronic diseases according to treatment guidelines such as JNC VII report, ADA guidelines for DM to ensure adequate control of disease and prevent/ retard complications; concepts of risks and disease prevention such as diet, body weight, exercise; risk reduction strategies for coronary artery disease; screening for breast, cervix, prostate and colon cancer; manage conditions such as backache, without performing unnecessary investigations; screening for thyroid disease especially in women over 50 years; make appropriate referrals, e.g. direct referral for endoscopic procedure, bone mineral density estimation .

Practice Based Learning and improvement
Residents are expected to analyze their practice utilizing process and outcome indicators to ensure that standard of care it met. The residents review records of patients from their continuity clinic, and critique the care. The preceptor reviews resident's critique and the record to ensure that all opportunities for improvement have been identified. A feedback is given and resident instructed to read relevant material.

Interpersonal and communication skills
Residents follow their patients throughout the training period. It is expected that they develop good rapport with them. Effective listening, noticing nonverbal clues and questioning are necessary for optimal communication with the patient. Language and cultural barriers need to be overcome in order to involve patient in setting goals of treatment and participating actively in the disease management. Patient compliance with the medications and diet is essential for optimal control of HTN, DM, weight etc. Resident is expected to be able to ensure compliance by counseling and providing patient education material. Smoking is a risk factors for most of the diseases seen in clinics. Residents are expected to make an effort to get patient into a smoking cessation program. Good communication skills increase the probability that physician will be successful in the goal. Referrals are frequently made for subspecialty clinics. The resident is expected to be able to communicate with the consultant clearly.

Professionalism
Residents are expected to demonstrate compassion and trustworthiness in relationship with the patients. Resident must be sensitive to issues such as domestic violence. Patients must be inquired about other forms of therapy they might be receiving such as acupuncture, acupressure, bracelets etc. A significant number of patients believe in alternative medicine. Resident must be non judgmental concerning the use of alternative therapy. The number of patients in sessions may vary. One resident may have a disproportionate number of patients. It is expected that the other residents will offer assistance themselves and if not, will comply with the directive from preceptor when asked to help.

System based practice
As noted above, patients will frequently require referrals for investigations such as mammography, bone density, direct referral for GI procedures; social services and communication with Managed Care Company to ensure patient receives prescribed medications. The resident is expected to develop an understanding of both the opportunities and limitations of the setting, be a patient advocate and a facilitator.

Didactic experiences
Each year the faculty from General Medicine participates in the noon conferences and Grand Rounds. In addition, everyday in the clinic a brief session is held with the residents on clinical topics. These sessions are valued by both the residents and faculty. Topics covered in the didactic conferences include:
1. Hypertension JNC VII guidelines
2. Health maintenance
3. Medical diseases in pregnancy
4. Management of hyperlipidemia
5. Cultural competence
6. Cancer screening
7. Counseling

Suggested reading
Articles from syllabus.

Evaluation
The residents are evaluated by the preceptors on bi-annual basis. A mini- CEX is also performed and feedback given to the resident. Residents also evaluate the ambulatory experience and complete a self assessment to ascertain if learning objectives have been met.

Prepared by
Sanjay Dhar, MD. Division Chief, General Medicine
Anita Soni, MD, Chair, Department of Medicine
Reviewed/Updated by Vihren Dimitrov, MD. Program Director, Medicine.

GERIATRICS

Goals: The goal of curriculum in Geriatrics is to ensure that residents learn the fundamentals of care of elderly patient. To achieve clinical skills to identify medical diseases associated with aging, and altered presentation of disease in elderly.

Primary Teaching Methods and Settings Residents will encounter elderly patients on inpatient units, continuity clinic, Geriatrics clinic and providing inpatient consultations on medical and other services. Resident performs a history and physical examination which must include review of medications, geriatric assessment, functional and mental status. Based on the data collected, the resident formulates a diagnosis and management plan. Resident then presents the case to the attending physician, who verifies the findings, critiques the presentation and provides education, with discussion of pathophysiology of diseases, altered drug metabolism and special needs of elderly.

Learning Objectives in Geriatrics

Physical examination skills
Residents are expected to perform a detailed evaluation with emphasis on clinical signs of malnutrition, mental status, special senses such as vision and hearing, gait, musculoskeletal system, pressure sores, and signs of physical abuse. Resident should be able to perform a functional assessment.

Presenting complaints
Residents are expected to be able to evaluate appropriately, presenting complaints such as dizziness, syncope, anxiety/depression, insomnia, incontinence, gait disturbances, memory loss, visual and auditory impairment, inability to cope, falls etc.

Differential diagnosis, evaluation and management of diseases
In elderly, diseases may present quite differently with classical signs and symptoms being absent or blunted. Residents are expected to be able to analyze the findings on physical exam and laboratory investigations to formulate a differential diagnosis and management plan, keeping in mind that age related changes can impact on disease presentation and complications. Resident should demonstrate an understanding of the evaluation and management of geriatrics syndromes including dementia, delirium, depression, bowel and bladder incontinence, falls, and polypharmacy.

Use and interpretation of special tests and procedures
Residents are expected to be able to order tests appropriately. A risk benefit analysis should be performed before technically complex invasive procedures are considered.

Competencies
Residents are expected to develop competencies that are relevant to problems of elderly and address all 6 Internal Medicine Core Competencies. Specific examples are listed below:

Patient care
Residents are expected to complete evaluations on patient as outlined above. Elderly individual are vulnerable and may be victims of physical or emotional abuse. This condition is unfortunately under recognized. While evaluating patients the residents must be alert, so as not to overlook signs of abuse. In addition, residents should appreciate that elderly are more prone to complications in the hospital such as pressure ulcers, incontinence, decondtioning and appropriate preventive measures should be put in place. Goals for diagnosis must be established based on previously expressed wishes if patient lacks decisional capacity, and discussion with family when appropriate. There is no other patient population in which knowledge of patient preferences is more important. Because most of the information regarding medication use comes from studies on patients who are not elderly or debilitated, recommendations from the studies must be applied cautiously to the patient being treated. Protocols must be adjusted for patient's age and comorbid conditions. Residents should also be aware if there are any environmental factors in patient's environment that pose a risk to patient health and give appropriate advice to caregiver, e.g. rugs that the patient can trip over, poor lighting, unusable appliances.

Medical knowledge
Evidence based approach is important when treating patient of any age. However, patients above a certain age and with chronic conditions are specifically excluded from the clinical trials. Medical literature should be carefully and critically read when caring for elderly patients.

Practice based learning and improvement
Residents are expected to analyze their experience in taking care of elderly patients to determine how care of elderly differs from young patient with same medical condition. Some of the concepts outlined above such as altered drug metabolism, propensity to fall, nutritional status influence physician's action and patient's response to treatment. Resident should be always mindful of these concepts and continue to improve their practice.

Interpersonal and communication skills
Dementia, delirium, hearing impairment and depression may be encountered more frequently in elderly and pose challenges to the doctor-patient relationship. These challenges should be met by effective listening, attention to non verbal clues and narrative skills to communicate with patient and family/caregiver.

Professionalism
Residents are expected to demonstrate a respect for elderly patients' dignity, privacy and confidentiality. Sensitivity to issues related to patient's age is essential.

System based practice
Elderly patients usually require more services including rehabilitation, social services, home care, transportation, long term care etc. Residents are expected to have an understanding of the system and be able to collaborate with other members of the team to provide optimal care to elderly individuals.

Didactic experience
The faculty in Geriatrics Division participate in all educational activities offered in the program such as Morning Report, Core conferences, Morbidity and Mortality conferences and Grand Rounds. Residents are expected to attend all of the educational activities. Some of the topics covered in the conferences include:

1. Dementia/ Delirium
2. Urinary incontinence
3. Constipation in elderly
4. Falls
5. Osteoporosis
6. Advance Directives
7. Age related biological changes
8. Pressure ulcers

Suggested reading
Articles from Syllabus
Geriatric section from Textbooks of medicine.

Evaluation
Residents are given verbal feedback on ongoing basis and provided a written evaluation at the end of the rotation in Geriatrics service. Residents are also expected to evaluate their own performance at the end of the rotation and at periodic intervals to assess if learning objectives are being met.

Prepared by
Malay Das, MD. Chief Geriatrics Division
Anita Soni, MD, Chair, Department of Medicine

Reviewed by
Program director and Curriculum Committee.

GASTROENTEROLOGY

Goals: The goal of curriculum in gastroenterology is to ensure that the residents develop knowledge of epidemiology, pathophysiology and management of common gastrointestinal problems.

Primary Teaching Methods and Setting

When on GI rotation, the residents spend their time in endoscopy unit, clinic, and consultation service. In all these areas they work under direct supervision of a teaching attending physician. In clinic and on inpatient unit when doing consultation, the resident performs initial evaluation, gathers data, analyzes it and formulates a diagnosis and recommendations. The case is then presented to the attending, who critiques resident's note, and writes his/her own note. Residents are taught during these activities by the attending. An evidence based approach is encouraged. Didactic conferences on topics related to gastroenterology are conducted by the faculty in GI during the academic year. In addition, several times a year, GI problems are topics for Grand Rounds. Attendance by residents in these conferences is mandatory.

Learning Objectives in Gastroenterology

Physical examination skills

The residents are expected to perform a detailed history and physical examination on every patient with particular emphasis on examination of abdomen for hepatomegaly, splenomegaly, and signs of peritonitis and obstruction, and extra abdominal signs of liver disease.

Presenting Complaints

Residents are expected to be able to evaluate appropriately presenting complaints such as abdominal pain, vomiting, diarrhea, constipation, and gastrointestinal bleeding.

Differential Diagnosis, evaluation and management of GI diseases

These include: Acute and chronic hepatitis, Cirrhosis of liver; upper and lower GI bleeding; peptic ulcer disease; GERD; inflammatory bowel disease; pancreatitis; malignancies.

Use and interpretation of specific tests and procedures

Residents are expected to be able to interpret liver function tests, hepatitis serology, viral load autoimmune tests, and flat plate of abdomen. Residents are encouraged to learn to perform flexible sigmoidoscopy and become proficient. In patients with abdominal pain, CT scan is to be ordered after careful consideration of the need and impact of the results on outcome.

Competencies

Residents are expected to develop competencies that are relevant to the care of patients with abdominal diseases and address elements of all 6 internal medicine Core Competencies. Specific examples are listed below:

Patient care

Residents are expected to evaluate patient in detail, perform appropriate tests, analyze the data and formulate a diagnosis and management plan. It is a common practice to perform some tests such as CAT scan injudiciously and excessively, for evaluation of abdominal problems. Residents are expected to evaluate each patient carefully and order tests according to pre-test probabilities. This is essential in order to ensure that the patients are not subjected to unnecessary investigations and resources are utilized judiciously. An evidence based approach to patient problems is expected.

Medical Knowledge

Alcoholism and substance abuse are common in the indigent population at Lincoln Medical Center. Residents are expected to be knowledgeable in the complications of both such as, cirrhosis of liver, portal hypertension, hepatitis. Hepatitis C is also prevalent in the patients with history of injection drug use. Residents are expected to be knowledgeable about the indications for treatment.

Practice based learning and improvement

Residents are expected to review their practice periodically to determine if their practice meets standard of care. When opportunities for improvement are noted, residents are expected to develop strategies for improvement and monitor their progress.

Interpersonal and Communication skills

Screening for diseases such as colon cancer, which is curable if detected in early stages, is done in less than 25% of the population in our neighborhood. This may be due to provider complacency and patient ignorance. Residents are expected to develop skills to communicate effectively with the patient need for screening and diagnostic studies, and provide information regarding the options including risks and benefits. Counseling for abstinence from alcohol and drugs is to be provided. This may need reinforcement in several sessions.

