

**VISITING STUDENT
SENIOR
ELECTIVE
CATALOG
2010-2011**

*Effective
July 6, 2010-June 17, 2011*

NORTHWESTERN UNIVERSITY



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Inquiries:

All inquiries must be directed to:

Visiting Student Programs: visitingstudents@northwestern.edu or 312-503-1392. E-mail is the preferred method of communication.

Availability:

This information fluctuates daily due to add/drop requests and is extremely difficult to maintain. For this reason, all electives are considered open unless noted in the individual elective description found in the elective catalog, however, there is no guarantee that an elective will be available at the time that you apply. Some electives are closed during certain rotation blocks. **Do not contact course directors or department heads. Spaces are not reserved and students are placed on a first-come, first served basis. The Visiting Student Coordinator does not have information on availability- do not contact the office to inquire.**

Application processing:

All application paperwork for visiting student electives must be sent to Visiting Student Programs in the Augusta Webster, MD, Office of Medical Education. Processing initiates through this office and paperwork is sent directly to departments by the Visiting Student Programs staff. DO NOT send any paperwork directly to the departments.

**Please read the elective description for specific departmental admission requirements and include them with your general application.

Anesthesiology

Preceptorship in Clinical Anesthesiology, Northwestern Memorial Hospital ANE.4071.04.NMH

Dr. Katherine Gil

*****This elective is not offered during Spring 2 and Spring 3*****

The student, supervised by a resident or faculty member of the department on a weekly basis, participates actively in preoperative evaluation of surgical patients, administration of general, sedative, and regional anesthesia, and postoperative care in the recovery room. The student will briefly rotate in anesthesiology subspecialties, including: obstetrics, pediatrics, critical care, acute and chronic pain, as well as work with the Human Patient Simulator. Attendance at departmental teaching conferences is expected.

Goals

- Provide an overview of clinical anesthesiology with an emphasis on airway management, pulmonary and cardiac physiology, anesthetic pharmacology, and invasive hemodynamic monitoring.
- Expose students to several of the anesthetic subspecialties.
- To thoroughly integrate students into the anesthetic team.

Objectives

During the rotation and by the end of four weeks, the student will:

- Perfect skills in performing preanesthetic evaluations of patients, including history-taking, physical examination, and analysis of common laboratory results.
- Understand the basic principles of administering monitored anesthesia care, regional, and general anesthesia. The student will also develop an understanding of side effects and complications of anesthetics as well as anesthetic interaction with surgery. The result will be that students will acquire the ability to choose appropriate anesthetic techniques for patients undergoing a variety of surgeries.
- Be able to assess a patient's respiratory status and develop basic airway management skills, including mask ventilation and tracheal intubation
- Develop an understanding of the physiologic effects of sedatives, analgesics, and muscle relaxants and be able to recommend appropriate choices of anesthetic therapy in uncomplicated normal patients undergoing non-complex surgeries.
- Develop proficiency in establishing venous access.
- Understand acute fluid management concepts and be able to assess a patient's fluid status and recommend appropriate fluid therapy.
- Understand the principles and indications for invasive monitoring and be able to describe them and to list complications from such techniques.
- Be able to list causes for changes in the hemodynamic status of patients and make appropriate recommendations for choices of corrective therapy.
- Understand post-anesthetic requirements and be able to design a post-anesthetic recovery room plan for uncomplicated patients with regard to monitoring of vital signs, required testing, and fluid, oxygen, analgesic, and anti-emetic therapy.

Course Format and Proposed Schedule:

- Students will spend most days in the Feinberg Operating Room from 6:30 am to approximately 5 pm, Monday through Friday, engaging in preoperative evaluation of patients, administration of anesthetics to patients, and insertion of invasive monitors if indicated. Several in-depth, discussions of anesthetic topics will take place daily under the direction of the students' instructors. A number of conferences and lectures are scheduled weekly, including but not limited to Patient Safety Simulator Sessions, and Friday morning Grand Round conferences. Independent reading assignments will be given at the beginning of the rotation with recommended journal articles. A textbook will be available for each student. A refundable \$20 deposit is required for the textbook. If desired, students may take over night calls (to be discussed with instructor).
- Students will receive feedback on their performances. Instructors will complete standard Northwestern Evaluation forms regarding the performance of students. These evaluations constitute 90% of the final grade, while the final exam completes the remaining 10%. The final evaluation of a visiting student will be on the visiting student's institutional evaluation form.

After visiting student registration, please report to: Carolyn Betts in the Olson Pavilion, 240 E. Huron, 1st floor at 8:30 am.

Critical Care/Anesthesiology, Northwestern Memorial Hospital
ANE.4076.04.NMH

Dr. Michael Ault

Background and Justification

The student functions as part of the Anesthesiology/Critical Care Service. The student will be involved with the care of critically ill patients. The greatest involvement is with patients suffering neurologic and acute spinal cord injury (Neuroscience-Spine ICU). This will include their perioperative management. Students will be exposed to the evaluation and treatment of acute cardiopulmonary instability, metabolic derangements associated with critical illness, coagulation abnormalities, and neurologic dysfunction. The principles of supportive care (mechanical ventilation, respiratory therapy, hemodynamic support and manipulation, transfusion therapy) and interpretation of critical laboratory data (arterial blood gas analysis, electrolyte studies, coagulation studies, etc.) will be emphasized. Medical students are expected to actively participate on the clinical service.

Goals

- Develop the ability to assess and manage patients with acute and life threatening problems.
- Become familiar with routine ICU procedures (i.e., arterial catheter placement and monitoring, central venous catheterization, pulmonary artery catheterization, etc.).
- Manage patients requiring various degrees and types of mechanical ventilatory support.
- Identify and manage perioperative patients of various types.

Objectives

To provide the student with enhanced understanding of

- The monitoring and support of neurologic function in the ICU.
- The various types of and indications for airway management, mechanical ventilatory support, and respiratory therapy.
- How various disease states affect cardiopulmonary function.
- The methods of hemodynamic monitoring in the ICU.
- The pharmacology of various drugs used in the treatment of critically ill patients.
- Diagnostic methods and procedures in the ICU.
- Complications and problems associated with critical illness.

After visiting student registration, please report to: Angela Gipson in Feinberg 8-336 (Respiratory Care Hallway) at 8:30am.

Obstetric Anesthesiology, Northwestern Memorial Hospital
ANE.4073.04.NMH

Dr. Cynthia Wong

*****This elective is not offered during Spring 2 and Spring 3*****

This rotation provides an opportunity for the student to be exposed to a specific subspecialty of anesthesiology: obstetric anesthesiology. The majority of time will be spent working with the obstetric anesthesia team on the busy labor and delivery unit at Prentice Women's Hospital. The student is expected to gain hands-on experience in regional and general anesthesia for a variety of obstetric procedures, in particular labor analgesia and anesthesia for Cesarean delivery and postpartum tubal sterilization. In addition, a daily lecture series will provide an overview of topics pertinent to obstetric anesthesiology. Each student is expected to give a 10-minute presentation on the topic of his or her choice relating to obstetric anesthesia at the end of the clerkship. There is no examination. Students contemplating careers in either Anesthesiology or Obstetrics/Gynecology may wish to consider this rotation.

Goals/Objective

- Understand the anesthetic implications of the physiologic changes of pregnancy.
- Learn how to evaluate the airway.
- Learn the anesthetic implications of various disease states as they relate to obstetric anesthesiology.

- Know the options for providing labor analgesia.
- Assess factors that affect maternal and fetal oxygen transport and delivery.
- Know the important principles of managing a bleeding parturient.

Course Format and Proposed Schedule:

- Students function as part of the Anesthesiology Team on the Labor and Delivery Unit.
- Monday through Friday, 6:45 AM through approximately 5 PM.
- Students are encouraged to take overnight call several times during the rotation.

Evaluation and persons performing the evaluation:

Evaluations will be completed by attending and resident physicians, and anesthesia nurses, at the end of the rotation. These evaluations will be summarized using a standard FSM evaluation form and discussed with the student by Dr. Wong or another obstetric anesthesiology attending physician at the end of the rotation. Students are encouraged to seek verbal feedback throughout the rotation.

Sites: Northwestern Memorial Hospital

After visiting student registration, please report to: Carolyn Betts in the McGaw Pavilion, 240 E. Huron, 1st floor at 8:30 am.

**Preceptorship in Pain Management, Northwestern Memorial Hospital
ANE.4074.04.NMH**

Dr. Honorio Benzon

*****This elective is not offered during Spring 2 and Spring 3*****

Students will be assigned to a staff preceptor in the Section of Pain Medicine in the Department of Anesthesiology and will participate in the Anesthesiology Pain Management Services of NMH. Patients with acute and chronic pain problems are evaluated and managed. The section is active in the management of acute postoperative pain as well as chronic pain. Patient rounds are made daily and a lecture/discussion is given four times a week. During their clerkship, students are exposed to a wide variety of interventional pain management procedures as well as pharmacologic treatments of the different chronic pain syndromes.

Goals

- Develop the ability to diagnose and treat acute and chronic pain syndromes
- Learn the rational use of analgesics, antidepressants, membrane stabilizers, and other drugs used in the management of chronic pain
- Understand the rationale, risks, and techniques of interventional pain management

Objectives

Be better able to:

- Manage postoperative, cancer, and chronic non-cancer pain
- Manage low back and neck pain
- Treat complex regional pain syndrome (CRPS)
- Treat postherpetic neuralgia and myofascial pain syndrome
- Understand and apply the pharmacology of the major and minor analgesics
- Understand the role of adjuvant drugs in pain management
- Observe and/or perform neuraxial (e.g. epidural) and peripheral nerve blocks
- Understand the role of other specialties in pain management

Sites: Northwestern Memorial Hospital

After visiting student registration, please report to: Carolyn Betts in the Olson Pavilion, 240 E. Huron, 1st floor at 8:30 am.

Dermatology

Clinical Dermatology, Northwestern Memorial Hospital

DER.4201.04.NMH

Clerkship Director: Maria Colavincenzo, MD

*****This elective is not offered during Fall 3 and Winter 1*****

Background and Justification:

This rotation emphasizes the approach to the diagnosis and treatment of diseases of the skin, hair, and nails. Experiences in outpatient care and in-patient consultation will be provided. Skills in history taking, cutaneous examination and diagnostic procedures will be emphasized. Familiarity with the following diagnostic and treatment modalities will be provided: punch biopsy, shave biopsy, excision and closure, KOH preps, mineral oil preps, cryosurgery, electrodesiccation, and curettage.

A program for a career in dermatology should include the following:

- Clinical Dermatology (4 weeks).
- Inpatient Medicine (1 quarter).
- Selected courses in such related areas as ambulatory pediatrics, allergy and immunology, arthritis, metabolic and endocrine diseases, neurology, rheumatology, and infectious disease.

Students interested in a career in dermatology schedule clinical rotation as early in the fourth year as possible.

Goal: Familiarize each student with the approach to the diagnosis and treatment of diseases of the skin, hair and nails.

Objectives:

- Learn to perform a comprehensive skin examination
- Develop the vocabulary to describe skin lesions
- Learn to generate a differential diagnosis based on pattern recognition
- Recognize and treat common skin diseases
- Recognize the scope of dermatology as a specialty and the criteria for patient referral

Course Format and Proposed Schedule: Students spend their time primarily in the academic, clinical dermatology outpatient setting. They participate directly in the diagnosis and treatment of skin diseases. This may include learning a variety of routine procedures under the supervision of resident and attending staff members. Students participating in the clinical rotation are given a weekly clinic assignment schedule by the resident responsible for the medical student rotation. This is designed to maximize interactions with all clinical faculty members. Students also select one faculty member with whom to work more closely during the last two weeks for their rotation, in order to have a more personal interaction with one attending. Rotators may also arrange to attend rounds with the consult resident and the hospital attending physician. In addition, students attend regular department teaching rounds, didactic sessions, and biweekly one-hour lectures in basic dermatology given for students. The rotation hours are from 7:30 a.m. to approximately 6:00 p.m. Monday through Friday. There are no call or weekend requirements.

Any desire for focused study in such areas as dermatopathology, phototherapy, laser biology, skin cancer biology, needs to be made by special arrangement prior to the rotation. While the clinical clerkship is directed by Dr. Colavincenzo, all full time clinical faculty members, all dermatology residents, and some volunteer faculty participate in teaching and evaluating medical students during their clerkship in Dermatology.

Evaluation and persons performing the evaluation:

The student is evaluated by:

- 1) observation by faculty and residents based on attendance and participation in clinic, lecture and conferences
- 2) an end of rotation case presentation given by each student
- 3) and examination administered by the assigned resident during the final week of rotation.

The standard Northwestern student evaluation form will be completed by Dr. Wickless, following standards for feedback on performance during the rotation.

Sites: Dermatology Clinic; Outpatient Surgical Suite 676 North St. Clair, Suite 1600; Northwestern Memorial Hospital.

First day report to: Students will report to the resident's room, in the Dermatology Department, at 7:30 a.m. on the first day of rotation.

Advanced Dermatology DER.4205.04.NMH

Clerkship Director:
Maria Colavincenzo, MD

Background and Justification:

This rotation emphasizes advanced diagnostic skills and medical dermatology focusing on inpatient and complex medical dermatology patients as part of the dermatology consult service. Skills in formulating differential diagnoses and diagnostic procedures are emphasized. Presentation skills for dermatology grand rounds are also expected. Advanced dermatology applicants should complete at least a one-month elective in dermatology prior to this rotation, at Northwestern or another academic institution.

Also helpful to this rotation are completions of: Inpatient Medicine (1 quarter), Rheumatology, Allergy and Immunology, and Infectious Disease electives (2-4 weeks each). *For rotations at Children's Memorial Hospital in pediatric dermatology, see Pediatric Dermatology listing in the course catalog.*

Goals

Familiarize each student with advanced medical dermatology and functioning of a dermatology consult service. Students will give a short case presentation in a grand rounds setting as would be required of a dermatology resident.

Objectives: The learner will be able to:

- develop comprehensive dermatologic differential diagnoses
- formulate treatment plans for common dermatologic complaints
- deliver an appropriate case presentation in a grand rounds setting
- administer local anesthesia, and properly perform diagnostic techniques
- recognize and identify accurately on a written exam (Allergic Contact Dermatitis, Stasis Dermatitis, Morbilliform drug eruptions, Grover's Disease, Erythema Nodosum, Stevens-Johnson Syndrome, Purpura Fulminans, Pustular Psoriasis, Pemphigus Vulgaris, Deep Fungal Infections)

Course Format and Proposed Schedule:

Students spend their time in an academic clinical inpatient dermatology consult setting. They participate directly in the diagnosis and treatment of skin diseases. This may include learning a variety of routine procedures under the supervision of resident and attending staff members. Students are expected to attend all inpatient rounds with the consult resident and the hospital attending physician. In addition, students attend regular department teaching rounds, didactic sessions, and biweekly one-hour lectures in basic dermatology given for students. The rotation hours are from 7:30 a.m. to approximately 6:00 p.m. Monday through Friday. Weekend call requirements are a part of this rotation. An oral presentation of an interesting case will take place during monthly departmental grand rounds. The student will assist the consult resident with organizing grand round patient presentations and patient viewings. While the clinical clerkship is directed by Dr. Colavincenzo, all full-time clinical faculty members, all dermatology residents, and some volunteer faculty participate in teaching and evaluating medical students during their clerkship in Dermatology.

Evaluation and persons performing the evaluation:

The student is evaluated by:

- 1) observation by faculty and residents based on attendance and participation on the consult service, lectures, and conferences,
- 2) the grand rounds case presentation,
- 3) a written examination administered by the assigned resident during the final week of rotation.

Sites: NMH, CMH (on weekends), Outpatient clinics at 676 N. St. Clair, Suite 1600, Northwestern Memorial Hospital.

First day report to: Students will report to the residents' room, Dermatology Clinic, at 7:30 a.m. on the first day of rotation at 676 N. St. Clair, Suite 1600.

Pediatric Dermatology, Children's Memorial Hospital

PED.4425.04.CMH

Clerkship Director: Anthony J. Mancini, MD

Goals

The student has the opportunity in a variety of clinical settings to develop a sound approach to the diagnosis and management of a broad spectrum of dermatologic conditions.

Objectives

- Examine the skin of a patient in any pediatric age group and give an accurate description of the findings employing appropriate dermatologic terms. Be able to distinguish normal findings and those that signify a disease process.
- Distinguish primary lesions, secondary lesions, configuration, and distribution patterns of skin lesions and typical sites of involvement for specific diseases.
- Appropriately classify a given skin condition in general terms such as eczema, scaling disorder, bullous disease, vascular lesion, and granuloma as well as develop a differential diagnosis within that disease category.
- Appreciate the types of skin changes that indicate the presence of a systemic disease.
- Perform simple diagnostic tests such as KOH preparation, scraping for mites, fungal culture and know when they are appropriate.
- Become familiar with the categories of topical preparations used in dermatologic conditions and be able to prescribe one or two preparations in each category with correct instructions for patient care.
- Methods

Course Format and Proposed Schedule:

The course clerkship runs Monday through Friday. There is no call, night, or weekend attendance at the hospital. Students are expected to: participate in the evaluation and management of patients in the clinics and on the inpatient service, attend the twice monthly dermatology divisional conference, be guided in reading throughout the clerkship and have access to atlases of skin disease for additional study. The student will be expected to attend Monday through Friday every week.

Evaluation and persons performing the evaluation

The student will be evaluated by the attending dermatology staff on his or her approach to the patient, collection of data, and interpretation of the clinical findings.

First day report to: The student will be e-mailed instructions.

Please note: Pediatric Dermatology would like a minimum of 6 weeks notice if canceling an elective.

*****Emergency Medicine*****

Emergency Medicine, Northwestern Memorial Hospital

EME.4000.04.N/E

Dr. Amy Kontrick

*****This elective is not offered during Spring 2 and Spring 3*****

Emergency Medicine will expose the student to the diagnostic, therapeutic, and procedural skills required for the management of acute illness and injury. The student will function at the level of a sub-intern and will be involved in all aspects of emergency care including the performance of all necessary procedures. From the patient's initial presentation through diagnosis and development of the treatment plan, it is expected that the student will gain knowledge and confidence in his or her clinical skills. All patients will be concurrently managed by the Emergency Department attending and resident, who will provide immediate feedback, teaching, and support.

Goals:

1. Recognize life-threatening patient presentations and demonstrate appropriate prioritization of initial interventions.
2. Enhance history and physical exam skills using a problem-focused approach
3. Develop focused diagnostic plans for common acute illnesses and injuries.
4. Learn to effectively manage multiple patients simultaneously.
5. Improve existing procedural skills as well as learn new skills.
6. Describe common pathophysiologic processes that lead to emergent presentations.
7. Describe therapeutic interventions that are meant to respond to the underlying pathophysiologic events.

Objectives:

Students will:

1. The student will demonstrate the ability to generate appropriate differential diagnoses and develop diagnostic and therapeutic plans for patients presenting with the following complaints:
 - a. Chest pain
 - b. Shortness of breath
 - c. Abdominal pain
 - d. Vaginal bleeding and pelvic pain
 - e. Headache
 - f. Extremity trauma
 - g. Lacerations and other minor wounds
 - h. Fever
 - i. Acute weakness
 - j. Syncope
 - k. Altered mental status
 - l. Seizure
 - m. Environmental emergencies including hypothermia and/or hyperthermia
 - n. Acute psychiatric complaints
2. The student will be able to recognize and initiate treatment of various cardiac dysrhythmias.
3. Identify and treat the acutely poisoned patient.
4. Recognize the common toxidromes and list the appropriate antidote and/or treatment.
5. Describe the initial systematic approach to management of the trauma patient.
6. Recognize and initiate treatment for immediately life threatening injuries in the trauma patient.
7. Demonstrate appropriate wound management techniques including basic suturing skills.
8. Describe appropriate wound care and management.
9. Participate in adult and pediatric resuscitations and identify and describe the pathophysiology behind treatment protocols.
10. Demonstrate basic airway skills.
11. Recognize and describe treatment for common ophthalmologic emergencies.
12. Recognize and describe initial treatment and/or intervention for common ENT emergencies.
13. Describe appropriate interventions for victims of domestic violence.
14. Demonstrate competence in basic procedural skills including venipuncture, suturing, splinting, ABG and IV placement.
15. Assume responsibility for the management of patients at the level of a sub-intern.

Course Format:

The student will meet the goals and objectives through:

1. Clinical experience in the emergency department, primarily evaluating patients and devising diagnostic and therapeutic plans. The student's focused history and physical examination findings will be immediately presented to a senior resident or attending. The student will be responsible for working with senior physicians to assure the implementation of diagnostic and therapeutic plans, assuring interpretation of the results, and then for the development of the on-going plans for care.
2. Course reading materials and a core lecture series will be presented during the four-week rotation. These will cover the essential knowledge components and will help link the clinical experience with basic physiology, pharmacology, anatomy, and biochemistry.
3. Special seminars will be presented to explore special topics in more detail. These will include an orientation to the emergency department, skill labs, special interactive sessions, and introduction to special topics in Emergency Medicine.

Evaluation

The student will be evaluated on his or her clinical skills. At the end of each clinical shift, the student must present an evaluation form to the supervising resident and attending. Through each clinical shift, the supervising physicians will directly observe the students' skills and will provide real-time, ongoing feedback. Interpersonal skills will also be assessed. The ability to effectively interact with patients and families, to demonstrate professionalism, communication skills, teamwork, and collegiality will be required. These qualities will be assessed through the end-of-shift evaluation forms.

Conference participation will be evaluated.

A comprehensive final examination is mandatory and will contribute to the final grade.

In addition, students will be required to maintain a procedure log and a patient follow-up log. These must be turned in near the end of the rotation and will be evaluated.

Letter of Recommendation

One letter of recommendation, describing applicant's interest and/or experience in Emergency Medicine and any extracurricular activities relating to the specialty is required with the completed visiting elective application. Letter should be included with your visiting student application and sent to Visiting Student Programs. Letters should be addressed to: Amy Kontrick, MD, Director of Student Education

Letter writer may be an EM advisor or senior faculty member who has supervised applicant during a junior core clerkship (internal medicine, surgery, ob/gyn, or pediatrics). Applications received without the required letter will not be considered.

Available sites include Northwestern Memorial Hospital

First day report to: The student will be e-mailed instructions.

*****Preference will be given to US medical students pursuing a career in EM and Global Partner Applicants*****

*****This elective is not offered during Spring 2 and Spring 3*****

*****Internal Medicine*****

Senior Medicine Clerkship Director: Dan Evans, MD

Goals

- Immerse the student in a brief simulation of the experiences of a first-year medical resident, allowing development of clinical skills, organizational abilities, and integration with one's personal life to ensure a successful start of postgraduate training.
- Advance and enhance the student's knowledge of common disorders in internal medicine, with emphasis on patient management strategies.

Objectives

- Assume primary responsibility for the simultaneous care of several patients hospitalized on the medical service.
- Learn management strategies for common symptoms and disease entities encountered in hospitalized patients.
- Participate, at the level expected of PGY I housestaff, in the educational conferences and seminars of the department.
- Coordinating care for complicated medical patients. This includes the development of communication skills with primary care physicians, ward attendings, senior residents, co-interns, consultants, nurses, social workers, and other ancillary staff.
- Learn to fulfill the administrative responsibilities of a house officer, including written histories, daily progress notes, writing orders, calling consultants, and composing discharge summaries/instructions.
- Enhance skills in using the medical literature and other learning resources to assist the management of complexly ill patients.

Internal Medicine: Inpatient Northwestern Memorial Hospital

MED. 4000. 04. NMH

NMH Site Director: Dan Evans, MD

*****Please note, the Internal Medicine sub-internship ends on Sunday, instead of the Friday end date listed on the Visiting Students website.**

Please contact the clerkship director a week prior to the beginning of your rotation for details regarding team assignment.

Eligibility requirements: Due to the complex nature of the Internal Medicine sub-internship, **Visiting students must be from a LCME accredited institution.**

Internal Medicine: Inpatient Westside Veteran's Administration

MED. 4000. 04. VAW

*****This elective will no longer be offered for the 2010-2011 Academic Year*****

*****Allergy-Immunology*****

Allergy/Immunology Clerkship, Northwestern Memorial Hospital MED.4551.04.NMH

Dr. Calvin R. Brown Jr.

Clinical problems in allergy-immunology are seen in nine outpatient clinics on Monday and Wednesday–Friday afternoons and Monday–Friday mornings. Formal inpatient rounds are scheduled for Monday and Thursday. The remainder of time is devoted to seeing inpatient consultations and participating in the Tuesday subspecialty conferences. Clinical problems seen in this service are the common respiratory and cutaneous allergic diseases, including asthma, urticaria, anaphylaxis, food allergies, sinusitis, and immune deficiencies. Experience is gained in evaluation, diagnosis, and management of these problems. More complex diagnostic problems are seen as inpatient consultations such as drug induced rashes and Steven Johnson Syndrome. There is some exposure to the broadening research areas of allergy-immunology. The student is asked to prepare a brief report for presentation during the rotation.

Goals

- Know the pathophysiology of common allergic - immunologic diseases.
- Understand principles of diagnosis and treatment of allergic - immunologic diseases.
- Recognize features of B Cell differences

Objectives

- Demonstrate presence of IgE antibody.
- Correlate IgE antibody with occurrence of symptoms.
- Establish the diagnosis of allergic rhinitis.
- Learn how to diagnose and treat rhinosinusitis.
- Understand mechanisms of asthma.
- Learn principles of management of asthma.
- Gain experience in severe allergic reactions such as anaphylaxis.
- Become familiar with the workup for hypogammaglobulinemia.
- Carry out management of allergic - immunologic disease if entering a primary care specialty.

*****Arthritis*****

Arthritis-Connective Tissue Clinical Clerkship, Northwestern Memorial Hospital MED.4552.04.NMH

Richard M. Pope, MD

The clerkship permits in-depth study of clinical and pathophysiological aspects of the rheumatic disease. Students evaluate patients under the supervision of faculty members and rheumatology fellows, with emphasis on outpatient clinical experience, key clinical and pathophysiological concepts, interpretation of serologic tests, radiographs, and synovial fluid analysis. There is opportunity to work with specially trained rheumatology patient-instructors to upgrade clinical skills. A discussion/lecture series of eight key rheumatology topics and case problems is presented by the faculty each month.

Goal

Improved understanding of the clinical presentation, pathophysiology, and treatment of common rheumatologic disorders.

Objectives

- Perform a competent rheumatologic history and physical examination.
- Construct differential diagnoses and work-up plans for acute monoarthritis and chronic polyarthritis

- Recognize and understand the multisystem involvement of systemic rheumatic diseases.
- Be knowledgeable with the risks and benefits of nonsteroidal anti-inflammatory drugs.
- Recognize benefits and risks of corticosteroids in treatment of rheumatic disease.
- Gain experience in the use of immunosuppressive drugs for rheumatic disease.
- Develop skill in performing arthrocentesis of the knee and synovial fluid analysis.
- Improve physical examination and history taking skills related to the musculoskeletal system.
- Understand the assessment of functional status in rheumatic disease patients.
- Become familiar with indications, perioperative medical management, and rehabilitation following total joint replacement surgery.
- Begin to learn the vocabulary of rehabilitation.

Close liaison exists with orthopaedic surgery, rehabilitation medicine, and radiology. This course may prove helpful to those students with a potential interest in family practice or general internal medicine, rheumatology, orthopaedic surgery, plastic surgery, or rehabilitation medicine. Course designed by Dr. Calvin Brown.

Location: Medical Center clinics and hospitals. Students assigned to this clerkship should report to Jan Barber-Harris in the Medical Specialties Clinic on 14-100 Galter Pavilion of Northwestern Memorial Hospital at 8:30 AM on the first day of clinic.

*****Cardiology*****

Clinical Cardiology Consulting Service, Northwestern Memorial Hospital

MED.4554.04.NMH

Dr. Mendelson

Experience in diagnosis and management of a broad range of cardiac disease, including preoperative evaluation for cardiac surgery, cardiac consultation, postoperative management of the cardiac surgical patient, cardiac evaluation of patients with cardiac disease scheduled for noncardiac surgery, and evaluation of the pregnant cardiac patient. Opportunities to participate in outpatient cardiology are also available.

Goals

- Diagnose and treat common cardiac disorders.
- Understand use of cardiac diagnostic modalities.

Objectives

- Improve cardiac examination skills (history and physical).
- Understand common cardiac diseases: manifestations; diagnosis, and treatment.
- Understand diagnosis and treatment of coronary artery disease, heart failure, valvular heart disease, and peripheral vascular disease.

After visiting student registration, please report to: Students assigned to this clerkship report at 8:30 a.m. on the first day to 676 N. St. Clair, Suite 600

Cardiovascular Disease in Women, Northwestern Memorial Hospital
MED.4557.04.NMH

Dr. Mendelson

This elective is not offered during Spring 3

Goals

- Understand gender-specific differences in coronary artery disease.
- Understand and use gender-specific cardiovascular risk assessment and modification.
- Understand the manifestations of cardiovascular disease during pregnancy.
- Enhance overall skills in cardiopulmonary examination and diagnosis.

Objectives To fulfill these goals the student will:

- Attend daily outpatient general cardiology sessions weekly in an office setting with a high proportion of female patients.
- Attend the weekly Heart Disease and Pregnancy Clinic.
- Complete a research project or scholarly review paper on a mutually agreed upon topic.

Course Format and Proposed Schedule:

Attend Cardiology Conferences and ECG reading with attending. The approximate hours are 7:30am to 5:00pm. There is no call or weekend participation.

Evaluation and persons performing the evaluation

Evaluation is comprised of clinical skills and the required paper. The student will be evaluated by the Faculty for knowledge base, professional demeanor and significance of research paper.

After visiting student registration, please report to: Students assigned to this clerkship report at 8:30 a.m. to Joan Draves on the first day to 676 N. St. Clair, Suite 600

Heart Failure, Northwestern Memorial Hospital
MED.4592.04.NMH

William Cotts, MD

This elective is not offered during Spring 3

This rotation emphasizes the approach to the diagnosis and treatment of heart failure. Experiences in, in-patient care and consultation both on the general wards and the intensive care units will be provided. Familiarity with diagnostic testing including: echocardiography, cardiac MRI, cardiac CT, Holter monitoring, cardiopulmonary stress testing, coronary angiography, intervention and ICD/pacemaker technology. Exposure to high-risk cardiac surgery including: revascularization, valve repair, ventricular reconstruction, arrhythmia surgery, LVAD and transplantation will be provided.

Goals

- Increase the ability to differentiate heart failure due to systolic versus diastolic dysfunction and recognize the differing therapeutic approach
- Increase the ability to develop a diagnostic plan for heart failure
- Increase the ability to understand the rationale for the therapeutic approach to heart failure
- Increase the ability to appropriately utilize electrophysiologic interventions and the management of heart failure
- Understand when patients are truly refractory (Stage D) and require more definitive surgical therapies

Objectives:

- Perform a competent history and physical examination with reference to heart failure
- Develop a diagnostic plan for the elucidation of etiologies and cofactors in heart failure
- Create an evidence-based therapeutic plan resulting from the diagnostic evaluation and the published guidelines

- Interpret echocardiographic evaluation of left ventricular function
- Assess those admitted for Acute Heart Failure Syndrome and apply appropriate therapy including diuretics and IV vasodilators and inotropes
- Recognize when conventional therapy fails and the indications for destination therapy and cardiac transplantation
- Understand at what point palliative care may be the best option.

Students will be expected to work with the inpatient service, attend consult rounds and see patients in the ambulatory environment. An attending heart failure/transplant cardiologist and cardiology fellow will supervise the student. The student will attend the weekly Center for Heart Failure patient care meeting. Students will report Monday 9 AM to Dr. O'Connell's office to begin the rotation.

Rationale:

Heart Failure is a common syndrome with a high mortality (60% at 5 years from diagnosis; 50% at 2 years if NYHA Class IV – approximately twice that of breast cancer) affecting 5 million Americans and accounting for more hospitalizations than all forms of cancer. Because 80% of those with HF are 65 years of age or older, the economic burden on Medicare is alarming. It is the number one medical expense of the VA system.

In the past decade newer pharmacologic modalities and electrophysiologic interventions proven effective in randomized controlled trials adding to the complexity of management in this population. Additionally, newer surgical approaches and technologic advances in heart replacement (left ventricular assistance and transplantation) has led to a broader armamentarium in the treatment of this condition.

Through the Center for Heart Failure of the Bluhm Cardiovascular Institute, Northwestern has made a serious commitment to become a (inter)national leader in care and research in HF. The Center by its very nature will be active in multidisciplinary (cardiology, cardiac surgery, nursing, and radiology) care and research. A large regional network (The Northwestern Great Lakes Regional Heart Failure Network) of cardiologists (324) and primary care physicians (138) caring for more than 33,600 patients has been developed by the Center which will provide access for population-based studies and clinical trials. The proposed elective will teach the art and science of management of the entire spectrum of heart failure within the context of a multidisciplinary team.

Proposed schedule:

The student will attend ambulatory clinic two half days/week where instruction in the chronic management of HF will be provided. Students will see approximately 5-6 patients per clinic session. Students will initially obtain the history, examine the patients and then present to the attending physician. Didactic lectures will be given at least twice weekly and ad hoc. Lectures to be given include: diagnostic evaluation of HF, management of acute heart failure syndrome, chronic medical management of HF, electrophysiologic devices for HF and management of Stage D HF including high risk CV surgery, transplantation and left ventricular assistance. The student will make teaching rounds on the inpatient and consult service with the attending physician three days a week and will attend the weekly multidisciplinary Center clinical conference where all seriously ill patients are discussed and decisions regarding transplant, left ventricular assistance and advanced cardiac surgery will be made. The inpatient service has an average census of 12-14 patients daily. Independent reading assignments will be given throughout the rotation. Additionally, the student will have the opportunity to be present in the operating room during surgery on patients the student follows.

**Four-Week Outpatient Cardiology Elective, American Dental Association Building
MED.4555.04.ADA**

Dr. Stone

****This elective will no longer be offered to Visiting Students for the 10-11 academic year****

*****Critical Care Medicine*****

Acute Cardiac Care, Northwestern Memorial Hospital

MED.4591.04.NMH

Dan J. Fintel, MD

This rotation emphasizes management of the acutely ill cardiac patient. Experiences in the management of acute coronary ischemia, heart failure, cardiac arrhythmia, pacemaker therapy, hemodynamic monitoring, ventilator and circulatory support is obtained in the coronary care and telemetry units.

Goals

- Increase the ability to recognize and plan the management of acute cardiac emergencies, or both hemodynamic and arrhythmic.
- Increase the ability to identify serious illness and to correctly assign priorities in its management.
- Recognize and develop skills in the management of a variety of conditions associated with the requirements for life support measures.

Objectives Students will acquire basic ability to:

- Manage acute myocardial infarction (thrombolysis vs. PTCA).
- Manage unstable angina.
- Use antianginal medication.
- Treat congestive heart failure.
- Interpret electrocardiographic results.
- Diagnose and manage arrhythmia.
- Interpret arterial blood gasses.
- Interpret invasive hemodynamic studies.
- Manage airway.
- Manage ventilator use.
- Interpret cardiac imaging procedure, including cardiac catheterization, echocardiograph, and nuclear cardiology.

Students will be expected to work up new admission on a daily basis, and attend the daily teaching.

Students assigned to the clerkship will report at 8:00 am to Dr. Fintel's office at Galter 10-240.

*****Endocrinology*****

Endocrinology and Metabolism Clerkship, Northwestern Memorial Hospital

MED.4562.04.VAR

Grazia Aleppo, MD

Goals

The goal of this elective is the development of an appreciation of the natural history and pathophysiology of endocrine and metabolic disorders and of the effects of these disorders on other organ systems and on the patient's outlook on life. This is obtained through intensive, closely supervised work with patients, formal conferences, and small-group didactic teaching. Students join residents and endocrine fellows in the management of patients hospitalized at NMH. Inpatient consultations are supervised by an attending endocrinologist who makes daily rounds with the clinical team. Supervised outpatient experience is gained through sessions conducted by the Division of Endocrinology and Metabolism at the Northwestern Medical Faculty Foundation offices and at the Westside VA. Exposure to problems in pediatric endocrinology is provided by clinical rounds held at CMH and attended by endocrine faculty from pediatrics and medicine.