Professionalism

Residents are expected to demonstrate compassion, integrity in dealing with the patients and peers, and be a good team player. Awareness of need for privacy, confidentiality, and comfort (during procedures) is crucial.

System based practice

Patients with gastrointestinal problems, and those requiring screening measures, may require referrals, such as financial clearance, scheduling, etc. The resident is expected to be knowledgeable about the options available, and collaborate with the staff in ensuring that appropriate care is delivered.

Didactic experience

The faculty in the Division of Gastroenterology are active participants in the educational activities offered in the program, such as Morning Report, Core conference series, Morbidity and Mortality and Grand Rounds. Some of the topics covered during the academic year are:

1. GI bleeding
2. Pancreatitis
3. Cirrhosis of liver
4. Colorectal cancer screening

Suggested reading

Articles from Syllabus.

Evaluation

Residents are expected to evaluate their competence in management of patients with gastrointestinal diseases at the end of the rotation and at periodic intervals, plan and implement strategies for improvement, and re-evaluate after a specified interval. Residents are evaluated by the attending physician and the evaluation shared both verbally and in writing.

Prepared by

Sulaiman Azeez, MD. Chief, Division of Gastroenterology.
Anita Soni, MD, Chair, Department of Medicine
Reviewed/Updated by Vihren Dimitrov, MD. Program Director, Medicine.

Reviewed by

Program director and Curriculum Committee.

INPATIENT MEDICINE

Goals: Residents are assigned to the inpatient service for a significant portion of their training in all three years. Goal of the curriculum in Inpatient Medicine is to ensure that the residents learn fundamentals of managing acutely ill patients with a wide range of illnesses, while attempting to maintain optimal balance between resident autonomy and attending supervision.

Primary Teaching Method and Setting

Residents are assigned to the inpatient units in teams. A team consists of two PGY-Is, one PGY-II and attending physician. PGY-III works with two teams. Residents are given progressively increasing responsibilities as they are promoted. PGYI residents perform initial evaluation including a detailed history/physical examination, order and interpret initial investigations, analyze data and formulate a differential diagnosis and management plan. Supervising PGYII is expected to review the case with the PGYI and provide teaching. The attending physician makes teaching and work rounds with the whole team. Usually the rounds start in a conference room where the PGYI presents new cases to the attending. These are combined teaching and work rounds. Pathophysiology and pertinent medical literature is discussed. From the cases admitted, the attending may give an assignment to the house officers to perform a search on the appropriate investigations for the condition and /or current treatments. The resident is expected to perform a literature search and make a presentation to the team. On the non admitting day the resident discusses the material with the whole team. Feedback is given by the attending. Aside from learning about various medical conditions, the residents gain an experience in working with nurses, social workers, and dietitians. They learn to request consultations. Whether examining a patient, ordering a test, writing medication orders, working with social service regarding discharge planning, the residents are acquiring new knowledge that will ultimately enable them to function independently as a well qualified internist.

Learning Objectives in Inpatient Medicine

Physical examination skills

Residents are expected to perform a detailed history and physical examination on all new patients. It is important to elicit information about patients' previous illnesses, surgeries, use of herbal medicines and other forms of alternative medicine. Depression is mostly unrecognized. Residents should be aware of this possibility and ask appropriate questions for screening every patient. Though, residents have learned physical diagnosis in the medical school, real expertise in clinical skills is acquired during training. It is for this reason that the residents are expected to be diligent in the physical examination and not lose an opportunity for improving their skills.

Presenting complaints

Chest pains, shortness of breath, fever, weakness, are the most common symptoms of patients presenting to the hospital. The resident is expected to be able to evaluate these common symptoms, ask appropriate leading questions, and arrive at a reasonable differential based on the history alone. After physical examination, the resident should be able to narrow the diagnostic possibilities.

Differential diagnosis, evaluation and management of diseases

HTN, DM, asthma, pneumonia, coronary artery disease, HIV infection, alcohol related diseases, renal failure are the most common conditions encountered on inpatient units. The residents are expected to be well versed in all aspects of the diseases: manifestations, diagnostic tests, preventive and treatment guidelines and prognosis.

Use and interpretation of specific tests and procedures

Blood chemistries, LFTs, urinalysis, EKG, CXR are some of the most commonly tests performed for hospitalized patients. The residents are expected to be able to interpret all of the tests performed. CT scans, EST, nuclear stress test and echocardiogram are also ordered when indicated. Residents are expected to use these investigations sparingly and only when the findings are expected to have an impact on either diagnosis or management plan. Indiscriminate use of ancillary tests is strongly discouraged. Excessive use of tests not only leads to increase in cost, but also results in patient discomfort.

Competencies

Residents are expected to develop competency that are relevant to the care of patient and that address all 6 Internal Medicine Core Competencies. Some of the specific examples are listed below:

Patient Care

Residents are expected to be able to provide effective, efficient, safe care based on clinical judgment, scientific evidence and patient preference. On the inpatient units, residents encounter patients from various cultures, and who speak different languages. Residents must be aware of the cultural differences that will impact on patient care. For instance, patients from some parts of the world minimize the symptoms of diseases.

Lack of awareness on part of the physician is likely to lead to under treatment. Patient autonomy is one of the patient rights. Residents are expected to involve patient in their management, attempt to ascertain what there preferences are and communicate with them effectively. Information about patient rights, advance directives is provided to each patient on admission. The physicians, however, must take a leading role in discussion of advance directives with the patient. All patients who have chronic medical condition and those who are not likely to survive must be informed about their disease and the likely course (in some cultures, all health care related decisions are made by the family and not the patient). Whenever possible an attempt must be made to assist patient in executing advance directives before the disease reaches a stage when patient is unable to participate in health care decisions.

Medical Knowledge

During the three years at Lincoln Medical Center, the residents will be exposed to a wide range of medical diseases and various presentations. Residents are expected to engage in learning about the patients' problems using evidence based approach. Knowledge of various guidelines is necessary. Understanding of pathophysiology will enable the residents to plan the appropriate investigations and treatment plan. Residents should learn to apply analytical approach to application of knowledge to patient care.

Practice based learning and improvement

Residents are expected to review their own management to identify opportunities for improvement. They should critically examine their practice of requesting various investigations to assess, if the test is based on pre-test probability of a disease and whether, they are able to interpret the results and apply to patient management adequately. Review of medical records is a useful tool for improving practice based learning for the residents. Interpersonal and communication skills

For most of the inpatients, this is the first time they are interacting with a particular resident. Differences in culture, inability to speak English, disorientation associated with the setting and fear, may be impediments to effective communication between physician and patient. Resident is expected to overcome the difficulties by using interpretation services available, verbal and non verbal skills to communicate effectively with the patient. Very often the patient will require a consultation from subspecialist. The resident is expected to: provide brief pertinent history, physical examination, results of preliminary investigation, management provided and formulate the reason for consultation clearly. Direct verbal communication with the consulting service is strongly encouraged for both effective communication and resident education. On the inpatient units residents interact with nurses, social workers every day for patient management and discharge planning. Being a good team player can lead to a rewarding experience, and minimize the stress related to assignment on a busy inpatient. It is of utmost importance that the discharge summary includes a clear documentation of, reason for admission, course, investigations performed and treatment provided, for patient's primary physician with whom the resident should have communicated at the time of admission.

Professionalism

Residents are expected to demonstrate compassion, sensitivity, understanding when dealing with the patients and family. Patient privacy and confidentiality must be respected at all times.

System based practice

Acutely ill patients frequently require investigations such as radiographic studies, non invasive cardiac procedures etc. Patients with disability may need social services or transfer to a rehabilitation center. The residents are expected to have an understanding of the opportunities and limitations and be able to navigate the patient through the system. At all times resident must be a patient advocate.

Didactic experience

All of the faculty members participate in educational activities, which include core conferences, Grand Rounds, Mortality and Morbidity Conference, Tumor Board. Residents are expected to attend all of the conferences.

Suggested reading

Textbook of Medicine
Uptodate
MKSAP

Evaluation

A written evaluation is given by the attending with a verbal feedback in the middle of the cycle. Residents also evaluate the experience and complete self assessment.

Prepared by

Anita Soni, MD, Chair, Department of Medicine
Reviewed/Updated by Vihren Dimitrov, MD. Program Director, Medicine.

Reviewed by

Program director and Curriculum Committee

MEDICAL INTENSIVE CARE UNIT

Goal: The goal of curriculum in Medical Intensive Care Unit is to ensure that the residents acquire knowledge, skills and attitude necessary for managing critically ill patients, learning to recognize deterioration of status early and prevent progression to severe illness, deal with issues related to end of life care, and to utilize resources judiciously.

Primary Teaching Methods and Setting
The Critical Care Unit at Lincoln Medical Center is a 22 bed combined medical and cardiac care unit. Average daily census in MICU is 15-18. Residents are supervised by two attendings from Division of Pulmonary and Critical Care. The attending makes rounds in the morning. All cases are discussed in detail and pathophysiology and management discussed. Didactic conferences on critical care medicine related topics are conducted during the year and attendance by residents is mandatory.

Learning Objectives in MICU

Physical examination skills
The residents are expected to be able to do a detailed physical examination, recognize signs of inadequate perfusion, barotrauma, impending respiratory failure etc.

Presenting complaints
Residents are expected to be able to evaluate presenting complaints such as fever, shortness of breath, chest pain and neurological deficit.

Differential diagnosis, evaluation and management of critical illnesses
These include: acute respiratory failure, circulatory shock, severe electrolyte disturbances, drug overdose, acute renal failure, coma, endocrine disorders such as adrenal insufficiency, thyroid storm, DKA, hyperosmolar states, severe GI bleeding, TTP, sickle cell crisis, principles of blood transfusion.

Use and interpretation of specific tests and procedures
Residents are expected to learn the indications and contraindications of various invasive procedures done in the MICU, such as insertion of internal jugular and subclavian lines, insertion of pulmonary artery catheter and interpretation of hemodynamic profile, insertion of arterial lines, mechanical ventilation and use of non invasive ventilatory support.

Competencies
Residents are expected to develop competencies that are particular to the care of critically ill patients and address all 6 Internal Medicine Core Competencies. Specific examples are noted below:

Patient Care
Residents are expected to perform a detailed history and physical exam, evaluate the laboratory data and formulate a diagnosis and differential diagnosis, and to make management plans based on clinical judgment, scientific evidence and patient preferences. All of this is to be clearly reflected in the write ups.

Medical Knowledge
Residents are expected to acquire medical knowledge in the topics noted above. Specifically, these include: pathophysiology of shock states, respiratory failure, renal failure; appropriate investigations and management based on scientific evidence. Some of the procedures such as PA catheterization, performed in ICU are associated with significant morbidity. Residents must be familiar with the pitfalls in hemodynamic monitoring. Ability to recognize the wave forms, read pressures accurately, interpret the hemodynamic profile and plan appropriate management is essential. Residents must possess knowledge of vasoactive agents, neuromuscular blockers, and pharmacokinetics of drugs in critically ill and mechanical ventilation.

Practice based learning and improvement
Residents are expected to continuously evaluate their management decisions utilize the knowledge in development of strategies to improve patient care. In case a complication occurs, such as pneumothorax, medication error, resident is expected to report to his/her superior immediately. A detailed and honest discussion with the team then takes place and corrective measures implemented if needed, to prevent future adverse events.

Interpersonal and Communication skills
Intensive care unit is a stressful environment for both physicians and patients and their families. Sounds from alarms, multiple providers, present a challenge to effective doctor-patient relationship. In addition, patients may be unable to communicate and express their wishes regarding care, because of presence endotracheal tube and sedation/paralysis. Residents are frequently involved in obtaining informed consent for the procedures and transfusion of blood products. Residents must be able to effectively communicate with patient/family, using narrative skills. For patients who are not expected to survive the ICU stay, residents are expected to communicate with family to ascertain patient preferences regarding end of life care, with compassion and understanding. In the beginning, this aspect of ICU experience can be intimidating to residents. They are however, expected to acquire the skill by participating in patient conference conducted by the attending physician and listening actively. ICU patients frequently require consultations from other services. The resident is expected to be able to write an intelligent consult and clearly formulate the question for the specialist. Residents must be good team players.

Professionalism
Residents are expected to demonstrate compassion, sensitivity, and respect in relationship with patients and family. Patient's need for comfort must be addressed.

System Based Practice
ICU patients frequently require procedures and investigations for which they may need to be transported to other areas of the hospital. The residents are expected to be able to ascertain the utility of the results of investigation in management decision and be able to collaborate with the team members. Residents are expected to be knowledgeable about ethical and legal aspects of critical care such as, forgoing and withdrawal of life sustaining treatments, Do Not Resuscitate designation, Living Will, Durable Power of Attorney for health care decision.

Didactic Experience
The faculty from Pulmonary/ Critical Care division participates in formal education program, including noon conferences, Grand Rounds, Morbidity and Mortality conferences. Topics discussed in these conferences include:
1. Shock.
2. ARDS
3. Mechanical ventilation
4. Hemodynamic monitoring
5. Medical complications of pregnancy.

Suggested reading
Marino's Textbook of ICU.
Journal articles from syllabus

Prepared by
Riyad Basir, MD. Chief Division of Pulmonary and Critical Care.
Anita Soni, MD, Chair, Department of Medicine
Reviewed/Updated by Vihren Dimitrov, MD. Program Director, Medicine.

Reviewed by
Program director and Curriculum Committee.

NEUROLOGY

Goals: The goal of curriculum in Neurology is to ensure that residents develop competency in evaluation of neurological symptoms, signs and conditions as encountered by a practitioner of internal medicine. After completing the training, residents must be able to work in managed care environment to evaluate neurological symptoms, make use of technologies and know when to make referrals to a neurologist.

Primary Teaching Methods and Setting
Patient care is taught in Neurology clinic and consultation service when on Neurology elective and during assignment on inpatient units (regular and special care). In the clinic, residents see patients individually in a comfortable, private and well equipped room. They obtain history and physical examination, review medical records and laboratory data, formulate a differential diagnosis and management plan, and then present the case to the attending physician. The attending critiques the presentation, examines the patient and provides in depth teaching on the neurologic issue including pathophysiology of the disease. When on consultation service, the resident evaluates the patient similarly and presents all the cases to the attending. As in the clinic setting, the attending critiques presentation, examines patient, reviews CT imaging of brain on the PACS radiology system, and provides teaching.

Learning Objectives in Neurology

Physical examination skills
The residents are expected to be able to perform a detailed neurological examination including fundus exam.

Presenting complaints
Residents should be able to evaluate presenting complaints suggestive of nervous system disease, such as weakness, cognitive disturbances, imbalance, vertigo, neuropathic pain, tremors and headache.

Differential Diagnosis, evaluation and management of diseases of nervous system
These include cerebrovascular accidents, seizure disorder, CNS complications of HIV infection, critical illness poluneuropathy, parkinsonism, metabolic encephalopathies, persistent vegetative state, and brain death evaluation.

Use and interpretation of specific tests and procedures
Residents are expected to be able to perform safely lumbar puncture and interpret the findings. Tests for brain death are performed by attending in the presence of residents. They are expected to acquire knowledge of criteria for brain death. Similarly, residents review CT scans with the attending and develop an understanding of appearance of hemorrhage, infarct, obstructive hydrocephalous, brain atrophy etc.

Competencies
Residents are expected to develop competencies that are relevant to the care of patients with diseases of nervous system and that address all 6 internal medicine core competencies. Specific examples are listed below:

Patient care
Residents are expected to be able to provide effective, efficient, and safe care, based on clinical judgment, scientific evidence and patient preference. End of life issues such as advance directives, pain management, and use of life prolonging measures must be discussed with the patient/family. For optimal care, these discussions should preferably start when the patient is still capable of participating in decision making.

Medical Knowledge
Residents are expected to be knowledgeable about the medical problems listed above. Knowledge of guidelines for prevention of disabling diseases such as stroke is essential for management.

Practice based learning and improvement
Residents are expected to analyze their performance with regarding to eliciting pertinent history and physical findings, utilization of technologies and ability to synthesize the data and make a differential diagnosis and management plan continuously .Based on this analysis, they are expected to develop strategies to improve quality of care.

Interpersonal and communication skills
It may at times be difficult to communicate with a patient with neurological problem because of aphasia or depression associated with some problems. For optimal care to occur, the resident must employ observational skills in addition to questioning and listening, to communicate effectively with the patient. When performing neurology consults on the medical units or on other services, the resident must be able to communicate effectively with the primary team, the possible diagnosis and recommendations. The written consult must be legible, clearly thought, and use evidence based approach. Whenever possible, it is desirable to include references for the recommendation being made for educational purpose. Discussion of patient preferences and end of life issues requires an ability to convey to the patient clearly the diagnosis and prognosis. Residents are expected acquire these essential skills and be able to communicate without discomfort by observing the senior residents or attending physicians in patient/family conferences. Role playing with other residents is a useful method of learning the skill.

Professionalism
Residents are expected to demonstrate compassion and sensitivity when dealing with the patients. Attention must be paid to patient privacy and confidentiality.

System based practice
Residents care for patients with neurological problems in different settings such as inpatient unit, neurology and continuity clinics. Patients frequently require referrals for tests such as CT scan, MRI, EEG, and for social and rehabilitation services. Residents must have an understanding of both the opportunities and limitations of the setting and be able to collaborate with other team member to assist patient in dealing with the system and provide comprehensive and compassionate care.

Didactic experience
Faculty in the division of Neurology participates in all of the educational activities offered in the program such as Morning Report, core conferences and Grand Rounds. Attendance is mandatory. Some of the topics covered at these sessions Include:
1. Stroke.
2. Seizure disorders
3. Peripheral neuropathy

Suggested reading
Clinical Neurology by Aminoff et al (by Appleton and Lange).
Articles from Syllabus

Evaluation
Residents will be evaluated by the attending physician both in writing and verbal feedback will be given during rotation. In addition, residents will perform a clinical evaluation exercise in presence of attending physician to ensure that the physical examination skills have been mastered. The residents are also expected to evaluate their own performance, at the end of the neurology elective and at periodic intervals. This evaluation will be part of the portfolio and will be reviewed by the program director at the bi- annual meetings.

Prepared by
J. Zisfein, MD., Chief Division of Neurology
Anita Soni, MD, Chair, Department of Medicine
Reviewed/Updated by Vihren Dimitrov, MD. Program Director, Medicine.

Reviewed by
Program director and Curriculum Committee.

PULMONOLOGY

Goals: The goal of curriculum in Pulmonology is to ensure that residents acquire knowledge, skills and attitude necessary for diagnosis and management of patients with diseases of respiratory system.

Primary Teaching Method and Setting
Patient care is taught on inpatient medical unit while doing consultation on patients, in Asthma and Pulmonary clinics and Pulmonary function Laboratory. Didactic conferences are conducted by faculty in Pulmonary/Critical Care division. The resident is encouraged to read material form textbooks, journals on topics related to the patient problems.

Learning Objectives in Pulmonary

Physical Examination Skills
The residents are expected to perform a complete physical examination especially as it pertains to the cardiopulmonary system, such as clinical signs of pulmonary hypertension, parenchyma lung disease and pleural effusion.

Presenting Complaints
Residents are expected to be able to evaluate appropriately presenting complaints such as shortness of breath, chest pain of pulmonary etiology, cough and hemoptysis.

Differential Diagnosis, Evaluation and Management of Pulmonary Diseases
These include: obstructive lung diseases with special emphasis on management of asthma, including stratifying the severity, patient education, self management including Asthma action plan and management according to NIH Guidelines; interstitial lung diseases including sarcoidosis, idiopathic pulmonary fibrosis; lung cancer, etiology, risk factors, staging and treatment; pulmonary vascular diseases such as pulmonary embolism and pulmonary hypertension; pulmonary infections such as community acquired and nosocomial pneumonias, TB; AIDS related pulmonary problems such as PCP pneumonia and other opportunistic infections; pleural diseases such as pleural effusion and mesothelioma.

Use and Interpretation of Specific Tests and Procedures
The residents are expected to be able to order appropriate tests, evaluate the results and utilize them in patient management. These tests include: ABGs; chest radiograph; CAT scan of chest; ventilation perfusion scan; spirometry; heart catheterization and indications and contraindications of bronchoscopy. Residents should be able to perform the arterial puncture, thoracentesis and spirometry appropriately and safely.

Therapeutic Modalities
The residents are expected to be able to develop an appropriate treatment and rehabilitation program. The treatment modalities include but are not limited to:
Oxygen therapy, bronchodilator therapy, mechanical ventilation, antibiotics and anticoagulation.

Competencies
Residents are expected to develop competencies that are particularly relevant to the care of patients with cardiac diseases and that address elements of all 6 Internal Medicine Core Competencies. Specific examples are noted below:

Patient Care:
The residents are expected to be able to develop and implement effective and appropriate patient management plans. Informed recommendations are made based on clinical judgment and literature review. Patient autonomy is to be respected and patient preferences discussed regarding ventilation in patients with airway diseases. Patients with chronic lung diseases must be educated about natural history of disease and patient preferences elicited in case of need for long term ventilatory support.

Medical Knowledge:
Residents are expected to make appropriate recommendations based on scientific evidence when performing consultation, appreciate social issues especially in management of chronic conditions such as asthma. Asthma is one of the top ten diagnoses at Lincoln Medical Center. Prevalence and mortality of asthma is higher in Downtown Bronx than in the NYC and US. The residents must be well versed in the Guidelines in management of asthma. Residents must be familiar with the American Thoracic Society guidelines for management of pneumonias.

Practice Based Learning and Improvement:
Residents are expected to be able to analyze and evaluate their performance when dealing with the patients with pulmonary diseases and to develop strategies to continually improve the quality of patient care. Residents are expected to be able to utilize the laboratory date in making recommendations.

Interpersonal and Communications Skills:
Residents are expected to be able to communicate diagnosis, risk factors, treatment and prognosis to the patient effectively. Patients are to be provided counseling regarding Smoking cessation including passive smoking and environmental exposure. For optimal communication, these conversations may need to occur on multiple occasions. Patients with progressive lung diseases must be educated about the disease and informed of need for life prolonging measure such as ventilatory support. Patient preference in terms of life prolonging measures when the likelihood of survival is low must be elicited. Patients must be counseled about executing advance directives such as Living will and Health Care Proxy. The discussions require sensitivity, compassion and respect. The residents are expected to be able to conduct the discussions with patients and family members. A substantial amount of time during the pulmonary rotation will be spent in performing consultations. The residents are expected to be able to clearly articulate assessment and recommendations using evidence based approach to the primary team both verbally and in writing.

Professionalism:
Residents are expected to deal with patients and colleagues in a professional manner. A number of patients may be consuming herbal medications and receiving other forms of alternative treatments such as acupuncture for asthma. Confidentiality and non judgmental approach is expected.

System Based Practice:
Patient may require referrals for various investigations and social services. The residents are expected to develop an understanding of both the opportunities and limitations of practice setting and to collaborate with other members of the team to deliver optimal care.

Didactic experiences
Faculty members participate in formal educational activities such as noon conferences, Grand Rounds, Morbidity and Mortality conferences. Attendance is mandatory except under exceptional circumstances. The following topics are covered:
1. Asthma
2. Pulmonary Function Tests.
3. Interstitial lung diseases
4. Pleural diseases.