Additional clinical teaching is provided through a weekly conference where fellows, students, and residents at NMH present clinical problems to the endocrine faculty. These clinical conferences are supplemented weekly by regular conferences on problems in diabetes management, didactic course in endocrinology, and informal review sessions with faculty members.

Students assigned to this clerkship will report to Dr. Aleppo in the Galter building, 14-100 at 9 a.m. on the first day OR student will be emailed instructions.

*****Gastroenterology*****

Gastroenterology Clinical Clerkship, Northwestern Memorial Hospital

MED.4563.04.N/V

Laura Yun, MD

This Clerkship IS NOT ACCEPTING VISITING STUDENTS DURING SPRING 1, 2 OR 3.

Background and Justification:

Gastroenterology has expanded dramatically in the past decade with tremendous advances in diagnostic and therapeutic strategies in acid-peptic disorders. Moreover, this has been coupled with a plethora of therapeutic and diagnostic endoscopic techniques. This clerkship emphasizes the pathophysiology of these gastrointestinal disorders and focuses on the application to commonly encountered clinical problems. Students are encouraged to concentrate on the organization and extraction of clinically relevant information by spending their time working up patients and then reading about their problems. Exposure to all gastroenterological procedures are offered to students; however, course participants will not spend undue time observing them.

Goals:

- Enhance ability to diagnose and treat common gastroenterological disorders.
- Enhance knowledge of gastrointestinal pathophysiology.

Objectives:

- Understand the causes of gastrointestinal bleeding, the differential diagnosis of upper and lower GI bleeding, and a related treatment plan.
- Understand the causes of odynophagia, the differential diagnosis, and a related treatment plan.
- Recognize common endoscopic findings such as esophagitis, esophageal varices, gastric and duodenal ulcers, and colitis.

Course Format and Proposed Schedule:

Students will spend their time on the NMH GI service, which is primarily a consultative program, in which the student examines the patient, prepares and presents a work-up and relevant literature, and reviews the patient with the resident, fellow, and attending physician.

Students are expected to attend the following weekly conferences: Tuesday: GI oncology patient management conference and medical grand rounds; Wednesday: fellows teaching conference; Thursday: gastroenterology education conference and medical-surgical gastroenterology conference; and Friday: hepatology research conference.

This Clerkship IS NOT ACCEPTING VISITING STUDENTS DURING SPRING 1, 2 OR 3.

*****Geriatrics*****

Geriatric Medicine Clinical Clerkship, Northwestern Memorial Hospital

MED.4564.04.NMH

Dr. Arseven

Course Format and Proposed Schedule: As part of the interdisciplinary geriatric team, the student participates in assessments in the outpatient clinic (Galter 14-100). The student is also involved in inpatient consultations on medical, surgical and psychiatric wards. Clinical exposure includes institutional (subacute/rehabilitative and long-

term care) and non-institutional (home) care. There will be no weekend activity (details in proposed weekly schedule).

Students are active participants in weekly interdisciplinary team conference in the division, and in a core-curriculum conference offered at the Buehler Center on Aging. A 30-minute talk based on a case seen in outpatient or inpatient consultation is required. The student will choose the topic, and geriatric faculty or fellow will supervise the preparation.

Goal

- Using the principles of geriatric medicine, the student will develop an integrated approach to the evaluation and care of the frail older adult.

Objectives

- Develop an understanding of the biology of aging.
- Gain knowledge of the basic pharmacokinetic and pharmacodynamic changes associated with aging and become skilled at assessing the appropriateness of pharmacologic therapy.
- Determine rehabilitation needs.
- Perform a functional assessment.
- Develop a heightened awareness of the ethical issues related to patient care.
- Develop an understanding of and approaches to common problems encountered in the frail older adult (i.e., falls, incontinence, dementia, depression, deconditioning).
- Gain an understanding of the physician's role in patient's transition between levels of care and the importance of continuity of care in the older adult.

Assessment

The student is evaluated on the basis of her/his ability to integrate the principles of geriatric medicine in the assessment and care of the older adult. Students also are expected to make one presentation at the weekly team conference during the clerkship.

Sites: NMH, RIC, SNF (Warren Barr)

*****Hematology/Oncology*****

Hematology/Medical Oncology Clinical Clerkship, Northwestern Memorial Hospital

MED.4565.04.NMH

Director: James Brandman, MD,

In this four-week clerkship, students are part of a multidisciplinary team responsible for the management of complex patients with a variety of malignancies, including acute leukemia, lymphoma, lung cancer, breast cancer, and other neoplastic disorders. Clerkship students are exposed to various treatment approaches, including stem cell transplantation.

Students participate in inpatient rounds each morning at Feinberg, 15th floor. They may choose malignant hematology, benign hematology, or medical oncology services for their first two weeks. Similarly, in their final two weeks, students may choose one of the two other inpatient services.

Four afternoons each week are spent in the NMFF outpatient clinic, sharing responsibility with the medical residents for the initial evaluation and follow-up of patients with hematologic or oncological problems through diagnostic and therapeutic programs.

Rotations have been scheduled to allow students to attend several of our weekly multidisciplinary conferences.

Goal

- To provide a broad based experience in benign and malignant hematology as well as medical oncology through participating in inpatient and outpatient rounds with residents, fellows, and attending faculty.

Objectives

- Gain a better understanding of the physician's role in the diagnostic evaluation and multidisciplinary treatment of patients with solid tumors or hematological malignancies.

- Enhance his/her knowledge of the management of anemias, coagulation disorders, and other nonmalignant hematological conditions as well as plasmapheresis and other topics related to transfusion medicine.
- Gain expertise in interpretation of peripheral blood smears, bone marrow aspirates, and malignant pathology specimens.
- Develop a heightened awareness of ethical issues relating to patient care.

After visiting student registration, students should report to Dr. Brandman at 676 N. St. Clair, Suite 850.

*****Infectious Disease*****

Infectious Disease, Northwestern Memorial Hospital

MED.4566.04.N/E

Evan J. Anderson, MD

Background and Justification:

In this elective clerkship, the senior medical student shares responsibility for consultations, meets daily with the primary preceptor, and learns basic concepts relevant to the diagnosis and treatment of infectious diseases. In addition, the student participates at least one half day per week in the outpatient HIV clinic, at least once in the Monday evening Sexually Transmitted Disease Clinic and in all infectious disease conferences. Participation in the conference assures contact with the division's faculty members, provides exposure to discussions on infectious disease issues, and offers an opportunity for the student to explore the infectious disease literature.

Goals

The student will gain an increased understanding of the diagnosis and management of infectious diseases.

Objectives Student will be better able to:

- Understand causes of infections
- Understand the principles of appropriate anti-infective therapy.
- Understand host-pathogen interactions.
- Understand problems unique to hospital-acquired infections.

Course Format and Proposed Schedule:

The Chicago campus has three infectious disease services: 1) the Transplant ID Service that manages solid organ and bone marrow transplant recipients and patients with malignancies, 2) the General ID Service that sees a broad range of patients with infection problems throughout the hospital and the HIV/Overflow ID Service that sees patients with HIV/AIDS and backs up the other two services when one or the other gets particularly busy. In order to provide a range of patient exposure, students typically spend two weeks on two of the three services.

There is no written examination. Students are expected to round Monday through Friday and join the ID fellow or attending for rounds on one weekend day. Night and holiday call are not expected.

Evaluation and persons performing the evaluation:

Observation performed by faculty.

After visiting student registration, please report to: Rosemary Clark at 8:30a.m. in the Division of Infectious Diseases, 645 N. Michigan Ave. Suite 900, on the first day. 312-695-5090

Sites: Chicago campus

*****Nephrology*****

Nephrology Clinical Clerkship, Northwestern Memorial Hospital MED.4568.04.N/E

Dr. James Paparello

Students work up new patients, see consultations, receive training in the evaluation of renal function and the management of renal and hypertensive disease and of fluid and electrolyte problems, and in the interpretation of renal histology. They attend clinical and research conferences and participate in nephrology seminar courses. Patient rounds are conducted daily, Monday through Sunday (students do at most one weekend based on the needs of the team on call).

Goals

- Provide experience in the diagnosis and treatment of renal disease.
- Provide didactic teaching on acid-base electrolytes and hypertension problems.
- Provide insight into the consultation for nephrological problems, including end-stage renal disease.

Objectives

- Work-up renal problems.
- Interpret urine electrolyte data.
- Interpret arterial blood gas data in the context of the clinical setting.

After visiting student registration, students assigned to this clerkship at NMH report at 8:30 a.m. on the first day to Inpatient Dialysis, Feinberg 9-748.

*****Nutrition*****

Nutritional Support, Northwestern Memorial Hospital MED.4588.04.NMH

****This elective will no longer be offered during the 10-11 Academic Year****

Palliative Medicine/Hospice Clinical Clerkship, Northwestern Memorial Hospital MED.4577.04.NMH

Jamie Von Roenn, MD and Joshua Hauser, MD

Palliative and hospice medicine emphasizes care focused on quality of life for patients and their families. It includes patients with life-threatening illnesses including cancers, heart disease, dementia and other illnesses as well as patients who may be receiving active treatment for their disease. It is becoming a more and more accepted part of medical practice and increasingly integrated with standard care. At Northwestern, the palliative care program consists of an inpatient unit, an inpatient consultation service, a home hospice and an outpatient palliative care clinic.

The core of the student's experience consists of participating in inpatient assessments, following the treatment plans for patients in the Palliative Care Unit, on the Palliative Care Consult Service and through home visits with a hospice physician, nurse, or social worker. These activities allow the student to explore much of the nature of palliative medicine as well as serving as a support to patients and their families. Didactic, interactive sessions are held at least three times a week. A core-competency group of articles covering not only basic principles and controversies of palliative medicine/hospice but also the management of common symptoms, including pain, nausea, fatigue, delirium, and dyspnea, are discussed. Relevant legal, ethical, spiritual, cultural, and psychological issues are emphasized during the clerkship. The theme of interdisciplinary care and management is stressed. The foundations of palliative medicine, including good symptom management, excellent communication skills, comfort with limitations and potentials of modern medicine, and adherence to ethical precepts are important for physicians in any type of practice.

Goals

- Develop an understanding of palliative medicine/hospice approach toward patients with advanced disease.
- Experience the consultative, inpatient, and home practice of palliative care.
- Gain confidence in appropriate delivery of bad news and discussing end-of-life issues with patients and families.
- Become accustomed to multidisciplinary (physician, nurse, social worker, chaplain) management of patients with chronic/advanced disease.

First day report to: Students will report Monday 7:30 AM to 16N at the New Prentice Women's Hospital to meet inpatient team (Attending, fellow and nurse practitioner)

****Pulmonary****

Pulmonary Medicine Clinical Clerkship, Northwestern Memorial Hospital

MED.4571.04.NMH

Peter H.S. Sporn, MD, Medical Education Director

Background and Justification

Disorders of the respiratory system are among the most frequently encountered clinical problems in hospitalized patients. This rotation emphasizes the approach to diagnosis and treatment of common and unusual pulmonary disorders in the hospital setting. Students will participate in all facets of the work of the Pulmonary Consultation Service at Northwestern Memorial Hospital, which entails exposure to a broad range of diseases affecting the respiratory system and the consultant's role in their diagnosis and management. Students will also gain exposure to chest radiology, interpretation of pulmonary function tests, flexible fiberoptic bronchoscopy and other pulmonary diagnostic procedures. This rotation is especially useful for those planning to enter the fields of internal medicine (including the subspecialties of pulmonary and critical care medicine), anesthesiology, emergency medicine and radiology.

Goals

- Understand, diagnose and treat common pulmonary problems.
- Interpret pulmonary function tests and chest imaging studies.
- Integrate principles of pulmonary physiology and pathophysiology with clinical information from patients with a variety of pulmonary diseases.

Objectives To understand the causes, evaluation, and treatment of:

- Obstructive lung disease.
- Diffuse interstitial lung disease.
- Pulmonary vascular disease.
- Acute lung injury and respiratory failure of other causes.
- Pulmonary infection.
- Pulmonary malignancy.
- Occupational and environmental lung disease.
- Iatrogenic respiratory disease.
- Disorders of the pleura.
- Pulmonary manifestations of systemic disease.

Course Format and Proposed Schedule:

Students will function as junior members of the Pulmonary Consultation Service team. The team will generally consist of 1-2 senior medical students, 1-4 internal medicine residents, 1 pulmonary fellow, and an attending physician. Attending physicians are all full-time faculty in the Division of Pulmonary and Critical Care Medicine of the Feinberg School of Medicine. Students will share responsibility with the medical residents and pulmonary fellow for responding to all requests for pulmonary consultations on hospitalized patients. Students will individually evaluate patients and give oral presentations on attending rounds, which occur daily. Students will also be encouraged to observe and assist with fiberoptic bronchoscopy and other pulmonary diagnostic procedures, including thoracentesis, needle biopsy of the pleura, and chest tube placement. Students will observe and learn to interpret pulmonary function tests. Students will participate in all Division of Pulmonary and Critical Care Medicine conferences, including Pulmonary Morning Report, Pulmonary Core Clinical Topics, Pulmonary and Critical Care Grand Rounds, Thoracic Oncology Conference, and Pulmonary Research Conference. The schedule for the rotation is approximately 8:00 am to 6:00 pm, Monday to Friday. There is no night call, and weekend rounding by students is not required.

Evaluation and persons performing the evaluation: Written evaluation by Pulmonary Faculty, based on observation by Pulmonary Faculty and Pulmonary Fellows.

First day report to: Courtney Miller, 240 E. Huron St., McGaw M-300 at 8:00 am.

*****Neurology*****

Senior Subinternship in Neurology, Northwestern Memorial Hospital

NEURO.4301.04.NMH

Clerkship Director: Dr. Ramadevi Gourineni

The student assumes the responsibilities of a house officer on the neurology consultation service under the supervision of an attending staff member. The initial evaluation workup, treatment plan, and daily follow ups are performed by the student. Instruction by staff members are supplemented by the teaching rounds. Due to the high volume of Northwestern students that we need to accommodate, positions for this rotation may not be available.

*****Neurology will not be accepting Visiting Students till further notice. Do not apply for this elective*****

*****Neurological Surgery*****

Neurological Surgery, Northwestern Memorial Hospital

SGY.4846.04.NMH

Dr. Ganju

Students participate in the total care of neurological surgery patients, including diagnostic procedures, outpatient clinics, operations, intensive care, and emergency care. In addition, active participation in daily teaching conferences, journal club, and grand rounds is encouraged. Call is optional. Students have the opportunity to present topics of interest at a Monday Night Resident Conference

Ambulatory time: 20 percent. NMH.

Application: The Department of Neurological Surgery requires all applicants to submit a brief (one paragraph to one page) personal statement explaining their interest in neurosurgery. Please include your personal statement with your visiting student application and submit to the Visiting Student Programs staff. Do not send materials to the department.

*****This elective is not offered during Spring 3*****

*****Obstetrics and Gynecology*****

Maternal-Fetal Medicine, Prentice Women's Hospital

OBG.4331.04.NMH

Maternal Fetal Medicine Faculty, Prentice Pavilion of Northwestern Memorial Hospital

Course Director: Svena Julien, MD

Background and Justification:

This rotation emphasizes the approach to the diagnosis and management of high risk pregnancies. Students will care for patients on the antepartum in-patient service, Labor & Delivery, outpatient clinics (PAC-Diabetes, PAC-High-Risk Obstetrics and NMFF MFM office).

Goals:

- Develop the ability to identify women with an increased risk of adverse pregnancy outcome, counsel them in the pre-conceptual period, diagnose and manage them during pregnancy and the intrapartum period.

Objectives

- Student will develop the clinical skills to identify potential maternal and fetal complications of a high-risk pregnancy (including hypertension, Hx of prematurity, fetal anomalies, multiple gestation, diabetes, abnormal placentation, immune disorders and congenital infection/HIV).
- Student will develop the clinical skills to establish an appropriate plan of management of a high-risk pregnancy.
- Student will become familiar with diagnostic modalities and technology utilized in maternal and fetal surveillance, including fetal heart rate testing, biophysical testing, and ultrasound (including Doppler and 3-D).
- Student will develop an understanding of the indications, reliability and limitations of these diagnostic modalities.

Course Format and Proposed Schedule:

Students will be expected to work as part of the MFM service team and assume an individual case-load on the inpatient service. They will participate in rounds, see patients in the ambulatory prenatal clinics and ultrasound. Students will also be expected to observe and participate in prenatal counseling and comprehensive ultrasound evaluations. Participation in weekly educational conferences is expected (Wed am and Fri am). Independent reading assignments will be given throughout the rotation and students will give a 20-30 presentation to the MFM Division on a topic of their choice. Call is 1-2 times over the 4 week rotation.

Evaluation and persons performing the evaluation

Standard Northwestern student evaluations will be completed by the MFM physicians and Antepartum Residents following standards for feedback on performance during the rotation. Students will also be evaluated on the oral presentation during the final week of the rotation. Students will meet with Dr. Julien at the end of the rotation to ensure that the objectives of the rotations are met.

After visiting student registration, students assigned to this clerkship will report at 8 a.m. on the first day to the High Risk Team: Prentice 8th Floor: Labor and Delivery.

***** This elective is not offered during Spring 3*****

Gynecologic Oncology, Northwestern Memorial Hospital

OBG.4332.04.NMH

Barbara Buttin, MD; Additional Faculty: Diljeet Singh, MD, DrPH, Julian Schink, MD, John Lurain, MD, M. Patrick Lowe, MD, GYN-Oncology Fellows

Background and Justification: This rotation emphasizes the comprehensive management of women with gynecologic malignancy. Inpatient and outpatient experiences include clinical evaluation and management, surgery, chemotherapy and supportive care.

Goals

- Student will learn methods of diagnosis and management of gynecologic cancer in both an inpatient and outpatient settings.
- Students will develop an understanding of the principles of radical surgery, radiotherapy and chemotherapy for the management of gynecologic cancer.
- Students will increase their understanding of the psychological, economic and ethical problems associated with treating cancer patients.