Evaluation
Residents are expected to evaluate their experience in pulmonary service and ascertain if the goals and objectives were met. The residents in turn are evaluated by the attending physician using a nine point scale.

Suggested Reading Material

Prepared by,
Riyad Basir, MD., Chief of Pulmonary and Critical Care Medicine.
Anita Soni, MD, Chair, Department of Medicine
Reviewed/Updated by Vihren Dimitrov, MD. Program Director, Medicine.

Reviewed by
Program director and Curriculum Committee

RHEUMATOLOGY

Goals: The goal of curriculum in Rheumatology is to ensure that the residents develop competencies in the evaluation of musculoskeletal symptoms, signs and conditions that a general internist is likely to encounter in practice, and be able to perform appropriate investigations and make a referral to a rheumatologist.

Primary Teaching Methods and Settings
Residents are taught rheumatology during Rheumatology elective in the clinic as well as on inpatient unit when consulting on patients. In addition, residents learn to manage patients while on ward, ICU or ED assignment. In both the clinic and inpatient unit, the resident performs initial evaluation with history, physical examination, reviews laboratory investigations and formulates a diagnosis and management plan. The case is then presented to the attending physician, who critiques the presentation, performs physical exam with the resident, discusses the pathophysiology and management, and provide education. The resident is taught how to order and interpret pertinent laboratory investigations and perform diagnostic procedures.

Learning Objectives in Rheumatology

Physical examination skills
The resident is expected to be able to perform a detailed exam with attention to musculoskeletal system, including: gait, posture, deformities of joints, range of motion, examination of spine, sciatic nerve stretching test, sacroiliac and hip joints, motor function of extremities.

Differential diagnosis, evaluation and management of musculoskeletal diseases
These include, rheumatoid arthritis, SLE, seronegative spondyloarthritis, crystal induced arthritis, osteoarthritis, vasculitidies, osteoporosis, temporal arteritis.

Use and interpretation of specific tests and procedures
Residents are expected to be able to perform aspiration of knee joints and interpret the synovial fluid, review radiographs of joints, interpret rheumatoid factor, ANA, anti-DNA, antiphospholipid antibodies, cryoglobulin, etc.

Competencies
Residents are expected to develop competencies that are relevant to the care of patients with musculoskeletal problems and that address all 6 internal medicine Core Competencies. Specific examples are listed below:

Patient care
Residents are expected to provide care that is compassionate, effective and safe, based on clinical judgment and scientific evidence. After completion of their training, most of the residents will work in a managed care environment, in which the internist is expected to do initial evaluation, order and interpret investigations, before referring patient to a specialist. It is imperative that the residents acquire enough clinical judgment, in order to practice as an internist.

Medical Knowledge
Residents are expected to be knowledgeable about the diseases listed above. Though residents receive a lot of instructions in rheumatology in various settings, they are expected to read independently and remain up to date with the current literature pertinent to patients' problems.

Practice based learning and improvement
Residents are expected to identify areas for improvement and implement appropriate strategies. They should be able to evaluate patient care practices and to improve based on scientific evidence.

Interpersonal and communication skills
Residents are expected to be able to communicate effectively with the patient and other members of the team. It is not uncommon for patients with joint diseases to use alternative forms of treatment such as acupuncture and herbs. As there may be an interaction between herbal treatments and prescribed medications, it is essential that the resident elicits the history from patient. This can be accomplished only by developing a rapport with the patient and by being sensitive about diversity of patients. While performing a consultation, residents is expected to be able to write clearly, a focused consultation with the pertinent data, assessment and recommendations regarding investigations and management plan. Residents are expected to be a team member and work effectively with the nurses, social workers and other personnel.

Professionalism
Residents are expected to demonstrate compassion, respect, sensitivity and integrity when dealing with the patients. A respect for patients' beliefs, cultural diversity and preferences is required for effective patient management.

System based practice
The residents are expected to be able to apply cost effective strategies to prevention, diagnosis and treatment of conditions without compromising quality of care. Patient with chronic rheumatologic problems frequently require referrals to rehabilitation, social services and visiting nurse. The residents are expected to have an understanding of opportunities and limitations of the practice setting and negotiate the system, to ensure optimal patient care.

Didactic experience
The faculty in the Division of Rheumatology participates in various educational activities offered in the department of medicine, such as Morning Report, core conferences Grand Rounds. Some of the topics covered include:
1. Systemic lupus erythematosus
2. Scleroderma
3. Seronegative arthritis
4. Osteoarthritis and low backache
5. Rheumatoid arthritis
6. Vasculitides

Suggested reading
1. Primer in Rheumatology
2. Articles from Syllabus

Evaluation
Residents are evaluated by the attending physician and a verbal feedback given in the middle of rotation. A written evaluation is done at the end of the rotation. Residents are expected to evaluate their own performance in rheumatology at the end of the elective and at periodic intervals.

Prepared by
D. Ramaswamy, MD., Chief Division of Rheumatology
Anita Soni, MD, Chair, Department of Medicine
Reviewed/Updated by Vihren Dimitrov, MD. Program Director, Medicine.

Reviewed by
Program director and Curriculum Committee.

WOMEN'S HEALTH

Goals: The goal of curriculum in Women's Health is to ensure that the residents acquire knowledge, skills and attitude necessary for prevention, screening, diagnosis and management of conditions that are unique to women, and outpatient screening, diagnosis and treatment of non obstetrical conditions of the reproductive system.

Primary Teaching Methods and Settings
Patient care is taught on inpatient medical units, continuity clinic and assignment to Women's Health Center, where residents gain experience under the supervision of the Program Director of Obstetrics and Gynecology or a designee. Didactic conferences on topics related to women's health are conducted by the faculty. Joint Grand Rounds are held with the Department of Obstetrics and gynecology on various topics as well. The resident is encouraged to read material from textbooks, journals and selection of articles.

Learning Objectives in Women's Health

Physical examination skills
Residents are expected to be able to perform breast examination, bimanual pelvic examination of uterus and ovaries, and perform PAP smear.

Presenting complaints
Residents should be able to appropriately evaluate presenting complaints such as unexplained vaginal bleeding, amenorrhea, post partum depression, vaginitis, incontinence, sexual dysfunction, symptoms of menopause and medical problems during pregnancy such as shortness of breath, palpitations etc.

Differential diagnosis, evaluation and management of diseases in women
These include screening for breast and cervical cancer, management of a patient with breast cancer, osteoporosis, eating disorders, abnormal Pap smear, endometriosis, genital herpes, pelvic inflammatory disease, vaginitis, medical complications of pregnancy such as hypertension, thrombotic thrombocytopenic angiopathy, post partum cardiomyopathy, eclampsia etc. Knowledge of indications for hormone replacement therapy.

Use and interpretation of specific tests and procedures
These include examination of vaginal smear for clue cells, interpretation of Pap test results, mammogram results, and bone densitometry.

Competencies
Residents are expected to develop competencies that are particularly relevant to the care of women and that address elements of all 6 Internal Medicine Core Competencies. Specific examples are noted below:

Patient Care:
Residents are expected to develop and implement effective patient management plans and integration of patient care and to make informed recommendations to patients based on clinical judgment, scientific evidence and patient preference.

Medical Knowledge:
Gender perspective need to be incorporated in all teaching, specifically effects of sex, age and gender on frequency, presentation and management of acute and chronic illnesses. Residents are expected to learn to: appreciate social issues that affect women more frequently than men such as domestic violence; understand knowledge base limitations due to gender bias in research; understand principles and concepts of normal female reproductive physiology, post partum depression; and understand concepts of risks and disease prevention such as diet and body weight, calcium and iron intake, exercise, safe sex, evaluation of breast mass, urinary incontinence; understand management and risks and benefits of therapies such as hormone replacement therapy.

Practice-Based learning and improvement:
Residents are expected to analyze and evaluate their practice experiences to determine how care of women may differ from that of men. Based on analysis and evaluation of his/her practice experience with women, the residents are expected to develop strategies to continually improve the quality of patient care.

Interpersonal and Communication Skills:
Conditions such as depression and eating disorders may be encountered more frequently in women and pose challenges to doctor-patient relationship. For optimal care and communication to occur, these challenges must be met by using effective listening, nonverbal, questioning and narrative skills to communicate effectively with the patient. Consultations from other clinical services are often needed to meet the special needs of women such as ob/gyn, radiology, medical oncology, surgery and other therapies. The resident is expected to learn to be a good team player in management of patients.

Professionalism:
Residents are expected to demonstrate respect, compassion, integrity and trustworthiness in relationship with patients. Sensitivity to issues such as violence, trauma, and patient needs for comfort, dignity and privacy is essential. Confidentiality and non judgmental approach are expected.

System Based Practice:
The residents care for women in different settings such as Women's Health Center, continuity clinic and on inpatient setting. Patients may require referral for tests such as mammogram, bone densitometry, social services as in the case of abuse. The resident is expected to develop an understanding of both the opportunities and limitation of practice setting and to collaborate with other members of the health care team to assist patients in dealing effectively with systems.

Didactic experience
Each year faculty from Internal Medicine participates in a formal education program including Medical Grand Rounds, Morning Report, noon conferences and other programs. Topics in Women's Health that are discussed in these conferences include:

1. Incontinence
2. Depression
3. Osteoporosis
4. Infertility
5. Breast cancer
6. Medical Complications of pregnancy

Suggested reading
Articles from syllabus

Evaluation
Residents will be expected to evaluate their performance in management of problems in women to assess if the learning objectives have been met. As residents acquire knowledge and experience in issues related to women's health in a variety of settings including, inpatient setting, continuity clinic and from rotation in Ob/Gyn clinic during the Ambulatory care block rotation, residents are advised to review the objectives and evaluate themselves every quarter.

Prepared by:
Anita Soni, MD, Chair, Department of Medicine
Reviewed/Updated by Vihren Dimitrov, MD. Program Director, Medicine.

Reviewed by:
Program director and Curriculum Committee.

NEPHROLOGY

Goals: The goal of curriculum in Nephrology is to ensure that residents acquire knowledge, Skills and attitudes necessary for management of patients with kidney diseases, in both inpatient and outpatient settings.

Primary Teaching Methods and Settings
The three major components of nephrology service are consultations, renal clinic and Chronic Hemodialysis Unit. Renal service receives consultations requests from medical inpatients units, patient followed in the outpatient medical clinics and non medical services. The residents play primary consultant role along with the attending. It is through the performance of the consultations that the residents will cover most of the learning objectives, especially acute renal failure, advanced chronic kidney disease, fluid and electrolyte disorders, acid base disorders and renal emergencies. Hemodialysis unit gives the residents opportunity to learn about indications for hemodialysis, unique problems of patients with end stage renal disease. In renal clinic residents learn about evaluation and management of hypertension, proteinuria, hematuria, and chronic kidney disease patients with emphasis on pre ESRD and ESRD and its complications.

Learning Objectives in Nephrology

Presenting complaints
Residents are expected to be able to evaluate presenting complaints such as hematuria, oliguria, polyuria, chest pain due to uremic pericarditis, shortness of breath in the setting of renal failure.

Physical examination skills
Residents are expected to be able to perform a thorough physical examination, including bimanual examination for kidneys, and search for abdominal bruits.

Differential diagnosis, evaluation and management of kidney diseases
Residents are expected to be able to evaluate renal function, differentiate acute from chronic renal failure, pre renal and renal azotemia, evaluation of hematuria, proteinuria, nephritic and nephrotic syndrome and recognize refractory and secondary hypertension. Use and interpretation of specific tests and procedures These include identification of cellular elements, casts, and crystals and their significance, calculation of creatinine clearance, interpretation of urine electrolytes, interpretation of arterial blood gases and placement of femoral venous catheters for hemodialysis.

Competencies
Residents are expected to develop competencies that are particularly relevant to the care of patients with kidney diseases and that address all 6 elements of Internal Medicine Core Competencies.

Patient Care:
Residents are expected to be able to: develop and implement effective patient management plans and integration of patient care and to make informed recommendations to patients based on clinical judgment, scientific evidence and patient preference; recognition of chronic kidney disease; recommend strategies for slowing progressive decline in creatinine clearance and handle unique problems of patients with end stage renal disease; recognition and management of acute renal failure.

Medical Knowledge:
Residents are expected to: learn the guidelines for chronic diseases such as HTN and DM that have been demonstrated to slow development and progression of renal dysfunction and implement them; recommend appropriate diagnostic work up when performing consultations, using evidence based approach, and acquire knowledge of drug metabolism in patients with kidney diseases and make appropriate adjustment of the dose.

Practice Based Learning:
Residents are expected to be able to: analyze and evaluate their practice experiences to improve patient care; learn from prior mistakes, and manage information.

Interpersonal and Communication Skills:
Pre ESRD patients suffer from denial because of asymptomatic nature of the disease and require counseling regarding preparation for maintenance dialysis and creation of an access. Patients with end stage renal disease frequently suffer from depression and may not comply with the dialysis treatments, dietary restriction and medication regimen. Residents are expected to learn effective listening and non verbal skills to communicate effectively with the patient, and improve their participation in disease management. Communication skill regarding patient preferences for health care at end of life must be acquired.

Professionalism:
Residents are expected to demonstrate compassion, respect, integrity and trustworthiness in relationship with patients. They should be sensitive to issues like privacy, confidentiality, age, gender, patients' culture and religious belief.

System Based Practice:
Patients with kidney problems may require referrals for creation of vascular access for hemodialysis, social services, dietary and rehabilitation. Resident is expected to develop and understanding of both the opportunities and limitations of the setting and to collaborate with other members of the team to assist patients in dealing effectively with the systems.

Didactic Experience
Faculty members from Nephrology participate in the formal education program including Grand Rounds, noon conferences, Board Review and Morbidity and Mortality Conferences. Topics covered include:
1. Fluid and electrolyte disturbances.
2. Diagnosis and management of acid base disorders.
3. Nephrolithiasis
4. Chronic renal failure, associated complications and management.
5. Toxic nephropathy.
6. Acute renal failure, diagnosis and treatment modalities.
7. Hematuria

Evaluation
Residents will be expected to evaluate their performance in management of patients with renal diseases. The supervising attending will evaluate the resident using the nine point scale. The evaluation will be discussed with the resident.

Suggested reading
1. Nephrology syllabus.
2. UptoDate medicine.
3. Manual of Nephrology by Robert W.Schrier.
4. MKSAP
5. National Kidney Foundation- K/DOQI. Clinical Practice Guidelines for Chronic renal disease: Evaluation, Classification and Stratification.

Prepared by,
Gnanasekaran Isaiarasi MD., Chief of Nephrology.
Anita Soni, MD, Chair, Department of Medicine
Reviewed/Updated by Vihren Dimitrov, MD. Program Director, Medicine.

Reviewed by,
Program director and Curriculum Committee.

CARDIOLOGY

Goals: The goal of curriculum in cardiology is to ensure that residents acquire knowledge, skills and attitude necessary for management of patients with cardiac problems.

Primary Teaching Method and Setting
Residents are assigned to cardiology and Cardiac Care Unit for 4 weeks each. Residents are taught in the cardiology clinic, consultation service for inpatients, CCU and the non invasive laboratory. In clinic, CCU and consultation service, the resident performs initial evaluation, synthesizes data and formulates a diagnosis and management plan. The case is then presented to the attending physician who critiques resident's note, educates the resident on the pertinent problem and amends the note if needed. The residents are expected to further their knowledge by reading from textbook and journals, relevant to the patient's problem.

Learning Objectives in Cardiology
Physical Examination Skills
Residents are expected to be able to perform bedside evaluation of findings related to jugular venous pressure, arterial pulses, heart sounds, murmurs and special maneuvers to aid physical diagnosis.

Presenting Complaints
Residents are expected to be able to evaluate appropriately the presenting complaints and problems relating to cardiovascular illness such as dyspnea, chest pain, palpitations, syncope, edema etc.

Differential Diagnosis, Evaluation and Management of Cardiac Diseases
These include coronary artery disease and risk factors, heart failure, arrhythmias, valvular heart disease, common congenital heart diseases in adults, cardiomyopathy, pericarditis, endocarditis, cardiac emergencies such as acute coronary syndrome, cardiac tamponade, arrhythmias, hypertensive emergencies and aortic dissection.

Use and Interpretation of Specific Tests and Procedures
Residents are expected to be able to understand the indications and contraindications of specific procedures such as invasive hemodynamic monitoring, cardioversion, and insertion of temporary pacemaker. At the end of the rotation resident should have basic knowledge to appropriately interpret tests such as cardiac enzymes, EKGs and understand indications for stress tests and cardiac catheterization.

Therapeutic Modalities
These include use of antiplatelet, antithrombotic and thrombolytic agents, vasoactive drugs.

Competencies
Residents are expected to develop competencies that are particularly relevant to the care of patients with cardiac diseases and that address elements of all 6 Internal Medicine Core Competencies. Specific examples are noted below:

Patient Care:
Residents are expected to be able to develop and implement effective patient management, be able to perform a thorough history and physical examination, with particular emphasis on cardiovascular system, request appropriate tests, synthesize data, and make recommendations based on scientific evidence and patient preference.

Medical Knowledge:
Residents are expected to acquire knowledge in the cardiovascular diseases, risk assessment, clinical guidelines for commonly seen problems, understand pathophysiology, and acquire knowledge of the various drugs used.

Practice Based Learning and Improvement:
Residents are expected to be able to evaluate their performance, identify areas for improvement, and continuously develop strategies to improve the quality of care.

Interpersonal and Communications Skills:
Diseases such as HTN, DM, and CAD are more prevalent at Lincoln Medical Center and most patients present at later stages in the disease. Obesity, which adds to the morbidity, is also more common. The residents are expected to be able to communicate to the patients need for preventive care, compliance with medications and follow up. Development of rapport and dealing with the patients in a professional manner, being aware of the influence of cultural differences is absolutely essential for good patient care. The resident is expected to be a good team player in the management of patients. When consulting on inpatients, the resident is expected to clearly communicate the findings and recommendations.

Professionalism:
Residents are expected to demonstrate respect, compassion, trustworthiness in relationship with patients. In dealing with patients with chronic disease, good physician-patient relationship will lead to better outcome. Residents are expected to deal with their peers, nurses and other members of the team in a professional manner.

System Based Practice:
The patients with cardiac conditions require referrals for tests such as EST, and cardiac catheterization. Patients with chronic cardiac conditions frequently require referrals for home care services. The resident is expected to develop an understanding of the system and be a facilitator for the patient.

Didactic experiences
The faculty members from cardiology division participate in the formal education program including Medical Grand Rounds, M & M, Journal Club and Core conferences on specific topics. Attendance at these is mandatory. Topics covered include:
1. Cardiac arrhythmias.
2. Acute coronary syndrome
3. Pericardial diseases.
4. Valvular heart diseases
5. Cardiac catheterization
6. Syncope
7. Congestive heart failure
8. Pregnancy and heart disease

Suggested reading
A syllabus has been prepared and updated by the Chief of Cardiology and is available in the Administrator Chief Medical Resident's office for reading.

Evaluation
The residents are expected to evaluate their performance in management of patients with cardiovascular problems and identify areas of improvement. The residents are in turn evaluated by the attending in all six competencies using a nine point scale. Both a written and verbal evaluation is expected from the attending physician.

Prepared by
Lekshmi Dharmarajan, MD. Chief of Cardiology.
Anita Soni, MD, Chair, Department of Medicine
Reviewed/Updated by Vihren Dimitrov, MD. Program Director, Medicine.

Reviewed by
Program director and Curriculum Committee.

HEMATOLOGY/ONCOLOGY

Goals
The goal of curriculum in Hematology and Oncology is to ensure that the residents acquire knowledge, skills and attitudes necessary for management of patients with malignancies and hematological problems and to understand multimodality therapy of cancer.

Primary Teaching Method and Setting
Resident are taught hematology and oncology on inpatient units when answering consults from medical units, patients seen in the outpatient clinics, chemotherapy room, review of histopathology, and examination of peripheral smears and bone marrow in sessions conducted by the attending, Tumor Board conference conducted in collaboration with the surgical service, and core conferences.

Learning Objectives in Hematology/oncology

Physical Examination Skills
Residents are expected to be able to perform a detailed examination and identify enlarged lymph nodes, breast mass, splenic enlargement and cutaneous manifestation of coagulopathy, and systemic malignancies.

Presenting Complaints
Patients with hematologic problems usually present with shortness of breath, fatigue, easy bruisability and infections. The resident must learn to include hematologic conditions in the approach to patients presenting with weight loss, anorexia, night sweats, and fever.

Differential Diagnosis, Evaluation and Management of Diseases
These include anemias, bleeding disorders, leukemias, myeloproliferative disorders, hypercoagulable states, sickle cell disease, lymphomas, multiple myeloma and common malignancies such as breast, lung, and colon.

Use and Interpretation of Specific Tests and Procedures
Residents should be able to interpret peripheral smears, bone marrow aspirate, and coagulation studies. Residents will review the histopathology on the patients who undergo invasive diagnostic procedures such as lymph node biopsy, biopsy of lesions.

Therapeutic Modalities
Residents should learn basic principles of transfusion medicine, indications, and complications of different blood products. Principles of chemotherapy with complications of drugs and radiotherapy.

Competencies
Residents are expected to develop competencies that are particularly relevant to the care of patients with cardiac diseases and that address elements of all 6 Internal Medicine Core Competencies. Specific examples are noted below:

Patient Care:
Residents are expected to develop and implement effective patient management plans, integrate patient care and make informed recommendations to patients based on clinical judgment, scientific evidence and patient preference. When dealing with patients with malignancies the resident should be able to have a discussion about end of life care, especially with respect to pain management, life sustaining measures and DNR status. Resident should be able to guide patient in executing advance directives. Need for identification of social services and psychiatrist should be part of evaluation of all cancer patients.

Medical Knowledge:
Residents are expected to acquire knowledge about various diseases as outlined above. Residents are expected to be knowledgeable about the screening guidelines for various malignancies, manifestation and treatments, and psychosocial needs of the patients. Knowledge of nutritional support is essential as the patients are frequently malnourished because of the disease process or social factors.

Practice Based Learning and Improvement:
The residents are expected to be able to recommend appropriate investigations and incorporate the result in management, analyze their clinical experience to determine how the care of the patients with malignancies differs from other problems, and to develop strategies to continuously improve the quality of care.

Interpersonal and Communications Skills:
The residents should be able to anticipated and deal with the responses of patients to a diagnosis of malignancy- denial, anger, depression, and should be able to meet the difficult challenge using effective listening, non verbal questioning and narrative skills to communicate effectively with the patient and family. Discussions about end of life care require patience, compassion, and understanding needs of patient and caregiver. The resident is expected to be alert to the effects of stress on caregiver and make appropriate referrals. The residents will perform consultation service, under supervision of attending physician. Residents should be able to communicate effectively with the primary physician. Resident should be able to provide reference material in support of recommendations. Resident is expected to be a good team player.

Professionalism:
Residents are expected to demonstrate respect, compassion, integrity and trustworthiness in relationship with patients. Resident should be sensitive to the needs for comfort, dignity and privacy. Use of alternative forms of treatments is common in patients. Confidentiality and a non judgmental approach are expected.

System Based Practice:
Patients frequently require referrals for tests such as CAT scan and for social services such as home care, visiting nurse, home parenteral nutrition. The resident is expected to be able to develop an understanding of both the opportunities and limitations of practice setting and be able to collaborate with other members of the health care team and be a facilitator for the patent.