Objectives

- Diagnose and manage gynecologic malignancies in both inpatient and outpatient settings.
- Correlate clinical and pathologic findings related to gynecologic cancer.
- Recognize the pathologic, social and economic aspects of cancer.
- Care for dying patients and interact with their families.
- Perform adequate gynecologic exams.

Course Format and Proposed Schedule:

Students will evaluate and follow inpatients and outpatients and participate in surgical procedures on the Gynecologic Oncology Service at Prentice Women's Hospital under the direction of resident and attending staff. They will receive instruction in diagnostic procedures, pathologic findings, principles of treatment by radical surgery, radiation therapy and chemotherapy, and management of psychosocial and ethical problems in gynecologic oncology. They will be expected to attend conferences, to complete assigned reading in gynecologic oncology, and to prepare a topic for presentation. No call is required but students may request exposure to night float.

Evaluation and persons performing the evaluation: Evaluation based on observation by Faculty and Fellows (90%), and based on an oral presentation at the end of the rotation (10%). Dr. Buttin will collate evaluations and provide a summary to the Dean's office.

****After visiting student registration,** students assigned to this clerkship report at 7 a.m. on the first day to Prentice Women's Hospital, 14th floor.

***** This elective is not offered during Spring 3*****

Reproductive Endocrinology and Infertility, Northwestern Memorial Hospital

OBG.4333.04.NMH

Dr. Ralph Kazer and faculty: Edmond Confino, M.D., Randall Barnes, M.D., Magdy Milad, M.D, Erica Marsh, MD, REI Fellows

Background and Justification

Reproductive Endocrinology and Infertility comprises one of the three major subspecialty areas in obstetrics and gynecology. New areas of investigation, including the assisted reproductive technologies, pre-implantation genetic diagnosis, and novel gamete preservation options for cancer patients render it a fascinating arena for study at the undergraduate level.

Goals

- Student will increase their ability to evaluate and treat patients/couples complaining of either infertility or manifestations of various reproductive endocrinopathies.

Objectives

- Learn how to perform a proper history and physical examination on a patient presenting with infertility and develop a plan for assessment and treatment

- Learn how to assess and manage patients with amenorrhea, hirsutism and galactorrhea

Course Format and Proposed Schedule:

Students will have the opportunity to participate actively in the specialty clinics of the Section of Reproductive Endocrinology and Infertility. Students will evaluate new patients and formulate management plans for clinical problems including both female and male infertility, and various endocrinopathies. Students will observe assisted reproduction including IVF, and assist in the management of surgically treated patients. All students will be expected to participate in the conferences of Section and to give a short presentation on some aspect of reproductive endocrinology.

Evaluation

The student will be evaluated by the attending faculty as a group. The final evaluation will be based on the performance of the student in the clinical setting as well as on their oral presentation. Dr. Kazer will prepare the final evaluation summarizing the student's clinical performance. The student will be expected to attend all REI clinics and at least one operating room session per week. No call is required though weekend procedures are scheduled and participation is optional.

****After visiting student registration,** students assigned to this clerkship report at 1 p.m. on the first day to 675 North St. Clair, Galter, 14th floor, room 200.

***** This elective is not offered during Spring 3*****

Reproductive Genetics, Northwestern Memorial Hospital OBG.4334.04.NMH

Lee P. Shulman, M.D. and Jeffrey S. Dungan, M.D.

Background and Justification

Genetics is an integral part of women's health care. Although the role of genetics has primarily been centered on prenatal diagnosis, genetics is now an important component of gynecology, reproductive endocrinology and oncology. This rotation will provide training in the application of genetics to all aspects of women's health care.

Goals

- Gain experience in genetic counseling.
- Enhance skills in clinical genetics
- Learn elementary cytogenetic and Mendelian principles.

Objectives

- Interview patients and identify critical elements of the family history.
- Construct and interpret a pedigree from a patient's history.
- Counsel families about genetic disorders.
- Counsel patients about prenatal diagnosis.
- Understand the role, risks and benefits of invasive genetic diagnosis
- Understand and apply carrier testing availability for specific genetic disorders.
- Understand rudiments of chromosome analysis and molecular genetics/testing.
- Assess the implications of genetic testing for women with gynecologic malignancies

Course Format and Proposed Schedule:

The student participates in all activities of the Section of Reproductive Genetics (patient counseling sessions, clinical and educational conferences, prenatal diagnostic procedures). The commitment entails clinical and educational activities every day of the week from approximately 8am to 5pm. The course provides formal instruction (didactic lectures and directed readings) in medical genetics and genetic counseling. The extern participates in genetic counseling sessions regarding a range of indications, including advanced maternal age, positive maternal serum screens, ultrasound abnormalities, family histories of genetic disorders, the genetics of infertility and the genetics of gynecologic malignancies. No call is required but is optional (Labor and Delivery).

Evaluation and persons performing the evaluation

Dr. Lee Shulman will be responsible for providing feedback to the student prior to the end of the clerkship and will write the clinical performance summary and assign a final grade to submit to the Dean's office.

****After visiting student registration,** students assigned to this clerkship report at 8:30 a.m. on the first day to Prentice 5th Floor, Suite 5-2168.

***** This elective is not offered during Spring 3*****

Ambulatory Obstetrics and Gynecology, Northwestern Memorial Hospital OBG.4335.04.NMH

Dr. Dana Gossett, MD and faculty

Background and Justification

This elective provides the student with the opportunity to participate in the various aspects of ambulatory care of women with gynecologic and obstetrical problems. Students develop a schedule tailored to their own interests from among the numerous general and specialty clinics within the department that are located both on and off-campus. This allows the student to either broaden their understanding of the full spectrum of ambulatory gynecologic and obstetrical care or to focus on a personal area of interest. The available clinics include: pediatric gynecology (CMH), ultrasound (NMFF), infectious disease (NMH), family planning clinic (NMH and Planned Parenthood), gynecology (NMFF), general obstetrics and gynecology (NMFF), genetics (NMH), ovarian cancer screening (NMFF), women's rehabilitation (RIC).

Goals

- To gain exposure to the different aspects of ambulatory obstetrics and gynecology practice and the principles of ambulatory care in women's health
- To research an ambulatory reproductive health topic of their choice, critiquing the literature, developing evidence-based guidelines and presenting it the general ob-gyn section
- To develop their skills in the management of the obstetrics and gynecologic outpatients.

Objectives

Through participation in the various ambulatory programs offered within our department students will further their understanding of the evaluation and management of ambulatory women's health care, including:

- Routine outpatient gynecologic and obstetric care
- Ultrasound examination of obstetrical and gynecologic patients
- Diagnosis and treatment of sexually transmitted diseases
- Pediatric gynecology
- Urological-gynecology problems
- Ambulatory surgical care
- Evaluation and treatment of the abnormal Pap smear
- Genetic counseling

Course Format and Proposed Schedule:

Students will have an opportunity to participate in selected regular and specialty departmental clinics, in the ambulatory surgical units and community obstetric-gynecologic programs affiliated with the department. Specialty clinics frequently attended include : pediatric gynecology (CMH), ultrasound (NMFF), infectious disease (NMH), family planning clinic (NMH and Planned Parenthood), gyne-urology (NMFF), general obstetrics and gynecology (NMFF and PAC), colposcopy (NMH), genetics (NMH), ovarian cancer screening (NMFF), women's rehabilitation (RIC)..

Medical students are expected to participate in the weekly departmental M&M and Grand Round conferences Friday mornings from 7 AM – 9 AM. Daytime hours vary with the different clinics attended. There are no mandatory night-call or weekend responsibilities; however, occasional students have elected to participate in activities on Labor and Delivery during off-hours.

Students participating in this rotation will be expected to give a 35-45 minute oral presentation to medical and nursing staff based on a review of the literature on a topic of their choice related to ambulatory care.

Evaluation and persons performing the evaluation: Approximately 70% of grade is based on evaluations by faculty and possibly fellows and residents who have worked with the student. The student is responsible for distribution of evaluation forms to faculty/residents with whom they have worked. Approximately 30% of the grade is based on the student's oral presentation. Dr. Lipscomb will collate individual evaluations and write a summary of the student's performance for the Dean's Office.

This elective is not offered during Spring 3

Women's Health, Prentice Women's Hospital
OBG.4337.04.NMH
Dr. Cassing Hammond and faculty

Background and Justification

"Women's Health" encompasses far more than any single specialty, subspecialty, clerkship or rotation. Students interested in women's health issues profess an array of career goals, but often experience difficulty designing relevant electives when their interests fail to neatly coincide with those of one particular mentor, program or department.

The Women's Health Elective offers students the opportunity to tailor an elective to their own needs, simultaneously honing specialized expertise within one women's health domain chosen by the student and course director. Although the four week duration precludes both the inception and completion of clinical trials, course instructors assist students developing a thesis which culminates either in the completion of a written paper or formal oral presentation. This occurs against a backdrop of the full range of clinical activities within the Northwestern's Department of Obstetrics and Gynecology.

Students previously completing the Women's Health elective have used their time to investigate a variety of issues including:

- Obstetric and Gynecologic Problems Confronting Women with Disabilities
- Ophthalmologic Complications of Pregnancy
- Menopause and Sleep Disorders
- Non-Cytologic Uses of Liquid Based Cytology Medium
- Reproductive Choice for HIV affected Couples

Goals

- The student will gain in depth exposure to issues central to women's health.
- The student will design or assist in a new or ongoing research project central to women's health with 1 or 2 faculty members.
- The student will prepare a paper for possible submissions to a journal or give a formal "Grand Rounds" style presentation to the Division of General Obstetrics and Gynecology. Either the presentation or the paper must be completed by the end of the elective.
- The student will participate in clinical experiences within the department of obstetrics and gynecology germane to their stated goals in women's health.

Objectives

- To heighten awareness of women's health issues.
- To become acquainted with current literature regarding women's health.
- To participate in clinical experiences centering on women's health.
- To prepare a paper or formal presentation researching an area in women's health.

Course Format and Proposed Schedule:

The Women's health elective permits students to focus intensely on one area of women's health, developing expertise beyond the scope of either the third year clerkship or traditional sub-specialty elective. Although the primary goal is to develop either a paper or "grand rounds" style presentation regarding a particular topic, the course

director anticipates that students will also shadow faculty during pertinent clinical activities at Prentice Women's Hospital or other affiliate sites.

The student desiring this course must be able to work independently, arrange and discipline his or her own time, and be dedicated to completing a project. Prior writing experience would be helpful. An exit interview at the end of the elective is required.

Evaluation and persons performing the evaluation: Course evaluations derive from faculty interactions during clinical endeavors and faculty assessment of the quality of the student thesis, whether a paper or oral presentation. Evaluations from faculty monitoring the student's thesis activities – including both preparation and execution of the project – will be emphasized in determining the final grade.

****After visiting student registration,** student will report to Dr. Hammond or his designee first day at 9:00 to 680 N. Lake Shore Building, Suite 1015.

***** This elective is not offered during Spring 3*****

Ophthalmology

Ophthalmology Clinical Clerkship, Northwestern Memorial Hospital OPH.4353.04.NMH

Dr. R. Mirza

Goals

To provide an understanding of the eye examination and ophthalmic diseases. To learn the physician's role in the diagnosis and management of common eye conditions and when to make appropriate referral to an eye care specialist.

Objectives

- Take a thorough ophthalmologic history
- Measure and record visual acuity
- Detect strabismus and abnormal eye movements
- Detect abnormal pupillary responses
- Detect fluorescein staining of the cornea
- Perform direct ophthalmoscopy
- Recognize acute and chronic ophthalmologic problems

This course offers exposure to general and subspecialty ophthalmology with both medical and surgical experiences at one or more of the component units of NMH; CMH, VA Westside, NMFF, and affiliate private practices. The clerkship will be under the direction of an ophthalmology attending physician and resident. Attendance is expected at weekly grand rounds conferences on Friday mornings and at lectures. Students are expected to achieve a working knowledge of the fundamentals of an ophthalmologic examination. Residents and attending physicians provide a written evaluation of each student and a final exam is given.

***Summer 1, Summer 2 and Summer 3 have limited availability and preference is given to Northwestern students.**

*****Orthopaedic Surgery*****

Musculoskeletal problems comprise a significant portion of general medicine practice. Clerkships in orthopaedic surgery are offered to provide experience in history taking and physical examination of patients with musculoskeletal symptoms as well as interpretation of laboratory and roentgenographic examinations and treatment of patients, including fundamentals of splinting, plaster cast techniques, and orthopaedic surgical techniques.

Senior Clerkship in Orthopaedic Surgery, Northwestern Memorial Hospital

ORT.4000.04.04.NMH

Dr. Michael F. Schafer

The student is assigned under the supervision of an attending staff group with their house staff members. Each clerk will participate in the examination and evaluation of the patients admitted to his/her service. He/she will make rounds with the staff, attend conferences, and be expected to participate in the discussion of the management of both orthopaedic inpatients and outpatients. Inpatient orthopaedic surgery responsibilities include diagnostic workups using routine and special diagnostic examinations and therapeutic programs, including both operative and non-operative treatment regimes. Teaching rounds and teaching conferences are scheduled according to each institution's needs.

Goals

To enhance the breadth and depth of a student's understanding of the surgical principles involved in the management of fractures, total joint replacement, sports injuries, and spinal problems in orthopaedic surgery.

Objectives

To enable the student to

- Diagnose and treat common musculoskeletal complaints.
- Diagnose and manage the treatment of fractures, their reductions and follow-up care.
- Diagnose and treat arthritic conditions of the musculoskeletal system.
- Diagnose and treat lower back and cervical spine disease.

Locations: NHM and CMH.

Senior Clerkship in Pediatric Orthopaedic Surgery, Children's Memorial Hospital

ORT.4373.04.CMH

Dr. Sarwark, CMH

Letter of recommendation: The LOR should come from an Orthopaedics surgeon which the student completed a clerkship with. Second choice: from the General Surgery surgeon the student completed a clerkship with. Final choice: a physician the student has completed a clerkship with.

*****Otolaryngology—Head and Neck Surgery*****

Clerkship Director
Alan G. Micco, MD

Rotations in the following areas are suggested for students who desire a career in otolaryngology—head and neck surgery: **anesthesiology/critical care**, allergy and immunology, dermatology, infectious disease, neurology, ophthalmology, pediatrics, pulmonary medicine, radiation therapy, and **neuroradiology**. In addition, OTO.4000.04.NMH and OTO.4383.04.NMH (see below) are recommended.

Externship in Otolaryngology—Head and Neck Surgery, Northwestern Memorial Hospital OTO.4000.04.NMH

Dr. Micco

Students become proficient in the examination of the head and neck. They are assigned to an oto-HNS service at **Northwestern Memorial Hospital** and gain experience in diagnosing and treating disorders of the head and neck and sensory organs. Students experience the surgical procedures done by this specialty and participate actively in pre- and postoperative care.

Objectives

- Understand infectious process of tonsils and adenoids and evaluate and treat the disease.
- Diagnose and treat various types of nasal hemorrhage.
- Learn common causes of hoarseness and how to evaluate and treat.
- Learn common causes of airway obstruction and its treatment.
- Learn common causes of nasal obstruction and how to evaluate and treat.
- Learn to evaluate patients with a lump in the neck.
- Understand common causes of hearing loss and how to evaluate and treat.
- Understand common causes of dizziness and how to evaluate.
- Learn to evaluate and treat common facial fractures.
- Understand common disease of the salivary gland and how to evaluate and treat.

Ambulatory time: 0–50 percent.

Outpatient Otolaryngology—Head and Neck Surgery, Northwestern Memorial Hospital OTO.4383.04.OUT

Gordon J. Siegel, MD

Background and Justification

The student is involved in an active general private ENT practice. The student is given in-depth training in history and physical examination of ENT patients, both adults and children. A relatively active surgery schedule provides adequate exposure to a wide variety of otolaryngology – head and neck surgical procedures. Areas of common ENT pathology are discussed on an informal basis throughout the clerkship. Areas of special interest also may be discussed in an organized fashion at the student's request.

Goals

- *Learn to understand and perform thorough ear, nose, and throat history and physical examination.
- *Learn to recognize most pathology appropriate for ENT referral.
- *Appreciate ENT disorders from medical and surgical perspectives.

Objectives

- *Understand and interpret ear disease.
- *Diagnose and manage sinus disease.

- *Diagnose and manage acute and chronic tonsillitis.
- *Diagnose and manage head and neck cancer.
- *Understand and use basic concepts of audiology.
- *Diagnose and manage otolaryngologic allergy.
- *Diagnose and manage voice disorders.

Sites: Private practice ENT clinic close to Northwestern University Feinberg School of Medicine and Northwestern Memorial Hospital. Surgery at Northwestern Memorial Hospital.

*****Pathology*****

Clerkship in Pathology, Northwestern Memorial
PAT.4000.04.N/E
Dr. Anjana Yeldandi

Background and Justification:

Pathologists examine tissues and are responsible for the accuracy of laboratory tests. Pathologists interpret the results of these examinations and tests-information that is important for the patient's diagnosis and recovery. The pathologist and the patient's other doctors consult on which tests to order, test results, and appropriate treatments. As such, an understanding of the practice of pathology allows all physicians to provide better care for their patients.

Goals

Increase the understanding of how alterations at the molecular level translate into alterations at the level of the cell, tissues, and organism. As such, clinical-pathologic correlations are stressed.

Objectives

Students will acquire basic ability to:

- Identify common gross and microscopic pathologic lesions
- Discuss the pathogenesis and clinical significance of common pathologic entities

Course Format and Proposed schedule:

The student participates in autopsies and in the gross and microscopic examination of surgical pathology specimens under close supervision. Participation in departmental conferences is required.

Site: Northwestern Memorial Hospital

After visiting student registration, please report to:

NMH: Students will report to Galter 7-100 Conference Room by 8:00 am on the first day of the rotation.

Pediatrics

Please apply promptly as many applications are received. Students interested in applying should refer to the website or contact the Visiting Student Programs office at visitingstudents@northwestern.edu Do NOT contact physicians listed below.

Clerkship Director

Dr. Jennifer Trainor

Pediatric Allergy/Immunology, Children's Memorial Hospital

PED.4421.04.CMH

Clerkship Director: Jacqueline A. Pongracic, MD, and Division of Allergy staff; CMH

Goals

Through participation in the ambulatory clinics, the student will develop knowledge and skills to evaluate and manage disorders in the field of allergy/immunology.