Didactic experiences
The faculty in Hematology/ Oncology participate in all of the educational activities in the department of medicine, such as Morning Report, Core conferences, and Grand Rounds. Residents also participate in the biweekly Breast Cancer conference, and Tumor board held monthly. Some of the topics covered in core conference series include:
1. Lymphoma/Leukemia.
2. Anemias
3. Solid tumors
4. Coagulation disorders
5. Pain management.

Evaluation
Residents will be evaluated by the attending physician in all 6 Core Competencies in both writing and verbally. Residents are expected to evaluate their own performance to assess if the learning objectives were met. This evaluation is the part of resident's portfolio.

Prepared by
Doru Paul MD., Attending Hematology/Oncology
Anita Soni, MD, Chair, Department of Medicine
Reviewed/Updated by Vihren Dimitrov, MD. Program Director, Medicine.

Reviewed by
Program director and Curriculum Committee.

INFECTIOUS DISEASES

Goals: The goal of curriculum in Infectious Disease is to ensure that residents acquire knowledge, skills and attitude necessary for prevention, screening and diagnosis and management of infections. Primary Teaching Methods and Settings Residents will spend majority of time evaluating new patients and doing follow up on inpatient consult service. The resident will work independently in the morning evaluating new patients including, review of the initial presentation and review of investigations performed. A differential diagnosis and management plan will be developed and literature searched related to problem. The resident will then present cases to the attending assigned to consultative service. The attending will examine the patient, verify the findings of resident and approve or modify the plan recommended by resident. The rounds with the attending are combined work and teaching rounds. The resident is encouraged to read material from textbooks, journals and selected articles.

Learning Objectives in Infectious Diseases

Physical examination skills
The physical examination skills expected include those necessary to approach patients with the presenting problems and diagnoses listed below. Particular emphasis is to be placed on the cutaneous, retinal and mucosal manifestations of infectious diseases.

Presenting complaints
The resident is expected to be able to appropriately evaluate presenting complaints such as fever, cough, rash, dysuria, neck stiffness.

Differential diagnosis, evaluation and management of infectious diseases
These include HIV/AIDS (indications for prophylaxis for opportunistic infections, when to initiate Highly Active antiretroviral Agents and major toxicities associated with them), meningitis, tuberculosis, community acquired pneumonia (causes, treatment guidelines), nosocomial infections, post operative and surgical infections, infections in neutropenic host, sexually transmitted diseases, how to choose empirical antibiotics, and mechanisms of resistance.

Use and interpretation of specific tests and procedures
Gram stain, PPD testing and interpretation**,** PPD testing and interpretation, India ink and cryptococcal antigen, PPD testing, interpretation of urinalysis, pleural fluid, ascetic fluid, blood cultures, cerebrospinal fluid, and MIC/MBC levels.

Competencies
Residents are expected to develop competencies that are particularly relevant to the care of patients with immunosuppression and infections and address elements of all 6 Internal Medicine Core Competencies. Specific examples are noted below:

Patient Care:
Residents are expected to be able to gather data, synthesize the data, and make informed assessment and recommendations based on clinical judgment, scientific evidence and preference especially in patients with chronic diseases such as HIV infection.

Medical knowledge:
Residents are expected to learn about the clinical problems as outlined above, perform consultations, synthesize the data and make a differential diagnosis and recommendations based on evidence based medicine. Resident should be able to recommend appropriate work up, giving justification and avoid unnecessary investigations. As HIV is one of the leading diagnoses at this institution, the resident must be fully conversant in specific problems seen in this population.

Practice based learning and improvement:
Residents are expected to analyze and evaluate their experience in management of patients with infections, to determine how care of patients with immune suppression differs from other patients, identify areas for improvement, understand reasons for investigations and apply the results in patient care.

Interpersonal and communications skills:
Conditions such as depression may be encountered more frequently in patients with chronic disease such as HIV and pose challenge to doctor patient relationship and patient compliance with drug regimen. This challenge must be met by effective listening, and narrative skills to develop a rapport with patients. As most of the resident's time is spent in performing consultations, resident is expected to be able to communicate well in writing the consultation. During this rotation the resident deals with not only other members in medicine but also on non medical services. The resident is expected to be a good team player in management of patients.

Professionalism:
Residents are expected to demonstrate compassion, respect, integrity in dealing with patients and next of kin. Confidentiality must be maintained especially with regard to diagnosis of HIV infection. Patient needs for dignity, privacy and comfort must be honored.

System based practice:
Residents are expected to develop an understanding of the opportunities available for patients such as social services and be able to collaborate with members of the team to assist patients in dealing effectively with the system and assist patients in obtaining special services and financial assistance.

Didactic experience
Residents are expected to attend the core conferences and Grand Rounds during the rotation. In addition, specific topics will be covered by the ID attendings during the month. Some of topics covered during core conference series include:
1. Principles in selection of antibiotics
2. Management of patients with HIV infection
3. Pneumonia

Suggested reading
Harrison Textbook of medicine.
Uptodate.
Guidelines for management of community acquired and nosocomial pneumonia.
Preventive guidelines for HIV patients.
Mandell's Textbook of Infectious Diseases

Evaluation
Residents will be expected to evaluate the experience to assess if the learning objectives have been met. The attending will evaluate the in all of the 6 competencies as outlined above. Both written and verbal evaluation will be done.

Prepared by:
Karen Hennessey, MD. Chief Division of Infectious Diseases.
Anita Soni, MD, Chair, Department of Medicine
Reviewed/Updated by Vihren Dimitrov, MD. Program Director, Medicine.

Reviewed by:
Program director and Curriculum Committee.

EMERGENCY MEDICINE

Goals: The goal of curriculum in Emergency Medicine is to ensure that residents learn fundamentals of initial assessment and management of patients presenting to the Emergency Department at Lincoln Medical Center.

Primary Teaching Method and Setting
Residents are assigned to Emergency Medicine for a 4 week rotation at a time. Most of the patients at LMMHC arrive through the ED, accounting for 160000 visits annually and around 12000 admissions to the inpatient medical service. When assigned to the ED, medical residents work under the supervision of an ED trained attending physician. The resident assesses the patient, and based on clinical examination formulates a possible diagnosis and orders blood tests and radiographic studies. Case is then presented to the attending physician who has the final authority regarding disposition. Attending verifies the findings on clinical examination and provides teaching to the resident. A decision to admit or discharge is made.

Learning Objectives in Emergency Medicine

Physical examination skills
Residents are expected to be able to perform a focused medical exam when dealing with acutely ill patients in the ED, in order to initiate a treatment plan.

Presenting complaints
One of the most common reasons for presentation to the ED is exacerbation of asthma or shortness of breath. Other complaints that bring them to ED are chest pain, fever, shortness of breath. The resident is expected to be able to evaluate patients with these symptoms efficiently and effectively. Residents also gain experience in evaluation and management of patients with drug overdose and shock states.

Differential diagnosis, evaluation and management of diseases
Resident is expected to be able to evaluate patients with the top 10 diagnoses at LMMHC. These include asthma, diabetes, HTN, CAD etc.

Use and interpretation of specific tests and procedures
Most of the patients, who are admitted through ED, require some initial blood work to assist in evaluation and triage. Residents are expected to be able to order appropriate and necessary tests, and make an interpretation. Some of these tests are chemistries for evaluation of renal status and electrolyte imbalance, CBC in patients suspected of having an infection or GI bleeding and arterial blood gas for evaluation of oxygenation and ventilation. Residents must be able to diagnose life threatening conditions and take immediate action. These are severe hyperkalemia, and hypoxemic and hypercarbic respiratory failure. In the hectic environment t of our busy inner city ED, it is imperative that the residents acquire skills to quickly analyze the history, physical exam and laboratory data to arrive at a diagnosis and be able to implement a management plan. Residents will get an opportunity to participate in cardiopulmonary resuscitation and may be able perform endotracheal intubation under supervision of an ED attending.
While it is important that the residents gain experience in life saving procedures, the time spent in ED may not be sufficient to achieve competence.

Competencies
Residents are expected to develop competencies that are relevant to initial management of patients and that address all 6 Internal Medicine Core Competencies. Some of the specific examples are listed below:

Patient care
Residents are expected to be able to develop and implement efficient, effective, timely and safe management plan, integrate patient care and to make clinical decisions based on clinical judgment and scientific evidence. At the time of presentation, it may not be possible to know about patient preferences, and ED environment is not conducive to a discussion with family or patient about life saving procedures. Therefore, one should err towards patient safety and perform all that is needed to sustain life.

Medical knowledge
Residents are expected to have an understanding of clinical manifestations of common emergency conditions such as exacerbation of asthma, DKA, CAD, respiratory failure, abdominal pain. Resident should be able to order and interpret routine investigations and make decision based on evidence based approach. Practice based learning and improvement Residents are expected to be able to learn from their mistakes and implement strategies for continuous improvement. They should be able to gather and analyze data to arrive at a reasonable differential diagnosis and management plan.

Interpersonal and communication skills
High level of activity in the ED, noise from individuals and other factors present a challenge to effective communication with patient and family members. For optimal care to occur, the challenge must be met by effective listening, non verbal and narrative skills, to communicate with the patient/family, and obtain information necessary for evaluation and management. Residents will also refer patients to medical subspecialty or other services. The resident must be able to communicate basic information and specific reason for consult. In the ED, medical residents work closely with the ED staff- physicians, nurses, and clerical staff. Resident must be a good team player.

Professionalism
Residents are expected to demonstrate respect, compassion, sensitivity when dealing with the patients. Most of the patients seen in the ED do not have a primary care provider and this may be their first encounter with a health care professional. Resident must ensure that patient privacy and confidentiality of information are maintained at all times.

System based practice
Many patients seen at LMMHC obtain their care in ED and do not have a primary care provider. For disease management, it is imperative that the patient be seen on ongoing basis by a provider. Resident will be required to ensure that the patient is given an option for outpatient care at Lincoln and make appropriate referrals.

Didactic experience
Faculty from ED participates in Core conferences. Some of the topics covered at these conferences are:
1. Management of drug overdose.
2. Stress management.

Suggested reading

Evaluation
Residents will be evaluated by the ED attending physician at the end of the rotation. Residents will be expected to complete a self evaluation and evaluation of the ED experience.

Prepared by
J. Gernsheimer, MD., Program Director, Emergency Department.
Anita Soni, MD, Chair, Department of Medicine
Reviewed/Updated by Vihren Dimitrov, MD. Program Director, Medicine.

Reviewed by
Program director and Curriculum Committee.

ENDOCRINOLOGY

Goals: The goal of curriculum in Endocrinology is to ensure that the residents acquire knowledge, attitude and skills required for evaluation and management of common endocrine problems, to be knowledgeable about cultural disparity in diagnosis and management of common disease such as DM, obesity, and its impact on patient outcome.

Primary Teaching Methods and Setting

Endocrine service is predominantly an outpatient service, with 6 clinic sessions per week. Residents will gain experience under the supervision of attending physician. Consultations will be performed on the inpatient under supervision of attending. Essentials of endocrine medicine will be covered during these activities. In addition, didactic conferences are conducted by the faculty on common topics. Attendance is mandatory. Endocrinologists also participate in the Morning Report and make significant contribution to resident education.

Physical Examination Skills

Residents are expected to be able to perform a detailed history and physical examination with particular emphasis on thyroid exam and recognition of complications of DM.

Presenting Complaints

Residents are expected to be able to evaluate presenting complaints such as polyuria, polydipsia, changes in voice and skin, heat or cold intolerance, weakness due to adrenal insufficiency etc.