Objectives

- Apply basic concepts of allergy/immunology to the evaluation and management of disorders such as asthma, cough, rhinitis, food hypersensitivity, drug hypersensitivity, atopic dermatitis, urticaria and primary immunodeficiency disorders, particularly recurrent or refractory infections, opportunistic infections or infections due to unusual organisms.
- Obtain a history and perform physical examination appropriate for allergy/immunology disorders and distinguish normal from common allergy disease manifestations.
- Recognize when evaluation of recurrent infections is warranted.
- Formulate a differential diagnosis.
- Present the evaluation in an organized fashion.
- Initiate a planned evaluation and investigation utilizing allergy skin tests and laboratory tests as appropriate. Understand the advantages and disadvantages of in vivo and in vitro allergy testing.
- Become familiar with medications (prescribing, monitoring and adverse effects) used in treatment of allergy/immunology disorders, particularly inhaled corticosteroids.

Pediatric Cardiology, Children's Memorial Hospital

PED.4423.04.CMH

Clerkship Director: Dolores Vitullo, MD and Division of Cardiology staff, CMH

Goals

To learn to diagnose, evaluate, and manage a variety of medical and surgical problems associated with heart disease in children.

Objectives

- Become skillful in the auscultation of the heart and the physical diagnosis of cardiovascular disease in the infant, child, and young adult.
- Learn how to evaluate chest x-rays, ECG, echocardiograms, and angiocardiograms of common congenital heart malformations such as ASD, VSD, pulmonary and aortic stenosis, transposition of the great arteries, and tetralogy of Fallot.
- Attend one cardiac catheterization and one echocardiographic study at least once a week and participate in evaluation of physiologic and anatomic findings.

Course Format and Proposed Schedule:

The student participates actively in all the clinical activities in the division. There is no night, weekend or call responsibility at the hospital. The student is expected to work-up selected patients undergoing cardiac catheterization. He/she may be assigned a formal case presentation or, alternatively, a specific topic in the literature

to review in a brief oral report to the cardiology group. The student is expected to attend all cardiac conferences during the clerkship. The student will be expected to attend Monday through Friday every week. There is no hospital-based night, weekend, or call responsibility while on the service.

Evaluation and persons performing the evaluation

The student and the members of the cardiology staff have a close relationship. Staff members evaluate the student's performance based on expectations stated at the start of the clerkship. Motivation and the extent of mastering the stated objectives play a primary role in student assessment.

First day report to: The student will be e-mailed instructions.

Pediatric Dermatology, Children's Memorial Hospital

PED.4425.04.CMH

Clerkship Director: Anthony J. Mancini, MD

Goals

The student has the opportunity in a variety of clinical settings to develop a sound approach to the diagnosis and management of a broad spectrum of dermatologic conditions.

Objectives

- Examine the skin of a patient in any pediatric age group and give an accurate description of the findings employing appropriate dermatologic terms. Be able to distinguish normal findings and those that signify a disease process.
- Distinguish primary lesions, secondary lesions, configuration, and distribution patterns of skin lesions and typical sites of involvement for specific diseases.
- Appropriately classify a given skin condition in general terms such as eczema, scaling disorder, bullous disease, vascular lesion, and granuloma as well as develop a differential diagnosis within that disease category.
- Appreciate the types of skin changes that indicate the presence of a systemic disease.
- Perform simple diagnostic tests such as KOH preparation, scraping for mites, fungal culture and know when they are appropriate.
- Become familiar with the categories of topical preparations used in dermatologic conditions and be able to prescribe one or two preparations in each category with correct instructions for patient care.
- Methods

Course Format and Proposed Schedule:

The course clerkship runs Monday through Friday. There is no call, night, or weekend attendance at the hospital. Students are expected to: participate in the evaluation and management of patients in the clinics and on the inpatient service, attend the twice monthly dermatology divisional conference, be guided in reading throughout the clerkship and have access to atlases of skin disease for additional study. The student will be expected to attend Monday through Friday every week.

Evaluation and persons performing the evaluation

The student will be evaluated by the attending dermatology staff on his or her approach to the patient, collection of data, and interpretation of the clinical findings.

First day report to: The student will be e-mailed instructions.

Please note: Pediatric Dermatology would like a minimum of 6 weeks notice if canceling an elective.

Senior Pediatric Emergency Medicine, Children's Memorial Hospital

PED.4426.04.CMH

Clerkship Director: Jennifer Trainor, MD

Goals

The student experiences and gains an appreciation for the broad spectrum of acute illness in children. The student learns to evaluate patients with acute illnesses in an efficient manner with attention focused appropriately on the presenting problems and their implications. He/she will gain an appreciation for the importance of accidents and injuries in childhood. He/she also learns about the impact of psychosocial problems on acute and chronic illness in children.

Objectives

- Recognize and initiate treatment of children with a variety of acute illnesses and injuries.
- Evaluate common childhood problems such as fever, vomiting and diarrhea, constipation, otitis media, asthma, minor trauma, abdominal pain, cough, urinary tract infections, and rash.
- Perform common pediatric procedures including lumbar punctures, suturing minor wounds, splinting extremities, and arterial punctures.
- Learn a general approach to childhood poisonings.

Course Format and Proposed Schedule:

The student is assigned daily to either the emergency department or the urgent care center. The student is expected to do up to five 8 hour shifts per week, which may include some Saturday and/or Sunday shifts. ED shifts will include days and evenings. There are no overnight shifts. All patient care is supervised by a pediatric emergency medicine or urgent care attending, fellow or senior pediatric resident. In addition, the student must attend Monday morning ED lectures and case conference every Monday (except holidays). Students are expected to come to case conference every Monday prepared to present a patient they have seen in the ED.

Evaluation and persons performing the evaluation

The student is evaluated by the pediatric emergency medicine and urgent care staff on the basis of development of expertise in evaluating children, interacting with families, and overall patient care. In addition, participation in conferences and acquisition of knowledge and skills are considered Standard Northwestern evaluation forms are used.

First day report to: The student should report to the Division of Pediatric Emergency Medicine 2356 N. Lincoln Ave, 1st floor at 8:20 am the first day of the rotation. Nancy Ryan will have information regarding the details of the schedule at that time.

Pediatric Endocrinology, Children's Memorial Hospital

PED.4427.04.CMH

Clerkship Director: Donald Zimmerman MD, and endocrinology staff; CMH

Goals

- Student will increase his/her ability to:
- Identify and treat common clinical disorders.
- Interpret common endocrinology laboratory tests.
- Recognize normal and abnormal variants of growth and how nonendocrine factors influence growth.
- Recognize normal and abnormal variants of pubertal development.
- Recognize effects of thyroid disorders on growth and development.

Objectives

- Perform a physical examination directed toward the detection of endocrine problems.
- Take a history directed toward the detection of endocrine problems.
- Recognize signs and symptoms of hypopituitarism.
- Understand the concept of skeletal age.
- Understand the Tanner method of pubertal staging.

- Understand the management of abnormal endocrine screening tests.
- Understand elementary principles of outpatient management of diabetes.
- Know the common causes and treatments of growth abnormalities.
- Know the common causes and treatments of thyroid abnormalities.

Course Format and Proposed Schedule:

The student is mostly outpatient based. The student is responsible for the initial and return evaluation of selected referral patients. He/she may also accompany the service on ward rounds and inpatient consultations. The student is also expected to attend and participate in Pediatric Endocrine Conferences when they occur. The student is guided in reading about patients' problems and may be asked to give a talk on a pediatric endocrine topic. The student will be expected to attend Monday through Friday every week. There is no hospital-based night, weekend, or call responsibility while on the service.

Evaluation and persons performing the evaluation

Assessment will be done by the attending endocrinologists who have worked with the student and will be based on the quality of patient evaluations and ability to display knowledge of endocrine physiology and pathophysiology.

First day report to: The student will be e-mailed instructions.

**Pediatric Gastroenterology, Children's Memorial Hospital
PED.4429.04.CMH**

Clerkship Director: Barry K. Wershil, MD, and GI staff

Goals

- Diagnose and treat common GI disorders.
- Diagnose and treat pediatric liver disease.

Objectives

- Become proficient in history taking and physical examination in a variety of pediatric gastrointestinal disorders such as chronic diarrheas, nutritional and malabsorptive disorders, liver diseases, chronic inflammatory bowel disease, and certain psychosomatic disorders.
- Learn how to evaluate the history and physical examination to come to a differential diagnosis of various pediatric gastrointestinal disorders.
- Learn some skills necessary to relate to a child with chronic disease and the family. The student learns approaches to chronic disease at initial diagnosis and when the disease has become more serious.

Course Format and Proposed Schedule:

The student:

- Performs the initial evaluation on most referred patients.
- Evaluates all consultations on the inpatient service and participates in the daily inpatient ward rounds.
- Attends and participates in the weekly GI and liver biopsy rounds.
- Becomes familiar with and participates in certain specialized procedures such as intestinal biopsy, sigmoidoscopy, other endoscopies, and biopsies.

Further detailed study of patient's problems will be stressed by guidance in review of the literature. Special encouragement will be given to pursue some specialized area that the student wishes to study in depth.

The student will be expected to attend Monday through Friday every week. There is no hospital-based night, weekend, or call responsibility while on the service.

Evaluation and persons performing the evaluation

The student will be assessed by the gastroenterology and hepatology faculty on his/her ability to evaluate and manage those problems that he/she has encountered, by quality of in-depth workups of specific problems, and by relationships with other division members.

First day report to: The student will be e-mailed instructions.

Clinical Genetics, Children's Memorial Hospital

PED.4430.04.CMH

Clerkship Director: Joel Charrow, MD

Goals

The student, as a member of the clinical genetics staff at CMH, learns the approach to the evaluation and diagnosis of birth defects and genetic disorders.

Objectives

- Learn the common modes of inheritance (Mendelian and non-Mendelian).
- Learn and apply the special requirements of the "genetic" history and physical examination.
- Identify the risk factors associated with congenital diseases.
- Develop a differential diagnosis of genetic disorders.
- Learn available methods for screening and prenatal diagnosis and how and when they are applied
- Learn the basic available laboratory procedures such as cytogenetics, biochemistry, and tissue culture.
- Learn how to approach the evaluation of storage diseases and inborn errors of metabolism, wisely use the laboratory for diagnosis and management, and evaluate laboratory results.
- Develop insight into the impact of genetic disorder on a family and how the genetic counselor and community resources interface with the family.

Course Format and Proposed Schedule:

The student is an active participant in a variety of outpatient clinics, including those focused on : General Genetics, Neurofibromatosis, PKU and Matabolic Disorders, Marfan syndrome, 22q Deletion, Neurogenetics, and Skeletal Dysplasias. He/she is assigned patients in these clinics and inpatient consultations, evaluates these patients, and develops a differential diagnosis plan. The student prepares a karyotype and reviews normal and abnormal karyotypes. He/she prepares a presentation on a genetics topic of interest. Participation in the biochemistry lab is optional. The student will be expected to attend Monday through Friday of every week. There is no hospital-based night, weekend, or call responsibility while on the service.

Evaluation and persons performing the evaluation:

Regular meetings with staff members. Evaluation is based on written consultations, reports, clinical presentations, and the extent of knowledge and learning during the clerkship.

First day report to: Peggy Cleveland, office coordinator for Genetics, on the 1st floor of the old research building (2300 Children's Plaza, across the driveway from the main hospital) R-102 at 9 a.m.

Pediatric Hematology and Oncology, Children's Memorial Hospital

PED.4432.04.CMH

Clerkship Director: Elaine Morgan, MD

Goals

- Gain an understanding of interpretation of bone marrow and peripheral blood preparations.
- Learn the pathophysiologic concepts as applied to hemostatic disorders, anemia, and childhood malignant diseases; understand these concepts as applied in the clinical setting for the diagnosis and rational treatment of patients' problems.
- Develop an appreciation of the acute impact of a disease on the patient and family as well as the impact of chronic disease.

Objectives

- Learn the presentation of common hematological and oncological disorders in children.
- Learn to evaluate and interpret lab data (CBC, smear, bone marrow, coags) and develop appropriate differential diagnosis.
- Learn the course and general principles of treatment of common hematological and oncological disorders.

Course Format and Proposed Schedules

The student participates in the ambulatory program of the department, makes rounds on inpatients, attends clinical and research conferences, and assists in consultations. He/she will be guided in reading in the field. A laboratory course will be designed for interested students. The student will be expected to attend Monday through Friday every week. There is no hospital-based night, weekend, or call responsibility while on the service.

Evaluation and persons performing the evaluation

The student will be evaluated by hematology/oncology staff members on the use of knowledge and concepts in interpreting and managing patients' problems.

First day report to: the outpatient conference room on 4West at 9 a.m.

Clinical Pediatric Rheumatology, Children's Memorial Hospital PED.4433.04.CMH

Clerkship Director: Marisa S. Klein-Gittleman, MD

Goals

The student will learn the general principles to approach the clinical and laboratory evaluation and treatment of children with rheumatic diseases.

Objectives

- Obtain the historical information and physical findings that lead the practitioner to consider whether a patient has a pediatric rheumatic disease
- Develop a plan of investigation to define whether the patient has a rheumatic disease
- Learn the basic principles of how to interpret rheumatic disease laboratory and radiological studies
- Gain knowledge about the treatment of pediatric rheumatic diseases including the importance of a team approach to care
- Master the differential diagnosis of a child with a limp
- Understand the difference between common rheumatic complaints that can be treated by a pediatrician and when to refer a patient to a sub specialist

Course Format and Proposed Schedule:

The student will become part of the rheumatology team and participate on inpatient rounds and care, consultations, outpatient clinics with the opportunity to travel to outreach clinics for a full day experience of outpatient pediatric rheumatology care. The student will participate in post clinic review where patients from the previous week are reviewed in a multidisciplinary conference, journal clubs including the opportunity to present a topic during the rotation and exposure to physical therapy, occupational therapy and rehabilitation services.

Evaluation and persons performing the evaluation

The student is evaluated on the acquisition of knowledge, skills, presentation of cases/journal club, professionalism and patient care skills

First day report to: On call physician at 9 a.m. on first day. The offices are on the 6th floor of the NAB Building.

Pediatric Infectious Disease PED.4435.04. CMH

Clerkship Director: Stanford T. Shulman, MD

Goals

- Be an actively functioning member of the Division of Infectious Diseases Team.
- Learn general principles of infectious disease.
- Learn to recognize and treat pediatric infectious diseases: viral, bacterial, and others.
- Learn principles of patient management.
- Learn to use library and internet resources.

Objectives

- Understand the organization of the clinical microbiology laboratory and begin to recognize common pathogens by their characteristic morphology and biochemical reactions.
- Recognize signs of pediatric infections including pneumonia, meningitis, osteomyelitis, urinary tract infections, and Kawasaki Disease.
- Become familiar with the current management of serious pediatric infections treated in the hospital setting, including nosocomial infections.
- Recognize important patient variables that influence the management of infectious diseases.
- Extract from the literature data relevant to a particular infectious problem.
- Use a recommended reading list.

Course Format and Proposed Schedule:

- Spend one-half hour each week in the diagnostic microbiology laboratory during the clerkship.
- Make daily rounds with the pediatric residents, fellow, and attending physician on the infectious disease service.
- Participate in the teaching conferences including the general pediatric conferences, twice-monthly Joint Clinical conferences held with the adult Infectious Diseases group at NMH, and monthly Journal Club and Research Conference.
- See/evaluate requested Infectious Diseases consults.
- Students will be expected to attend Monday through Friday every week. There is no hospital-based night, weekend, or call responsibility while on service.
- Schedules will be sent by the Infectious Diseases office coordinator prior to the start of each rotation.

Evaluation and persons performing the evaluation

During the clerkship, the student will be assessed by the attending staff daily on rounds and in conferences on his/her ability to acquire and apply knowledge in the field.

Number of students per rotation: Two

Number of weeks: Four

Number of credit: One

Sites: CMH

First day report to: Students need to attend “Morning Report” located across from CMH at 700 W. Fullerton in the NAB Conference Room at 8:00 a.m., and call Ericka Alvarez at x4187 at 9:00 a.m.

Subinternships in Neonatology

A subinternship rotation is offered at each of the three neonatal intensive care units in the Department of Pediatrics. Each provides an in-depth exposure to neonatal medicine by incorporating the student as an integral member of the NICU team. The unit at Prentice relates directly to a high volume delivery service; the CMH unit contains newborns with severe medical and surgical conditions, all of which are transported to CMH from outlying hospitals.

Neonatology, Prentice Women’s Hospital, Chicago campus

PED.4436.04.NMH

Clerkship Director: Robin Steinhorn, MD and staff, Prentice

Goals

In a newborn setting, the student learns to recognize and manage many common neonatal problems. He/she becomes aware that the neonate has been influenced by genetic input as well as by months of environmental conditions. The student learns that an infant’s brief stay in the nursery is just the beginning of a life-long program of preventive health care.

Objectives

- Recognize a normal newborn infant and to give routine care for newborn infants.
- Learn the basic physiologic differences between infants and older children and adults.
- Recognize the common deviations from normal, for example, prematurity, as well as respiratory, metabolic, and hematologic problems and evaluate their etiologies and perform routine management.
- Develop an understanding of fetology and the management of high-risk pregnancy, labor, and delivery.
- Develop a deeper knowledge of related disciplines such as pulmonary physiology, hematology, immunology, and genetics.

Course Format and Proposed Schedule:

The objectives are met by a supervised clinical experience in the hospital nurseries, rounds, special teaching sessions, presentations, and guided readings. The student takes night call in the Special Care Nursery every fourth night during the clerkship.

Evaluation and persons performing the evaluation

The student will be evaluated by the attending staff at Prentice several times during the course of the clerkship on the basis of his/her knowledge, workups, performance, and ability to relate with others.

First day report to Special Care Nursery, 10th floor, Prentice Women's Hospital 8 am

This course is recommended for careers in neonatology, pediatrics, family medicine, obstetrics, and anesthesiology.

Neonatology, Children's Memorial Hospital

PED.4436.04.CMH

Clerkship Director: Robin Steinhorn, MD and staff

Goals

This elective is designed as a sub-internship in the Neonatal Intensive Care Unit at CMH. As a member of the neonatal ICU team, the student becomes familiar with the initial observation and management of high-risk neonates having one or more of the following problems: prematurity, respiratory failure, and congenital malformations requiring neonatal intensive care. Special emphasis is directed to the pathophysiology of neonatal diseases and the physiologic basis for current therapeutic interventions. Each student is assigned primary responsibility for management of a limited number of high-risk patients.

Objectives

- Develop beginning skills in the evaluation and management of high-risk neonates, with emphasis on respiratory care, fluid and electrolyte management, and nutritional management of patients with medical and surgical problems.
- Develop beginning competence in the technical procedures required to manage high-risk neonates such as intubation, chest tubes, and umbilical catheterization; laboratory instruction on these procedures is also available.
- Develop an understanding of the physiology of the various neonatal disorders and relate these basic physiologic concepts to the diagnosis and treatment of such disorders.
- Participate in multidisciplinary management required for critically ill neonates.
- Participate in interactions between the health care team and the families of critically ill neonates, developing an initial appreciation of the emotional and ethical dilemmas that are critical elements in the care of high-risk neonates.
- Become skillful in the organization and recording of critical data for patients with complex, multisystem disease.

Course Format and Proposed Schedule:

- Participate as an active member of the neonatal ICU team.
- Participate in the diagnosis and management of patients.
- Take night call every fourth night with the senior pediatric resident assigned to the service.
- Manage a limited number of patients under the direct supervision of the senior resident and faculty members.
- Write all progress notes and physician orders.

Evaluation and persons performing the evaluation

The student will be assessed by the senior resident and faculty members on the basis of overall clinical performance and understanding of the pathophysiology of problems existing in the patients.

First day report to: student will report to 8NICU at 8 am.

**Pediatric Kidney Diseases, Children's Memorial Hospital
PED.4439.04.CMH**

Clerkship Director: Craig B. Langman, MD, and staff; CMH

Background and Justification

Pediatric Kidney Disease represents a broad spectrum of congenital, genetic and acquired entities that may occur from birth through late adolescence. The increased survival of premature infants into childhood years, the epidemic of childhood obesity, and an unraveling of the human genome has made chronic kidney disease a measurable entity in pediatric medicine. The successes of maintenance dialysis and kidney transplantation have increased the numbers of patients requiring these therapies during the childhood years. The student is exposed to the breadth and depth of kidney diseases while on the elective.

Goals

By active participation in the clinical activities of the pediatric kidney diseases division, the student learns the scope of kidney diseases that occur in infant, children and adolescents.

Objectives

Recognize and differentiate the most common pediatric kidney problems, and learn the pathogenesis, pathophysiology, and modern therapy for the various problems encountered; participate in the educational activities of the Division; and understand the psychosocial aspects of chronic illness on the patient, family, and health care provider. More specifically, the student will learn to recognize and differentiate: the various types of glomerulonephritides, forms of childhood nephrotic syndrome, types of microangiopathies that affect the kidney stones, genetic and acquired metabolic bone diseases, kidney transplant indications and immunology of transplantation.

Course Format and Proposed Schedule:

The student will work primarily in the large, outpatient practices of the Division Faculty, and see patients in conjunction with them. The student will work Monday through Friday, generally from 8am through 5pm, but without hospital-based night, weekend call responsibility. The student is provided with ample selections of current literature relevant to the patients seen, and participates in informal and formal teaching sessions around them. The student is asked to prepare and deliver in an informal setting comprised of Divisional Faculty and Fellows, a presentation based on a topic of their choosing, often in consultation with a Faculty member, from the field of pediatric kidney disease.

Evaluation and persons performing the evaluation

The student will be evaluated by faculty that they work with, and in addition, any Fellows that they work with, and be provided at the end of the rotation that evaluation based on the basis of knowledge, performance, and contribution to the program.

First day report to: The student should report at the regularly schedules Department of Pediatrics Conference that occurs each day at 0800h, and thereafter, to the Outpatient Practice site of the Division of Pediatric Kidney Diseases (currently, Suite 902, Clark Building, Lincoln Park campus).

Clinical Pediatric Neurology, Children's Memorial Hospital

PED.4422.04.CMH

Clerkship Director: Joshua Goldstine, MD, and staff; CMH

Goals

The student sees a spectrum of neurological disorders in children by active participation in clinical activities. Those electing to spend longer periods of time on the service have an opportunity to become involved in clinical and basic research projects relating to abnormalities in the developing central nervous system.

Objectives

- Become skillful in obtaining histories and performing neurological examinations, allowing anatomic localization of lesions within the central nervous system; using this information, recognize and differentiate the common neurological problems of childhood.
- Develop some skill in using available neurodiagnostic procedures in confirming clinical impressions of neurological disorders.
- Develop an appreciation of the particular neurological problems unique to the developing nervous system.

Course Format and Proposed Schedule:

The student is an active participant in the neurology training program. He/she works up patients on the inpatient service and participates in rounds and consultations. The student is actively involved in neurological evaluations conducted in the outpatient clinic. Participation in neurology conferences is required. Assigned blocks of time in the neurophysiological laboratories are available, considering the individual student objectives for the course and the length of the rotation. Clinical, reading, laboratory, and study assignments are jointly determined. The student will be expected to attend Monday through Friday every week. There is no hospital-based night, weekend, or call responsibility while on the service.

Evaluation and persons performing the evaluation

Students will be evaluated by the fellow and attending staff periodically during the rotation on the basis of their clinical expertise. In addition, the student will be asked to study a particular facet of pediatric neurology in depth and present the findings to the group.

First day report to: The student will be e-mailed instructions.

Pediatric Pulmonology, Children's Memorial Hospital

PED.4431.04.CMH

Clerkship Director:

Mary A. Nevin, MD, and Division of Pulmonary Medicine faculty

Goals

The student participates in patient care and academic activities of the division, with a focus on diagnostic evaluation of patients with respiratory disorders. Inpatient and outpatient experiences include care of patients with cystic fibrosis, asthma, and other diseases. A multidisciplinary approach to care is emphasized.

Objectives

- Become proficient in history and physical examination skills pertinent to pediatric respiratory disorders.
- Become familiar with interpretation and use of pulmonary function studies in children and adolescents.
- Generate a differential diagnosis and plan of diagnostic studies and therapy based on history, physical examination, and physiologic studies.
- Perform an in-depth review of a topic related to pediatric pulmonary medicine.

Course Format and Proposed Schedule:

- Participate in inpatient rounds, pulmonary consultation services, and outpatient clinics in general pulmonology and cystic fibrosis.
- Participate in resident and divisional conferences.

- Choose a topic with the assistance of a faculty supervisor related to pulmonary medicine and prepare a talk to be given at a divisional meeting.
- Review supplied readings.
- The student will be expected to attend Monday through Friday every week. There is no hospital-based night, weekend, or call responsibility while on the service.

Evaluation and persons performing the evaluation

The student will receive continuous feedback from pulmonary staff members. Students will be assessed based on knowledge, clinical skills, and quality of formal and informal presentations. The final evaluation will be completed by the pulmonary divisional faculty

First day report to: The student should contact the administrative coordinator for the division of pulmonary medicine, Ms. Darlene Weiss at 773-975-8631 to determine a contact and meeting time for the first day of the rotation.

Child Abuse and Neglect, Children’s Memorial Hospital PED.4434.04.CMH

Clerkship Director: Emalee G. Flaherty, MD, and Protective Service Team staff

Goals

The student increases his or her knowledge and skills to identify and treat abused and neglected children within the context of the behavioral, developmental, and psychological maturation of the child.

Objectives

- Know a physician’s legal obligation to report suspicions of child abuse and neglect.
- Describe factors that place a child at risk for abuse or neglect.
- Describe the incidence and spectrum of presentation of child maltreatment.
- Obtain a history and collect the appropriate information when abuse or neglect is suspected.
- Become familiar with the appropriate forensic evaluation and the interdisciplinary assessment needed to evaluate the possibility of abuse or neglect.
- Become familiar with the legal process initiated by a report made for suspicions of child maltreatment.

Course Format and Proposed Schedule:

In preparation for this course, the student reads selected articles. The student then becomes an active member of the Children’s Protective Service Team (PST). While other various activities may be scheduled, patient care is the main responsibility. The student assists with protective service team consultations on the inpatient unit. All patient care is supervised by the PST attending physician. As a follow up, the student attends the weekly PST staffing and assists in presenting/discussing specific cases.

The student chooses one aspect of child abuse and neglect and reviews the literature on that topic. At the final PST meeting of the clerkship, the student gives a ten-minute presentation discussing this topic.

The student will learn about the roles of the other professionals who investigate and prosecute possible child maltreatment. To assist in the learning, the student will attend a county death review meeting, shadows a DCFS investigator, observe legal proceeding in Juvenile Court, and observe the courtroom testimony of PST physicians or social workers if court is scheduled during the rotation.

Evaluation and persons performing the evaluation

Students will be evaluated on their acquisition of knowledge and skills, their interactions with the family, their teaching presentation, and their participation in conferences and other scheduled activities. The student will meet with the course director at the beginning and end of the course. Other meetings will be scheduled as needed.

First day report to: Student will be emailed instructions and schedule of activities.

See Surgery Section for:

Pediatric Surgery for Pediatricians, Children's Memorial Hospital
PED.4446.04.CMH

Clerkship Director: Marleta Reynolds, MD

Pediatric General Surgery, Children's Memorial Hospital
PED.4428.04.CMH

Clerkship Director: Marleta Reynolds, MD

Pediatric Cardiothoracic Surgery, Children's Memorial Hospital
SUR.4855.04.CMH

See respective Specialty Sections for

Pediatric Essentials of Diagnostic Radiology, Pediatric Urology, Pediatric Orthopaedic Surgery, Pediatric Rehabilitation Service (PM&R), and Child and Adolescent Psychiatry

Physical Medicine and Rehabilitation

Clinical Adult Inpatient Service, Rehabilitation Institute of Chicago

PMR.4941.04.RIC

Nicole Wysocki, MD, James A. Sliwa, DO, and faculty

Goals

- Enhance ability to provide medical and rehabilitative care for disabled patients in a multidisciplinary team approach.
- Provide experience in writing appropriate therapy prescriptions and determining long and short-term rehabilitative goals.

Objectives

- Differentiate between disease, impairment, disability, and handicap.
- Understand the pathophysiology and treatment options for spasticity, pressure sores, neurogenic bowel and bladder, autonomic hyperreflexia, and joint contractures.
- Understand the prophylaxis, diagnosis, and treatment of DVT.
- Understand the pathophysiology and treatment of traumatic brain injury.
- Describe the classification of spinal cord injury and rehabilitative needs.
- Understand the mechanisms of stroke syndromes and resultant rehabilitative needs.
- Understand the pathophysiology of arthritis and resultant cause of physiatric intervention.

Students have the responsibility for the initial workup, the prescription of allied health services, and medical coverage of physically and/or cognitively disabled inpatients. Students initially attend and later participate in the direction of patient staffings by the allied health team. They learn to appreciate the contributions of all members of this team. This clerkship also incorporates outpatient clinic exposure (80 percent inpatient; 20 percent outpatient). Focus areas include spinal cord injury, head trauma, osteoarthritis, stroke, amputee, and general rehabilitation. Supervisory attending physicians: department faculty.

Clinical Pediatric Rehabilitation Service, Rehabilitation Institute of Chicago

PMR.4942.04.RIC

Charles E. Sisung, MD

Goals

- Provide insight and experience with the direction and coordination of a interdisciplinary rehabilitation team in the care of children with a disability.
- Understand pediatric outpatient care and long-term management of disabled children, including community and school reintegration.

Objectives

- Perform a pediatric history and physical examination.
- Formulate therapeutic plans based on stage of growth and development.
- Apply intervention in communication disorders in children.
- Manage myelodysplasia in children.
- Prescribe prosthesis and training programs for children with congenital or acquired limb impairments.
- Develop knowledge in diagnosis and treatment of scoliosis and hip problems in children.
- Develop knowledge of diagnosis of cerebral palsy, its clinical spectrum, and comprehensive management.
- Manage behavior in children with disabilities.
- Apply knowledge of pathophysiology to the treatment of head injury in children.
- Manage learning disabilities and mental retardation.
- Manage joint and connective tissue disease and chronic pain.

Students work directly with family units, do initial history and physical examination on new patients admitted to the pediatric service, and have the opportunity to participate in the evaluation and care of the patients in a multidisciplinary team approach. Students also have the opportunity to participate in the Rehabilitation Consult Service at CMH and visit other institutions in the metropolitan area who serve disabled children as well as attend outpatients at RIC.

Clinical Management of Chronic Pain, Rehabilitation Institute of Chicago
PMR.4951.04.RIC

Steven Stanos, DO: Medical Director

Goals

Provide understanding of the principles of diagnosis and treatment of chronic pain, competence in its evaluation, and ability to differentiate treatment approaches for chronic versus acute pain.

Objectives

- Assess the impact of pain on the life of a patient.
- Perform a complete history and physical examination.
- Assess and treat the psychological impact of pain when appropriate.
- Provide rehabilitative treatment to the chronic pain patient.
- Understand the legal issues of workers compensation and disability.

Students gain an understanding of principles of diagnosis and treatment of acute and chronic low back and neck pain, and other neurological chronic pain syndromes. They learn how to examine and evaluate the spine. They attend staffings and participate in the interdisciplinary management of outpatients with severe chronic pain problems. In addition, they observe the physical treatment of patients, including all therapies. They observe techniques of biofeedback, relaxation therapy, and behavior modification and become familiar with rational pharmacotherapeutic strategies in pain management.

Time will be spent in the outpatient clinic at the RIC Center for Pain Management, 980 N. Michigan Avenue, 8th Floor, Chicago, IL 60611.

Sports and Spine Rehabilitation: Principles and Practice, Rehabilitation Institute of Chicago
PMR.4949.04.RIC

Christopher Plastaras, MD

Pre-requisite: Students must complete an Inpatient Rehabilitation elective before taking the Sports and Spine Rehabilitation elective. Can be completed at Northwestern or must be shown on transcript if completed at other institution.

An advanced clerkship for senior medical students who are interested in exposure to outpatient nonoperative management of acute and chronic musculoskeletal issues.

Goals

- Understand the importance of anatomy, biomechanics, and kinesiology as they relate to spine and sports injuries. Comprehensive understanding of etiology and treatment of musculoskeletal disorders.
- Integrate the musculoskeletal physical examination into the kinetic chain assessment.
- Create a detailed exercise prescription for patients with musculoskeletal disorders.
- Understand the principles of functional therapeutic exercise.

Objectives

- The student will apply an understanding of the anatomy and pathophysiology associated with musculoskeletal injury to
- Demonstrate adequate knowledge regarding biomechanics of gait.
- Evaluate and treat patients presenting with cervical spine, thoracic spine, shoulder, knee, and hip dysfunction and lumbar spine pain.
- The rotation focuses on principles of physical medicine and rehabilitation as applied to musculoskeletal problems, with particular emphasis on clinically relevant anatomy and biomechanics, acute rehabilitation of common sporting injuries, and the physiology of athletic training and performance. Time will be spent in outpatient clinics at RIC 345 E. Superior and at RIC Spine & Sports Rehabilitation Center at 1030 North Clark Street. Students are expected to attend evening and weekend clinics, sporting event coverage as well as the weekly 7AM journal clubs.

Psychiatry

Senior Clerkship in Inpatient Psychiatry PSY. 4702. 04. NMH

Clerkship Supervisors: Sandra Swantek, MD, Morris Goldman, MD

Clerkship Director: Sonya Rasminsky, MD

Background and Justification: This elective is designed to complement the M3 core psychiatry clerkship. Students will be working on general inpatient units with patients who are acutely psychiatrically ill. During the month, students will either build upon their previous inpatient experience (assuming a greater leadership role), or supplement their previous psychiatry exposure in other settings (e.g., when the core rotation was completed on the consultation-liaison service).

Goals

This rotation will enhance students':

- Ability to diagnose and treat common psychiatric disorders.
- Competence to function as a first year resident on the inpatient unit.
- Ability to provide medical leadership for the treatment team.

Objectives

- Provide descriptive (DSM-IV) diagnosis and differential diagnoses.
- Develop a written biopsychosocial formulation on each patient.
- Develop written treatment plans, including pharmacologic, psychotherapeutic, and milieu interventions.
- Function as the primary clinician in executing the plan.
- Assess families with the social worker and intervene as indicated.
- Explain the usual clinical presentation, treatment, and course for schizophrenia, bipolar disorder, major depression, severe character disorders, and drug and alcohol dependence and withdrawal states.
- Give brief staff presentations on topics related to current patients.
- Present a patient for case conference.

Course Format and Proposed Schedule:

The student is assigned to an inpatient unit to work closely with the resident and unit chief as a significant member of the treatment team. During the month, the student functions as a subintern and manages patients under the supervision of the house staff and faculty. The student works Monday through Friday, and may be asked to round on weekend mornings. There is no call for this rotation.

Evaluation and persons performing the evaluation

The student will be assessed by the unit chief, the resident assigned to the unit, and other members of the faculty with whom they have worked.

Number of students per rotation Two students maximum, by arrangement with the director of medical student education.

Number of weeks: Four

Number of credits: One

Sites: NMH

First day report to: Students will be e-mailed instructions.

Clerkship in Consultation-Liaison Psychiatry

PSY. 4703. 04. NMH

Clerkship Supervisors: Susan Pearlson, MD; Virgilio Arenas, MD; Nehama Dresner, MD; John Franklin, MD; Allison Kurzman, MD

Clerkship Director: Sonya Rasminsky, MD

Background and Justification: This rotation builds on the core M3 clerkship in psychiatry, providing students with exposure to psychiatry in inpatient medical and surgical settings. The rotation offers intensive, practical teaching in psychopharmacology, psychotherapy, mental health law, medical ethics, spiritual issues related to health and disease, end of life care, health care administration, health economics, and public policy.