Differential Diagnosis, evaluation and management of diseases

These include: Diabetes Mellitus and its complications, management of DKA and hyperosmolar state; hypo and hyperthyroidism and sick euthyroid syndrome, thyroid nodule; hyperparathyroidism; adrenal insufficiency and Cushing's syndrome; endocrinologic causes of hypertension; hyperprolactinemia; amenorrhea and hirsutism; erectile dysfunction; pituitary disorders; metabolic syndrome; obesity and its complications.

Use and Interpretation of specific tests and procedures

These include thyroid function test, cosyntropin test, thyroid scan, bone mineral density, work up for secondary hypertension.

Competencies

Residents are expected to develop competencies that are relevant to the care of patients with endocrine diseases and that address elements of all 6 Internal Medicine Core Competencies. Specific examples are as follows:

Patient Care

Residents are expected to perform a detailed physical exam, order appropriate investigations, analyze the data and formulate a diagnosis and management plan. An evidence base approach is strongly encouraged.

Medical Knowledge

Residents are expected to acquire knowledge in the endocrine disorders listed above and utilize the knowledge to develop good clinical judgment effectively. Residents are expected to understand basic principles in management of chronic conditions such as DM, the concepts of risk reduction and disease prevention such as diet and exercise for obese. Obesity, a major concern in US, is even more prevalent in Bronx. Diabetes is one of the top ten diagnoses at Lincoln Medical Center and diet has a significant impact on outcome. Residents should be knowledgeable about the cultural diversity in terms of diet in our population and be able to instruct patient in compliance using their diet.

Practice based learning and improvement

Residents are expected to evaluate their clinical practice critically using outcome (level of hemoglobin A1C) and process measures (monitoring for complications of DM), learn from their mistakes and implement actions to continuously improve quality of patient care. Residents should be able to order the appropriate and investigations, minimize unnecessary workup and utilize the data in formulating diagnosis and management plan.

Interpersonal and communication skills

Patient compliance with drug regimen and diet is one of the biggest challenges faced by providers in management of chronic diseases such as HTN and DM. Depression may be an underlying and unrecognized factor. Effective patient management requires repeated discussions with the patient. The resident is expected to be able to communicate with patient with sensitivity, identify impediments, provide encouragement when indicated, and counseling when outcome is not achieved. When answering consults, residents are expected to be able to communicate the diagnosis and recommendations clearly in writing as well as verbally.

Professionalism

Residents are expected to demonstrate compassion and respect in their dealings with patients. Cooperation and respect in dealing with peers and other members of the team is expected as well.

System based practice

Residents care for patients in different settings such as outpatient clinic, inpatient regular wards and special care units. Referrals for investigations such as BMD, eye examination, dietary education, education about home glucose monitoring and adjustment of insulin are frequently made. Resident is expected to collaborate with other members and ensure that patient receives necessary services.

Didactic experiences

Endocrine attendings participate in the formal education program in Department of Medicine. The activities include, Morning Report, Noon conferences, Grand Rounds and Morbidity and Mortality Conferences. Some of the topics covered include:

1. Diabetic Ketoacidosis/hyperosmolar states.
2. DM Guidelines
3. Lipid disorders
4. Metabolic disorders
5. Gonadal disorders
6. Hypo/hyperthyroidism
7. Pituitary disorders

Evaluation

Residents will be expected to evaluate their own performance and assess if the learning objectives were met. This evaluation will be part of their portfolio. Residents will be evaluated by the attending both in writing and verbally. Residents are also expected to evaluate the attending physicians involved in teaching.

Suggested reading

1. Selected article from endocrine syllabus.
2. Textbook of medicine.

Prepared by

Tasneem Zahra, MD. Chief of Endocrinology.
Anita Soni, MD, Chair, Department of Medicine
Reviewed/Updated by Vihren Dimitrov, MD. Program Director, Medicine.

Reviewed by

Program director and Curriculum Committee.

Cardiac Care Unit/Cardiac Catheterization Laboratory Rotation at Bellevue Medical Center

Goals: The goal of rotation in Cardiac Care Unit/Cardiac Catheterization Laboratory at Bellevue Medical Center is to ensure that the residents acquire knowledge, skills and attitude requisite for evaluation and management of patients with diverse cardiac problems (such as coronary artery disease, acute myocardial infarction, valvular heart disease and patients who have or are to undergo cardiac surgery) with particular emphasis on the indications and interpretation of cardiac catheterization studies.

Primary Teaching Method and Setting The resident will spend 2 weeks at Bellevue Medical center. They will function as a member of the CCU team and. The resident will be the primary physician for patients assigned to him/her, and will provide care under the supervision of the BMC PGYIII, cardiology fellow and attending physician. Resident will do a detailed history and physical examination on patients assigned, synthesize data and formulate a comprehensive differential diagnosis and management plan. Resident will present the case to the attending physician who is ultimately responsible for the patients. Resident will be responsible for scheduling all investigations, obtaining consults when indicated and for following up on the results of investigations. Resident will participate in daily rounds with senior resident, fellow and attending and in planning and following the results of cardiac catheterizations.

Learning Objectives in Cardiology
Physical Examination Skills Understand the bedside evaluation findings relating to jugular venous pulsations, heart sounds, murmurs and maneuvers.

Presenting Complaints Residents should be able to evaluate appropriately, the presenting complaints of chest pain, palpitations, syncope, and dyspnea.

Differential Diagnosis, Evaluation and Management of Cardiac Diseases These include acute coronary syndrome, cardiac arrhythmias, valvular heart diseases, pericarditis, myocarditis, patients post cardiac catheterization, percutaneous coronary intervention, coronary artery bypass graft, cardiac tamponade, hypertensive emergencies, and aortic dissection.

Use and Interpretation of Specific Tests and Procedures Residents will gain additional experience in evaluation of patients that need cardiac catheterization and the interpretation of the results in addition to management of patients with pulmonary artery catheters, cardioversion, and temporary transvenous pacemaker. Residents will expand upon the knowledge about interpretation of electrocardiograms, cardiac enzymes, and indications of cardiac catheterization.

Therapeutic Modalities Residents will acquire understanding of the various therapeutic modalities such as antiplatelet and thrombolytic therapies. Indications and contraindications will be emphasized.

Competencies Residents are expected to develop competencies that are particularly relevant to the care of patients with cardiac diseases requiring cardiac catheterization and that address elements of all 6 Internal Medicine Core Competencies. Specific examples are noted below:

Patient Care: Residents are expected to develop and implement effective patient management plans and integration of patient care and to make informed recommendations to patients based on clinical judgment, scientific evidence and patient preference.

Medical Knowledge: Residents are expected to learn to: understand pathophysiology of coronary artery disease; indications for cardiac catheterization; management of patient on thrombolytic therapy; management of patients following cardiac catheterization; management of patients with valvular heart disease.

Practice Based Learning and Improvement: Residents are expected to analyze and evaluate their practice experiences to improve their practice, develop an ability to investigate and evaluate patients with coronary artery and valvular heart diseases, appraise and assimilate scientific evidence, identify areas for improvement, review the published guidelines for cardiovascular diseases and practice evidence based approach to patient care.
Interpersonal and Communications Skills: Cardiac care unit is a stressful environment for the patients who undergo a variety of invasive procedures. Residents must develop a relationship with the patients using effective verbal and nonverbal techniques, questioning and narrative skills to communicate effectively. Resident must be a team player. The patients may require consultations from other services. The resident must be able to communicate a brief history and physical examination, summary of course and formulate clear question for the consultant.

Professionalism:
Residents are expected to demonstrate respect, compassion, integrity and trustworthiness in relationship with the patients. Resident must be sensitive to the needs and concerns of patients diagnosed with cardiac diseases and facing limitation in lifestyle.

System Based Practice:
Resident must learn the system at BMC which may be different, to improve patient care. Patients with cardiac conditions and those post cardiac catheterization may require referrals for rehabilitation services. Resident must learn the system for making such referrals and coordinate patient care. Resident must use alternate care venues such as step down/ intermediate care beds appropriately.

Didactic experiences
Residents are expected to participate in all of the conferences/grand rounds and other activities at Bellevue Medical Center during the rotation.

Evaluation
Residents will be evaluated at the end of the rotation by the Director of Cardiology or designee, using a nine point scale. The evaluation will be discussed with the resident and written evaluation will be sent to the Program Director at Lincoln Medical Center. The residents will be expected in turn to evaluate their experience and submit to the Program Director.

Portfolio
The residents will keep a log of all the cases seen and procedures performed during the assignment. This log will be reviewed by the Program Director and maintained in the residents' portfolio.

Prepared by
Lekshmi Dharmarajan, MD. Chief of Cardiology.
Norma Keller, MD, Chief, CCU at Bellevue
Anita Soni, MD, Chair, Department of Medicine
Reviewed/Updated by Vihren Dimitrov, MD. Program Director, Medicine.

Reviewed by
Program director and Curriculum Committee.

ADOLESCENT MEDICINE

Goals: The goal of curriculum in Adolescent medicine is to ensure that residents acquire knowledge, skills and attitude necessary for care of an adolescent.

Primary Teaching Methods and Setting
Residents will acquire experience in management of adolescents during the Ambulatory Block rotation. They will attend the Adolescent clinic under the supervision of the Chief of Adolescent Medicine, a division of Pediatrics. In addition, conferences will be delivered by one of the Associate Program Directors who is certified in both internal medicine and pediatrics and by the chief of adolescent medicine.

Learning Objectives in Physical examination skills
The residents are expected to be able to perform a history and physical examination on the adolescents who may not be forthcoming, and the clinician will have to make an effort to overcome resistance and earn trust, in order to do complete evaluation and provide necessary counseling and treatment.

Presenting complaints
Residents should be able to evaluate presenting complaints of weight gain or loss, insomnia, sexually transmitted diseases and depression.

Differential Diagnosis, evaluation and management of diseases
These include but are not limited to eating disorders such as anorexia nervosa and bulimia, depression, suicidal ideation, amenorrhea, acne, sexually transmitted diseases and sports related injuries.

Use and interpretation of specific tests and procedures
Residents are expected to be able to perform pelvic exam, PAP smear and kyphoscolyosis evaluation.

Competencies

Residents are expected to develop competencies that are relevant to the care of adolescent patients and that address all 6 internal medicine core competencies. Specific examples are listed below:

Patient care
Residents are expected to be able to provide effective, efficient, and safe care, based on clinical judgment, scientific evidence and patient preference, with sensitivity and compassion. A detailed history should be performed with emphasis on substance abuse, alcohol and tobacco use, sleep disorders, weight, eating habits, sexual history, and sexually transmitted diseases. As violence is one of the problems in inner city schools, attention must be paid to signs suggestive of physical abuse, as patient may be reticent and not voluntarily provide information. A significant number of adolescents may be abusing drugs, alcohol and tobacco, and require counseling and appropriate referrals. Resident must provide counseling to the patients at first and every visit. Contraception must be discussed to avoid teen pregnancy. Safe driving and use of helmet should be emphasized.

Medical Knowledge
Residents are expected to be knowledgeable about the medical conditions common to adolescents as outlined above. Based on pertinent history, physical findings and laboratory investigations, resident should be able to synthesize the data and make a differential diagnosis and management plan continuously .Based on this analysis, they are expected to develop strategies to improve quality of care.

Interpersonal and communication skills
Communication with adolescent who may be distrustful of clinicians, requires patience. Presence of depression may pose another challenge to communication. Resident will need to learn to listen carefully and to search for non verbal clues. Dealing with adolescents with eating disorders may be particularly challenging and winning the trust is of utmost importance to good management. As the adolescent may be accompanied by concerned parents, who seek information, resident will acquire skills to deal with the questions without violating patient confidentiality.

Professionalism
Residents are expected to demonstrate compassion and sensitivity when dealing with the patients. Attention must be paid to patient privacy and confidentiality. Adolescent's consent must be obtained prior to disclosing information to parents in selected circumstances.