Goals

- Enhance abilities in psychiatry by performing psychiatric consultations.
- Develop ability to work with patient care team in liaison and teaching role.
- Gain knowledge concerning diagnosis and management of complex medical disorders with co-occurring psychiatric symptoms.
- Demonstrate the high prevalence, yet subtle and varied manifestations, of psychiatric illness in medical and surgical inpatients.
- Demonstrate the value of mastering basic and certain more advanced skills in psychiatry, especially for students pursuing nonpsychiatric residencies, such as in family practice, obstetrics and gynecology, internal medicine and subspecialties, surgery and subspecialties, neurology, and emergency medicine.
- Intensive, practical teaching in psychopharmacology, psychotherapy, mental health law, medical ethics, spiritual issues related to health and disease, end of life care, health care administration, health economics, and public policy for students planning a career in psychiatry.

Objectives

- Perform and write up a concise yet thorough psychiatric diagnostic database in the medical setting.
- Synthesize from this database a balanced biopsychosocial formulation and listing of DSM-IV multiaxial diagnoses to explain and understand the patient's medical and psychological responses to illness and stress.
- Develop a treatment plan drawing from this formulation.
- Make use of the entire treatment team and the patient's social resources to enhance the patient's recovery.
- Provide brief supportive psychotherapy in the medical setting.
- Assist the primary service in managing oppositional patients who do not adhere to their recommended or required treatment.
- Assess and make appropriate inpatient and outpatient referrals.

Course Format and Proposed Schedule:

The student performs psychiatric consultations independently and with resident and attending and receives observation and feedback. She/he participates in daily rounds and attends weekly case conferences. Each student is expected to give a formal case presentation by the end of the clerkship. Motivated students are encouraged to begin small research projects and write case reports and/or focused reviews of psychiatric literature starting from clinical problems encountered during the rotation. Further mentoring and support for possible publication of such work in peer-reviewed journals extend indefinitely beyond the end of the clerkship. Students work Monday through Friday. There is no call on this rotation.

Evaluation and persons performing the evaluation

The student will be evaluated by the C-L director, C-L attending physician, and C-L residents. Students will be coached and helped to perform to their maximum potential in this interesting, diverse, and challenging learning environment.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: NMH

First day report to: Students will be emailed instructions.

Community Psychiatry PSY.4707.04.VAR

Clerkship Supervisors: Will Cronenwett, MD (NMH), Rodney Eiger, MD (VA)
Clerkship Director: Sonya Rasminsky, MD

Background and Justification:

This elective provides students with immersion in community-based outpatient psychiatric services. Students are exposed to and take an active role in the multi-disciplinary approach of treating the chronically mentally ill. This will be accomplished in a range of community settings, from substance abuse programs, to psychosocial rehabilitation programs, to outreach programs that serve chronically mentally ill individuals.

Goals:

- To evaluate, diagnose, and formulate treatment plans for psychiatric patients in community-based settings, with particular attention to the challenges faced by patients with chronic and disabling mental illness.
- To increase exposure to and understanding of outpatient substance-abuse treatment, through participation in group therapy, alcoholics anonymous groups, and methadone clinics.

Objectives:

- Improve interviewing skills, focusing on eliciting pertinent information while demonstrating respect, empathy, and concern for the patient.
- Attend regular multidisciplinary team meetings to discuss an individual patient's progress, goals, and treatment plans.
- Observe, participate in, and ultimately lead psychosocial rehabilitation groups.
- Write full formulations and treatment plans for new patients, considering biological, psychological, and social factors.
- Teach junior medical students at Community Health Center, helping them to conduct interviews, present to the attending, and write notes.
- Attend regular weekly substance abuse treatment group sessions at the VA.
- Counsel individual patients with substance abuse.

Course Format and Proposed Schedule: This elective is designed to demonstrate the breadth of multimodal treatment that occurs in community psychiatry. The student will participate in various multidisciplinary groups at NMH Psychiatric Rehabilitation clinics, attend treatment groups at the West Side VA, and will work with attending psychiatrists in medication management appointments. The student will spend two afternoons per week at the Satellite community mental health clinic at the YMCA, working with the attending psychiatrist, psychiatry resident, and outreach staff performing new intakes, doing medication management, and visiting patients in the community. On Mondays and Wednesdays, the student will spend the day under the direction of Dr. Rodney Eiger at the VA, participating in outpatient substance-abuse treatment and VA community psychiatry programs. Tuesday evenings from 6:00 – 9:00 p.m. will be spent at the student-run CHC clinic. One afternoon per week will be spent at a homeless shelter doing mental health outreach. Throughout the month, the student also may be able to visit and observe other community mental health centers around the city of Chicago. Students will participate in a weekly didactics on community psychiatry from Dr. Cronenwett, and a one-time lecture from Dr. Eiger on substance abuse and dependence. There is no call for the rotation.

Evaluation and persons performing the evaluation: The student will be evaluated by attendings, residents, and mental health workers with whom the student has worked. The evaluation will be based on clinical performance (75%) and patient write-ups (25%).

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: Variable

First day report to: Students will be e-mailed instructions.

Emergency Psychiatry PSY. 4705. 04. NMH

Clerkship Supervisor: Pedro L. Dago, MD
Clerkship Director: Sonya Rasminsky, MD

Goals

- To evaluate, diagnose, and formulate treatment plans for psychiatric patients in an emergency setting. Conduct an interview with a psychiatric patient.
- Formulate a diagnosis using the DSM-IV criteria.

Objectives

- Improve interviewing skills, focusing on eliciting pertinent information in a focused, respectful, empathic manner. Evaluate patients using a psychiatric interview.
- Use basic psychotropic medications.
- Consider legal ramifications of emergency psychiatry situations.
- Understand resources and dispositions.
- Work with a multidisciplinary team on the evaluation of emergency psychiatry patients.

Course Format and Proposed Schedule:

The student actively participates in the evaluation of patients who present in the emergency room. Initially he/she sits in on the crisis worker and psychiatry evaluation followed by discussion. By the end of the clerkship, the student evaluates patients with supervision. Selected readings in emergency psychiatry are assigned to the student.

Evaluation and persons performing the evaluation

The student will be evaluated in his/her daily work by the director.

Number of students per rotation: One student by arrangement with the director of medical student education

Number of weeks: Four

Number of credits: One

Sites: NMH.

First day report to: Students will be emailed instructions.

Children's Memorial Hospital

Child and Adolescent Psychiatry PSY. 4706. 04. CMH

Clerkship Supervisors: Mary Beth Lake, MD (CAP Training Director); Mina Dulcan, MD (Department Head); Tom Cummins, MD (IPU); Karen Pierce, MD (PHP); Jim MacKenzie, DO (CL)

Clerkship Director: Sonya Rasminsky, MD

Goals

To provide students with an opportunity to observe and participate in psychiatric evaluations and comprehensive treatment for children and adolescents and families. Students will have an opportunity to select one of three possible experiences for their elective: acute inpatient child and adolescent hospitalization (IPU), child partial hospitalization program/day treatment (PHP), or the consultation-liaison service (C/L). On any of the services, students should gain exposure in the diagnostic assessment and management of youth with psychiatric illnesses, as well as multi-disciplinary treatment planning for families at CMH and in the community (including school). On the consultation-liaison service, there will be the additional goal of gaining an increased understanding and awareness of the interface between pediatric disorders and psychiatric illnesses. On PHP and IPU, medical students also learn about behavioral management techniques and are exposed to milieu and group therapy and parent training/family therapy sessions.

Objectives

A student will be able to:

- Assist in completing a diagnostic evaluation of a child or adolescent and developing a differential diagnosis.
- Assist in developing a biopsychosocial formulation as a basis for a multi-modal treatment plan.
- Assist in devising and implementing a comprehensive treatment plan.
- Understand the roles of various mental health and education disciplines in the treatment team for the specific setting of the elective work.
- Appreciate the importance of collaboration with primary care/pediatric health care providers to address medical and preventative health care concerns.
- Develop an awareness of the role of advocacy in providing mental health treatment.
- Learn the procedures for mandatory abuse reporting to the Department of Children and Family Services (DCFS).
- Gain an understanding of the indications for obtaining psychiatric consultation for children and adolescents.

Course Format and Proposed Schedule

Students will observe and be observed evaluating patients and their families. They will participate in multidisciplinary treatment team meetings and family sessions. There is a didactic program that includes grand rounds and lectures from nationally known faculty once a month when possible (September – June each year) which students are encouraged to attend. Students who rotate during October may attend the annual meeting of the American Academy of Child and Adolescent Psychiatry (AACAP) at their own expense as part of this elective experience. The national meeting is an opportunity for mentoring and for exposure to cutting edge research and updates in the field.

Evaluation and persons performing the evaluation

Students will receive a composite grade from the evaluations of the faculty and child and adolescent psychiatry fellows based on their observed clinical work and presentations.

Number of students per rotation: As many as three students can rotate each month (one student on inpatient, partial hospital and consultation-liaison).

Number of weeks: Four

Number of credits: One

Sites: CMH

First day report to: Arianne Marcoux, 700 West Fullerton, Room 411 (Students will be e-mailed their full schedule prior to the start date.)

Radiology

The Clinical Basis of Nuclear Medicine, Northwestern Memorial Hospital

RAD.4641.04.NMH

Dr. William G. Spies

Background and Justification

The aim of this course is to orient the student to the clinical practice of Nuclear Medicine. Emphasis is on the clinical settings in which Nuclear Medicine can contribute to patient care. A basic clinical textbook of Nuclear Medicine is required reading, supplemented by other references related to studies being performed, seminar topics, and other materials of interest to the students. Indications and limitations of diagnostic studies and therapeutic applications are discussed in seminar format and in conjunction with daily film reading sessions. The student is provided with the opportunity to observe and participate in routine functions of the Section of Nuclear Medicine. Additionally, the student is encouraged to present a one-hour talk at the conclusion of the course.

Goals

- Introduction to the scientific principles underlying radionuclide diagnostic and therapeutic procedures.
- Exposure to the major areas of radionuclide imaging and therapy with unsealed sources.
- Familiarity with the indications for radionuclide studies in clinical practice, as well as the advantages and limitations of Nuclear Medicine procedures relative to other modalities.

Objectives

The student acquires insight into

- Applications of bone scintigraphy.
- Radionuclide thyroid, parathyroid and other endocrine diagnostic studies and therapy.
- Use of ventilation-perfusion imaging in suspected pulmonary embolism and in pre-operative assessment.
- Applications of scintigraphy in renal and urologic disorders.
- Radionuclide imaging of the gallbladder and biliary tree, liver, and stomach, and its use in localizing sites of gastrointestinal hemorrhage.
- Use of radionuclide imaging in suspected infection and fever of unknown origin.
- Radionuclide imaging and treatment of patients with known or suspected malignancies.
- Bone mineral density measurement.
- Nuclear cardiology diagnostic studies.
- Applications of positron emission tomography (PET) imaging in oncology, neurology, cardiology, and other clinical settings.
- Other radionuclide imaging, laboratory, and therapeutic procedures.

Conferences

- Review and interpretation of examinations, daily, 10:30 a.m.-noon. and 2:30-5:30 p.m.
- Radiology residents conference, alternate Wednesdays, 4-5 p.m.
- Follow-up conference, monthly.
- Interdepartmental conferences, as scheduled.

Nuclear Medicine laboratory, Galter 8th Floor.

Essentials of Diagnostic Radiology, Northwestern Memorial Hospital

RAD.4646.04.NMH

Dr. Thomas Grant

Not offered Fall 3 or Spring 3

The main introductory course to general diagnostic radiology offered at NMH, this clerkship is designed to impart a broad basic understanding of the role of radiology in diagnosis. Emphasis is placed on terminology, proper workup, and the fundamentals of film interpretation. The student has the additional opportunity of working closely with staff members and residents, observing and participating in all phases of their daily work. Daily dedicated medical student conferences are also held.

Goals

- Increase ability to order appropriate tests that facilitate efficient cost-effective patient care.
- Develop a better understanding of the wide range of radiologic tests and procedures.
- Learn fundamentals of interpretation of certain plain film studies.

Objectives

- Learn appropriate terminology used in describing images.
- Develop a logical approach to choosing imaging tests that solve various clinical problems.
- Know how various common diagnostic studies are performed.
- Know morbidity and mortality risks for various common tests.
- Know indications for various common diagnostic studies.
- Know contraindications of various common diagnostic studies.
- Learn fundamentals of interpreting chest, abdominal, and skeletal radiographs.

Four weeks (not offered last four weeks of fall quarter or last four weeks of spring quarter). Ten students.

Essentials of Pediatric Radiology, Children's Memorial Hospital

RAD.4646.04.CMH

Mary Wyers, M.D.

This course is an introduction to diagnostic radiology on pediatric patients of all ages, including inpatients and outpatients. All imaging modalities are briefly covered, including plain radiography, ultrasound, CT, MRI, fluoroscopy and interventional radiology. The student will be expected to work with radiology residents and attendings, and observe and participate in discussions during read out sessions. The student is also expected to attend interdepartmental and teaching conferences. This course may be helpful to any student with a special interest in either pediatrics or radiology.

Objectives:

- Learn the appropriate utility of different imaging modalities for the work up of common clinical problems and how the work up differs from the adult population.
- Recognize the basic normal radiographic appearance of the bones and soft tissues on different imaging modalities, and understand how this changes with growth.
- Understand what patients experience for different radiological exams, including sedation.

Diagnostic Radiology Specialty Electives-Northwestern Memorial Hospital

****Pre-requisite: Students must complete one Essentials of Diagnostic Radiology elective before taking the diagnostic radiology specialty electives. Can be completed at Northwestern or must be shown on transcript if completed at other institution. If Essentials of Diagnostic Radiology does not appear on a student's transcript they may submit a letter from their Dean or Registrar to serve as proof they have completed the clerkship.**

Body Imaging, Northwestern Memorial Hospital

RAD.4655.04.NMH

Course Director, Dr. Paul Nikolaidis

***See pre-requisites listed above**

This clerkship gives the interested student a deeper look into cross sectional imaging of the chest, abdomen, and pelvis than can be provided in a general radiology course. The student spends one week each in CT, ultrasound, and MRI. The fourth week is spent in the area of particular interest to the student. He/she is expected to attend body imaging conferences and may attend additional department conferences designed for residents and medical students. The student should read basic radiology texts on CT, US, and MRI to enhance the observational experience.

Neuroradiology, Northwestern Memorial Hospital

RAD.4645.04.NMH

Course Director, Dr. Tarek Hijaz

***See pre-requisites listed above**

Students are assigned to observe all clinical imaging interpretation sessions and should participate actively in case readouts in CT and MRI. Students should read a text on neuroradiology during the month. One oral presentation should be prepared and presented based on interesting case material reviewed during the first or second week on the service.

Interventional Radiology, Northwestern Memorial Hospital

RAD.4657.04.NMH

Course Director, Dr. Richard Chen

***See pre-requisites listed above**

The goal of the medical student clerkship is to provide a well-rounded blend of the clinical and didactic elements on the vascular and interventional radiology (VIR) service. Clinical expectations include assistance and performance of cases under the direct supervision of VIR attending physicians and fellows, daily rounds on all inpatients on the service, and evaluation and management of outpatients. Participation in all VIR cases and didactic conferences is expected as well as attendance at all diagnostic radiology resident conferences. In addition, a brief presentation on a VIR topic of interest is required toward the end of the clerkship.

Breast Imaging, Northwestern Memorial Hospital

RAD.4658.04.NMH

Course Director, Dr. Ellen Mendelson

***See pre-requisites listed above**

The objectives of this elective clerkship are to broaden the student's knowledge of imaging diagnosis of breast cancer and evaluation of benign breast disease. The student will participate in interpretation sessions of screening and diagnostic mammograms, breast US examinations and breast MRI studies. The student will also observe and participate in stereotactically-, US-, and MRI-guided breast interventional procedures, including percutaneous core and vacuum-assisted biopsies and presurgical localizations. Readings will be assigned, and the student will be expected to attend the weekly Interdisciplinary Breast and Breast Imaging-Pathology Concordance Conferences. A brief presentation on a topic or case of interest is required during the last week of this 4-week elective.

****Radiation Oncology****

Radiation Oncology, Northwestern Memorial Hospital

RAD.4643.04.NMH

Nagendra Koneru, MD and Radiation Oncology Attending Staff

This clerkship introduces the student to the use of radiation in the care of cancer patients. Fifty percent of all cancer patients receive radiation, either curatively or palliatively. The student works with a resident and attending physician seeing patients under treatment, during consultations, and in follow ups. The student will see consultations and follow-ups and present these to the attending physician and in departmental conferences. The student will be assigned to different attendings during the rotation to observe a wide scope of different types of patients and procedures. He/she will attend multidisciplinary conferences at NMH and CMH. A 45-minute presentation on a topic concerning some aspect cancer care is expected at the end of the clerkship. Students considering a career in any specialty where cancer patients are encountered (primary care, surgery, gynecology, and medical oncology) will find this course useful.

Goals

- Understand the indications for radiation therapy.
- Understand how radiation affects normal and neoplastic tissue.
- Increase knowledge of neoplastic processes.

Objectives

The student will be better able to understand

- The indications for radiation therapy for the cancer patient.
- Normal tissue tolerance of radiation.
- How radiation therapy is planned and delivered.
- Behavior of common neoplasms.
- Multidisciplinary approach to cancer care.
- Cancer symptom palliation.

First day report to: Senior Resident, Galter LC-178 at 9:00 a.m.

Introduction to Radiation Oncology, Northwestern Memorial Hospital

RAD.4644.02.NMH

Nagendra Koneru, MD and Radiation Oncology Attending Staff

This clerkship (**a 2-week elective**) is a short introduction to radiation oncology. This clerkship introduces the student to the use of radiation in the care of cancer patients. Fifty percent of all cancer patients receive radiation, either curatively or palliatively. The student works with a resident and attending physician seeing patients under treatment, during consultations, and in follow ups. The student will see consultations and follow-ups and present these to the attending physician and in departmental conferences. The student will be assigned to different attendings during the rotation to observe a wide scope of different types of patients and procedures. He/she will attend multidisciplinary conferences at NMH and CMH. Any student who may encounter a cancer patient in the future will find this elective useful.

Goals

- Understand the indications for radiation therapy.
- Understand how radiation affects normal and neoplastic tissue.
- Increase knowledge of neoplastic processes.

Objectives

The student will be better able to understand

- The indications for radiation therapy for the cancer patient.
- Normal tissue tolerance of radiation.
- How radiation therapy is planned and delivered.
- Behavior of common neoplasms.
- Multidisciplinary approach to cancer care.
- Cancer symptom palliation.