System based practice
Adolescents are influenced by their peers and may be prone to suggestions. Resident must be knowledgeable about patient environment, including current drugs used, sexual practices, peer pressure, as all of them have potential to cause harm to the patient.

Practice based learning
The residents are expected to be able to recommend appropriate investigations and incorporate the result in management, analyze their clinical experience to determine how the care of the patients with malignancies differs from other problems, and to develop strategies to continuously improve the quality of care

Didactic experience
Adolescent medicine is part of core curriculum and conferences are given on topics such as STDs, depression, eating disorders etc.

Prepared by

Tatiana Greenfield, MD., Chief Division of Adolescent Medicine.
Anita Soni, MD, Chair, Department of Medicine
Reviewed/Updated by Vihren Dimitrov, MD. Program Director, Medicine.

Reviewed by
Program director and Curriculum Committee.

RESEARCH ROTATION AND EVIDENCE-BASED MEDICINE

Goals: The goals of the curriculum in Evidence Based Medicine and Research elective is to ensure that All Internal Medicine residents are able to:

- Ascertain limitations in their critical appraisal of literature and means to address those deficiencies.
- Understand the limitations and advantages of original peer-reviewed medical literature.
- Discuss and understand sensitivity, specificity and predictive values of diagnostic tests, how they are used, and how tests are selected and interpreted; understand the impact of the underlying prevalence of disease on the predictive values (and the interpretation) of a diagnostic test.
- Understand the meaning of statistical significance and differentiate it from clinical significance.
- To know the ways to evaluate risk and prognosis, including the differences between observational study designs such as cross-sectional, case-control, and cohort studies.
- Understand the anatomy of the randomized control trial, its strengths and weaknesses; discuss the importance of power and the number-needed-to-treat in the interpretation of a treatment.
- Comprehend if a treatment actually works or not based on the medical literature;

Adapted and modified for our residents from
Ref: http://www.medinfo.ufl.edu/year2/ebm/compentencies.htm

Evidence-based medicine curriculum

Evidenced based medicine topics are covered during the Internal Medicine Training Program in the Lectures, during the resident's journal club, and have been integrated as a part of faculty rounds and morning report.

• I. **Curriculum**

Lectures (annual noon-conferences)

- Critically appraise articles on Therapy, Diagnosis, Causation, Prognosis
- Critically appraise Review articles
- Preventive Medicine for Internists.
- Biostatistics for the internist.
- Health maintenance and screening
- Searching Medline and databases
- Medical Decision-making

Clinical Research Project

All residents are required by the program to develop a research project, design the methods, perform assisted analysis and submit it in a meeting or peer-reviewed journal. Acceptance of the project for awards or publications is not required. Examples of research projects include and are not limited to : a) Case reports b) review article c) Letter to the editor in a peer -reviewed journal d) Brief reports e) Clinical studies.

Resident Journal Club

The Chief Resident and representatives from the Faculty will conduct and mentor sessions on how to critically read the medical literature and how to conduct evidence based medicine searches. Key articles in internal medicine will be reviewed and critiqued.

• **Clinical Experience**

Attending rounds

Evidenced-based approach to problem solving is emphasized on daily patient care rounds conducted by attending physicians. Residents are encouraged to formulate questions, search medical literature and apply evidenced based solutions to clinical decision making in routine patient care under the guidance of the faculty.

Morning Report

As questions arise during morning report, the Chief Medical Resident is asked to obtain the best evidence available on the topic and return to morning report with the answer. The ACMR is mentored in this by faculty and the program director. The range of topics is broad and includes: assessing the impact of a diagnostic test on patient's post test probability of disease, determining the sensitivity and specificity of test characteristics, determining the best diagnostic test for certain situations, reviewing the literature for current practice guidelines, reviewing the literature for assessing the best treatment options, and assessing the literature to determine patient prognosis.

• **Resources**

Medical Libraries

Residents have access to a number of articles in our library. For those few journals not available from those sources, inter-library loan is available. Complete medical literature is available locally from the National Library of Medicine. The medical library has full-time librarians available to assist residents in conducting searches of a number of resources including MEDLINE, PSYCH-LIT, CANCER-LIT and so forth.

Computer Resources

All residents have access to medical literature 24 hours a day. Computers are available with unlimited access to Internet, medical databases and word processor programs. The conference room provides equipment for PowerPoint presentations.

Research Rotation

Instructors: Anita Soni MD, V Dimitrov, B Kanna MD & Key Faculty

Makeup of team (responsibility of each team member): The Instructors will schedule a counseling session with each interested resident in the beginning of the rotation to discuss the goals and objectives. A customized research plan for each interested resident will be developed. This will include the following:

Introduction and explanation of the background for the research

Degree of participation by the resident in the design of the study

Background, experience, and degree of participation of the Resident and the Research Mentor

Research hypothesis

Specific methods

Daily schedule of activity for the Resident during the elective period

Assignments & Presentations

Days per week: The research elective is scheduled for a period of 2 weeks during their training. Participation in the elective will require a minimum of 30 hours per week performing research during the elective period. Residents must also attend conferences, morning reports and scheduled participation in hospital wide and departmental committees. Residents will be required to meet with the assigned instructor or research mentor at a specific place and time arranged by them. In addition, the resident will be expected to participate in daily conferences and didactic departmental educational activities.

Assignments & Presentations: The residents are required to prepare the following assignments & presentation during their research elective.

- Evidence based Medicine topic – Residents are required to prepare a specific Internal Medicine topic by identifying a question, searching medical literature, compiling relevant data and presenting the findings in a written format to the Instructors. The resident will also be required to present this topic in an assigned noon conference lecture session at the end of the rotation.
- Original Contribution – residents are required to initiate and formulate a research project under the guidance of the Instructor or assigned mentor. The research projects may for example a case series, clinical trial or retrospective study etc.
- Participate in Departmental Projects and Meetings- Residents will be assigned to a specific on-going research

project or Performance improvement project to assist the investigators collection and compilation of data.

- Critical Appraisal of literature - Residents will be required to critically appraise one major contemporary study and prepare a brief critique of the article and provide recommendations for the utilizing the findings in the study for our clinical practice.
- Review required reading material on basic statistical concepts – A brief multiple choice questionnaire will be administered to each resident at the end of the rotation to test the knowledge skills acquired through this reading

Educational goals/competencies:

Patient: NA

Medical Knowledge: The discipline and evaluative skills gained by personal involvement in research form the basis for the implementation of new ideas and techniques in medicine. Perhaps more than any other profession, physicians must adopt the principle of life-long learning. Only by continued dedication to the critical evaluation and adoption of new information will physicians be able to remain current as practitioners of state-of-the-art medical therapy. Specific skills such as information retrieval techniques, critical analysis, and data interpretation are therefore essential tools for life-long learning.

Practice-Based Learning and Improvement: Residents will choose clinical research projects specific to our practice will learn how to perform and apply the knowledge in the care of patients.

Interpersonal and Communication Skills: Residents during the research elective must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with laboratory personnel, other departmental researchers and other professional associates.

Professionalism: Residents must demonstrate a commitment to carrying out professional responsibilities in the laboratory and adherence to ethical scientific principles. Residents should be on time, take their lab responsibilities seriously, report to their research mentor when they will be on call or in clinic, and display an active interest in learning about research techniques.

Systems-Based Practice: Residents will learn how to interact with the Institutional Review Board, will learn about the numerous rules and regulations that effect both human and basic science research, and will gain insight into the peer review process.

Text/references to be consulted: A compendium of selected articles will be provided as required reading by the Instructor. The JAMA series on evaluation of medical literature is the recommended reading for the course.

Methods of evaluation: Trainees will be evaluated by the Instructor during the rotation. Verbal feedback will be given throughout the month and an ABIM Competency-Based Resident Evaluation form will be completed at the end of the month. The evaluation of "research competence" of the resident will be based on his/her work ethic, initiative, responsibility and independence in carrying out the research work in the laboratory.
Residents will be given feedback about their performance at the end of the rotation. Faculty is encouraged to discuss resident performance at some point in the middle of the rotation as well. Residents having difficulties with the rotation may require more frequent feedback sessions. Residents, in turn, will evaluate the Research Instructor and program performance by providing comments. This information will be used to make changes to improve the experience for the resident and/or improve scholarly activity of the resident.

Prepared by
Balavenkatesh Kanna, MD., Associate Program Director.

Reviewed by
Program director and Curriculum Committee

RESIDENT JOURNAL CLUB

The resident under supervision of our Faculty will review selected articles in Internal medicine and present their findings and critique during the Journal Club.

The Journal club objectives are as follows:
Critically appraise research methodology of a specific study of interest
Understand study designs
Understand hypothesis testing and role of chance (p values /confidence intervals)
Analyze role of bias and confounding
Interpret results and limitations and offer solutions to correct the limitations
Compare data from other studies, if available
Interpret implication of results to practice

Journal club preparation:

The Chief resident schedules the journal club in advance and informs the resident. Adequate time will be provided to the resident to prepare for the presentation. Two residents will present during each journal club. Each resident is expected to utilize 20 minutes for his or her presentation and allow 10 minutes for discussion. Residents are expected to prepare a limited set of power point slides to effectively convey the information regarding the study within the time allotted. Residents are encouraged to seek expertise and opinion on the topic of presentation including statistical methods and study designs from faculty during their preparation. Residents may not be excused from any session without prior approval from the Chief resident, Research director and Program Director.

Journal club evaluation:
Each resident is evaluated based on ACGME core competencies after the journal club presentation. A copy of the form can be obtained from the Chief Resident's office before the journal club presentation. The Journal club supervising faculty will provide feedback immediately.

Journal Club Resources

Medical Libraries
Residents have access to a number of articles in the Health Sciences library at LMMHC. For those few journals not available from those sources, inter-library loan is available. Complete medical literature is available locally from the National Library of Medicine. The medical library has a full-time librarian available to assist residents in conducting searches from a number of resources including MEDLINE, PSYCH-LIT, CANCER-LIT and so forth.

Computer Resources

All residents have access to medical literature 24 hours a day. Computers are available with unlimited access to Internet, medical databases and word processor programs. The conference room provides equipment for PowerPoint presentations.

Prepared by
Balavenkatesh Kanna, MD., Associate Program Director.

Reviewed by
Program director and Curriculum Committee

COMMUNICATION SKILLS ASSESSMENT EXERCISE

Goals:

Achieve competency in communication skills. Assess appropriate exchange of information in an effective manner involving patients, families and other health professionals.

Objectives:
House officers are expected to:

Write a consult with the following elements:

Provide consultant with relevant patient's information (clinical and studies done).
Provide a working diagnosis.
Ask specific questions to be addressed by consultant.
Specify consultation urgency.

Obtain an informed consent.

Inform clearly about medical status and rationale for proposed procedure.
Inform about benefits, risks and alternatives and risks of alternatives.

Discuss adverse outcomes and procedural complications.

Be sensitive upon discussion/put patient/relatives at ease.
Do not break bad news over the phone.
Explain medical condition leading to adverse outcomes.
Avoid medical – technical words in conversation.
Recognize situations in which resident might need supervisors help.

Discuss advanced directives and end of life issues.

Be sensitive upon discussion/put patient/relative at ease.
Explain medical background leading to the discussion.
Provide appropriate information regarding end of life issues.
Make patient's wishes a priority in decision making.
Witnesses for conversation are present.
Concept of advance directives being addressed in order to protect patient.

Obtain autopsy consent.

Be sensitive upon discussion/put relatives at ease.
Explain the objectives of an autopsy in clear manner.
Know process for autopsy referral.

Prepared by
Dr. Abdul Mondul, M.D., Associate Program Director

Reviewed by
Program director and Curriculum Committee