First day report to: Senior Resident, Galter LC-178 at 9:00 a.m.

****SURGERY****

General Surgery, Northwestern Memorial Hospital **SUR.4847.04.NMH** Dr. Alexander Nagel

The student will function as a PGY-1 resident on a General Surgery Service at Northwestern Memorial Hospital. The student will participate directly in the care of surgical patients, while working with attending surgeons and senior residents in the outpatient and inpatient setting, both during the day and at night while on-call (every fourth night). The student will develop an understanding for the unique concerns of the surgeon in the preoperative, operative and postoperative care of the patient. The student will be encouraged to develop an in-depth understanding of the following topics: bowel obstruction, hernias, acute appendicitis, cholecystitis, diverticulitis, pancreatitis, morbid obesity, and benign esophageal diseases.

Goals:

- Enhance the student's understanding of the following topics: bowel obstruction, hernias, appendicitis, cholecystitis, diverticulitis, pancreatitis, morbid obesity.
- Gain knowledge and experience in order to function comfortably as a PGY-1 surgical resident.

Objectives:

- The student should develop PGY-2 level of knowledge regarding the diagnosis and management of the previously mentioned conditions.
- Student will participate directly in the care of surgical patients and function as a PGY-1 resident. Accordingly, the student will work in the outpatient and inpatient setting and will have on-call responsibilities.

Evaluation:

- The student will be evaluated by all attending surgeons and senior residents on the service who consider the student's:
 - general attitudes toward patients, other health care workers, and teachers
 - interest in her/his own education
 - performance of clinical skills
 - communication of patient information, both verbal (oral presentations) and written (H&Ps, progress notes).

First day report to: Clare Broad, Galter 3-150, 312-926-9411, cbroad@nmh.org

Cardiac Surgery, Northwestern Memorial Hospital **SUR.4856.04.NMH**

Clerkship Director:
Richard Lee, MD

Goals

Familiarize the student with general aspects of diseases of the heart including coronary artery disease, cardiac valvular disease including options for repair vs. replacement, atrial fibrillation, diseases of the Great Vessels including differentiation between dissection and aneurysm, surgical options in heart failure including transplantation, mechanical assistance, valvular competence restoration and ventricular reconstruction, electrical reconstruction.

Objectives (refers to tactics, a more specific sense)

1. Patient Care

- a) Demonstrate an ability to conduct a cardiac-focused history and physical

- b) Obtain disease-relevant information from patients specific to vascular disease (including but not exclusive to: smoking history, family history of vascular disease, hyperlipidemia, diabetes, history of irregular heart beat, history of stroke/TIA, dyspnea on exertion, etc.)
- c) Interpret laboratory values and diagnostic study results to diagnose a clinical problem and implement effective treatment plans for the clinical scenarios identified above (1-5)

2) Medical Knowledge

- a) Describe the epidemiology, presenting symptoms, work up, diagnosis and treatment options for patients with coronary artery disease
- b) Describe the epidemiology, presenting symptoms, work up, diagnosis and treatment options for patients with valvular heart disease
- c) Describe the epidemiology, presenting symptoms, work up, diagnosis and treatment options for patients with atrial fibrillation
- d) Describe the epidemiology, presenting symptoms, work up, diagnosis and treatment options for patients with diseases of the Great Vessels
- e) Describe the epidemiology, presenting symptoms, work up, diagnosis and treatment options for patients with chronic congestive heart failure
- f) Describe the basic mechanism of the cardiopulmonary bypass machine
- g) Describe methods for identifying and treating acute cardiac failure

3) Practice-Based Learning and Improvement

- a) Meet with attending physician and supervising resident at the beginning of the rotation to review goals and expectations
- b) Meet with attending physician and supervising resident after two weeks to review performance and identify strengths and areas for improvement
- c) Meet with attending physician and supervising resident at the end of the rotation to assess overall performance and identify specific strengths and areas of improvement
- d) Review history and physical with supervising resident and attending physician
- e) Review one current article on the treatment of coronary artery diseases and review one article on cardiac valvular disease
- f) Consider writing a case report on an interesting patient encountered while on service

4) Interpersonal and Communication Skills

- a) Directly participate in obtaining information from patients in clinic and in-house consultation
- b) Directly participate in the informed consent process
- c) Directly participate in the patient care process with all the other members of the team
- d) Observe the interactions of the other team members with patients and each other
- e) Request feedback during the 2 and 4 week evaluations regarding performance in interpersonal relations and communication

5) Professionalism

- a) Wear attire appropriate for that of a physician in practice
- b) Conduct all interactions with patients and staff according to the “golden rule”
- c) Be sensitive to patients with diverse ethnic backgrounds and cultures
- d) See feedback during the 2 and 4 week review regarding performance in this competency

6) Systems-Based Practice

- a) Participate in the multidisciplinary conferences listed below in the proposed schedule
- b) Participate in at least one team conference including nursing staff (i.e., a.m. sign out during shift change)
- c) Consider an area that might be improved in the patient care process and relate to attending physician supervisor during final evaluation meeting

Course Format and Proposed Schedule:

The student will be responsible to: participate in the cardiac surgery clinic and interview/examine patients under the supervision of the attending physician; participate in work rounds every morning under the supervision of the resident in charge of the service, including organizing the patient information in a cohesive fashion and presenting it to the members of the team; present cases within the 5 core cardiac clinical scenarios to the attending physicians for discussion of the management. In the operating room, the student will scrub on all major cases; they will assist the resident or fellow in opening and preparing conduit and aortic cannulation. They will assist during the case and will be expected to describe the operative approach to the attending surgeon. Their expected knowledge of all areas will be limited but appropriate for their level.

Evaluation and persons performing the evaluation:

The student will be evaluated at 2 and 4 week intervals by the supervising attending physician in each of the 6 ACGME core competencies. Each competency will be reviewed by the attending physician in a 360 degree fashion

with verbal feedback obtained from the residents, nursing staff, clinic staff, operating room staff and the student him/her self. This will contribute to 50% of the student's evaluation. There will be a short pass/fail internally developed written exam comprised of 10 basic questions. Passing will be 70%. Students will be given the opportunity to repeat in the event of initial failure. Extra consideration will be given to students who achieve a 100% score on the first attempt. There will be three rotating versions of the exam. In addition, 25% of the evaluation will be based on the student's presentation of the 5 core cardiac clinical scenarios to the attending physician during the rotation.

First day report to: Cardiac Surgery, 201 E. Huron St., Galter 11-140, at 9:00 a.m.

Surgical Oncology, Northwestern Memorial Hospital

SUR.4850.04.NMH

Drs. David Bentrem, Anne-Marie Boller, Amy Halverson, David Mahvi and Jeffrey Wayne

The four weeks of this clerkship will include exposure to general surgical oncology and colorectal surgery. The student will be assigned a preceptor for the four weeks, but will spend significant time with various faculty members. The student attends each surgeon's clinic where he or she will be involved in the evaluation, workup, and staging of the patients. The student participates in the surgical treatment of patients and functions as a member of the housestaff/medical student team in caring for the patients postoperatively. The student is required to attend the multidisciplinary melanoma and sarcoma conference monthly and gastrointestinal oncology conference weekly. The student, if he or she wishes, may attend medical oncology and/or radiation oncology clinics.

Goals

- Understand the evaluation, workup, and staging of solid tumors with an emphasis on gastrointestinal tumors, melanoma, and sarcoma.
- Understand the role of each treatment modality of cancer: surgery, chemotherapy/endocrine therapy/immunotherapy and radiation therapy; understand the rationale for their use and sequencing.
- Extend and build upon basic surgical principles learned during the junior year clerkship

Ambulatory time: 25-33 percent. NMH.

Pediatric Surgery for Pediatricians, Children's Memorial Hospital

PED.4446.04.CMH

Clerkship Director: Dr. Erin Rowell

Background and Justification

Pediatricians must recognize surgical illness in their patients and often are asked to give advice concerning the advisability of surgical treatment. This clerkship provides an overview of the pediatric surgical specialties, enriching the experience of both the pediatric and surgical clerkships.

Goal:

Provide education and firsthand experience in pediatric surgery for students interested in a pediatric medical career.

Objectives:

Students will gain the knowledge of common pediatric surgical problems, their evaluation and management.

Course Format and Proposed Schedule:

During this clerkship, the student will evaluate children with a variety of surgical disease, assist in the operating room, attend conferences and office sessions, and take call with residents CMH cares for children with problems ranging from newborn infants with surgical emergencies to older youngsters with complex tumors and congenital anomalies. The student spends a minimum of six weeks on general pediatric surgery and additional time rotating for two weeks on orthopaedic surgery, neurological surgery, urology, cardiac surgery, otolaryngology - head and neck surgery -ophthalmology **or** plastic surgery. An eight-week clerkship allows the student to choose from the above specialties to obtain a broader education in pediatric surgery.

Evaluation and persons performing the evaluation

Dr. Reynolds and the faculty will complete the evaluations on all students. Faculty members are available to counsel students concerning their selection of this clerkship and in their choice of pediatric surgical specialties.

First day report to: Student will report to Valerie Rodriguez at NAB building, 700 W. Fullerton, 6th Floor, Room N.643 at 8:30 am on the first day of his/her rotation.

Pediatric General Surgery: Children's Memorial Hospital**PED.4428.04.CMH**

Clerkship Director: Dr. Erin Rowell

Background and Justification

A four week clerkship for senior medical students is offered by the pediatric general surgery staff of Children's Memorial Hospital. This clerkship is designed to serve as a Subinternship for students interested in the care of children. It is an excellent opportunity to explore whether a career in pediatrics, surgery or pediatric surgery is an appropriate long term professional choice.

Goal:

Provide education and firsthand experience in pediatric surgery for students interested in a pediatric/surgical medical career.

Objectives:

The student will continue to develop skills in history taking and physical diagnosis as they relate to pediatric problems. There is an opportunity on a daily basis to be involved in ongoing pediatric surgery outpatient clinics. In addition, there is an opportunity to work in the ambulatory clinics and outpatient surgicenters of the Children's Memorial Hospital. There are 50 operative cases each week that are open for student participation plus the regularly scheduled conferences, grand rounds, tumor boards, etc., of both the Departments of Pediatrics and Pediatric Surgery.

Course Format and Proposed Schedule: Students will make rounds on in-patient floors in either the morning or evening with the pediatric surgery team. They are also expected to observe surgical cases and attend outpatient clinics every afternoon. Attendance is also required at Tuesday morning conferences.

Evaluation and persons performing the evaluation Dr. Reynolds and/or attending staff will complete standard Northwestern student evaluations at the end of the rotation.

First day report to: Student will report to Valerie Rodriguez at NAB building, 700 W. Fullerton, 6th Floor, Room N.643 at 8:30 am on the first day of his/her rotation.

Pediatric Cardiothoracic Surgery-Children's Memorial Hospital**SUR.4855.04.CMH**

Course Format and Proposed Schedule: During a four week clerkship in pediatric cardiothoracic surgery, the student will assume duties similar to those performed by a first-year resident with close faculty and resident supervision. A syllabus on surgery for congenital heart disease will be provided and the student will observe a wide variety of congenital open heart procedures. In addition, teaching conferences with the pediatric cardiology division will be held once a week at which time the student will learn the interpretation of pediatric echocardiograms and cardiac catheterizations.

First day report to: Students will be emailed instructions.

Plastic and Reconstructive Surgery SUR. 4845. 04. VAR

Advisor: Victor L. Lewis, MD

Clerkship Director:

Victor L. Lewis,

Clerkship Coordinator:

Consuelo Campos, **Background and Justification**

The student participates in the evaluation and treatment of patients with plastic surgical problems, including operating room participation. Experience in the management of patients with congenital anomalies; tumors of the skin, head, and neck; trauma of the face, soft tissue, and hands; burns; breast reconstruction; and physical irregularities (aesthetic problems) are included. The student participates in the care of hospital inpatients and outpatients. The student is made an integral part of the clinical team, working closely with the attending surgeons and residents in the management of patients.

Goals

Advanced exposure to and knowledge of principles of plastic surgery and wound healing.

Objectives

To be better able to

- Treat chronic wounds, ulcers and pressure sores.
- Understand principles and concepts of flaps and grafts, microvascular surgery, and surgical anatomy of the head, neck, and trunk.
- Understand principles of breast reconstruction and surgical management of skin cancer.
- Understand psychological and treatment concepts of cosmetic surgery.
- Understand and use suturing techniques.
- Understand issues unique to pediatric plastic surgery.

Course Format and Proposed Schedule:

- Students will make morning and evening rounds with the service.
- Most days the students will be in the OR as assigned by the chief resident.
- On the days that are selected by the chief residents, the students will participate in office hours with assigned attendings.
- The clerkship begins at 8:30am and ends at 5pm on the final Friday.
- Required conferences include grand rounds, journal club, and resident teaching conferences
- No formal call schedule
- Students make rounds on assigned Saturdays and Sundays.

Evaluation and persons performing the evaluation

Presentation to faculty members of a selected topic emphasizing original literature. Evaluation by faculty members (Drs. Mustoe, Lewis, Fine, Dumanian, Kim, and Lee). Evaluation by chief resident with focus on workups, knowledge of specific patient problems and rounds. Each student is required to prepare a ten-minute talk at the end of the clerkship on a subject in plastic surgery chosen in consultation with the residents and staff members.

Number of students per rotation: Three

Number of weeks: Four

Number of credits: One

Sites: NMH

First day report to:

Students will report to the office of Dr. Victor L. Lewis at 150 E. Huron Suite 825 at 8:30 a.m. on the first day of the rotation.

Basic Science of Vascular Surgery, Northwestern Memorial Hospital SUR.4848.04.NMH

Drs. Morasch, Eskandari, Pearce, Rodriguez and Kibbe; NMH

The student will function much like our PGY-1 residents on the Vascular Surgery Service at Northwestern Memorial Hospital. The student will participate directly in the care of our surgical patients, while working with attending surgeons and senior residents in the outpatient and inpatient setting, both during the day and at night while on-call (every fourth night). The student will be encouraged to develop an in-depth understanding of vascular pathology including carotid disease, aortic aneurysms and lower extremity occlusive disease. The student will also be introduced to venous disorders, thoracic outlet syndrome, thrombophilias and endovascular surgery. The students will develop an understanding for the unique concerns of the surgeon as they follow a variety of vascular surgery patients through the blood flow laboratory, operating room, and follow up in the office setting. As the patient progresses through care, the student will also be taught the basic skills of noninvasive testing and its science.

Goals:

- To obtain a new level of understanding regarding vascular pathology.
- Students should be comfortable with the examination, imaging, diagnosis and treatment options available to patients with vascular disorders.
- Basic understanding of the noninvasive testing and molecular biology of the arterial wall.
- Emphasize the importance of basic science in a clinical practice of vascular surgery.

Objectives:

- Provide ample clinical experience in a variety of common vascular diseases such as abdominal aortic aneurysm, peripheral arterial occlusive disease, and extracranial carotid artery disease
- Provide a basic understanding of noninvasive testing as well as training to perform several of the more common tests.

Course Format and Proposed Schedule:

- Students will make morning and evening rounds with the service
- Most days the students will be in the OR as assigned by the chief resident
- On the days that are selected by the chief residents, the students will participate in office hours with assigned attendings
- Required conferences include grand rounds, journal club and residency teaching conferences
- No formal call schedule
- Students make rounds on assigned Saturdays and Sundays

Evaluation:

Presentation to faculty members of a selected topic emphasizing original literature. Evaluation by faculty members. Evaluation by chief resident with focus on workups, knowledge of specific patient problems and rounds. Each student is required to prepare a ten-minute talk at the end of the clerkship on a subject in vascular surgery chosen in consultation with the residents and staff members.

First day report to: Page Vascular Surgery fellow rotating at NMH.

Thoracic Surgery, Northwestern Memorial Hospital

SUR.4857.04.NMH

Clerkship Director:

Alberto deHoyos, MD, FCCP

Background and Justification

Lung cancer is the most frequent malignancy in men, and is the leading cause of cancer related death in men and women. Lung cancer causes more deaths than breast, colon and prostate cancer combined. The treatment and survival rate of lung cancer are clearly related to accurate preoperative staging. The overall 5-year survival rate for patients with non-small cell cancer is approximately 15% and 35% for patients who undergo resection. The incidence of esophageal cancer is increasing at an alarming rate and it surpassed only by melanoma. The epidemiology of esophageal cancer is also changing and adenocarcinoma of the distal esophagus and gastroesophageal junction is now the most common histologic subtype. It has been clearly demonstrated that adenocarcinoma of the distal esophagus is linked to gastroesophageal reflux disease and intestinal metaplasia (Barrett's mucosa). These two thoracic malignancies will continue to be common problems in medicine and form the core of thoracic oncology. Other problems encountered in general thoracic surgical practice include spontaneous pneumothorax, benign and malignant pleural effusions, and mediastinal pathology. As in other surgical specialties, the initial assessment and preoperative workup of patients with chest diseases is paramount. Great strides have been made in several areas of thoracic surgery including new surgical techniques and improved imaging modalities (CT scan and PET scan). There is no other rotation that offers exposure to patients with a variety of chest diseases.

Goals

Familiarize the student with general aspects of diseases of the chest including of lung cancer, esophageal cancer, pneumothorax and pleural effusions.

Objectives

1. Describe the presenting symptoms of patients with lung cancer
2. Describe the presenting symptoms of esophageal cancer
3. Describe the clinical manifestations of pneumothorax
4. Describe the clinical manifestations of patients with pleural effusion
5. Discuss the management of patients with hemoptysis
6. Discuss the types of pneumothorax
7. Discuss the etiology and management of pleural effusion
8. Discuss the evaluation of patients with lung and esophageal cancer
9. Discuss the staging of lung cancer and esophageal cancer (T,N,M)
10. Discuss the indications for chest tube thoracostomy
11. Discuss the proper technique for insertion of chest tubes
12. Discuss the indications for tracheostomy
13. Describe the interpretation of normal chest x-rays
14. Describe the interpretation of chest x-ray in lung cancer
15. Describe the interpretation of a chest x-ray in pneumothorax
16. Describe the interpretation of a chest x-ray in pleural effusion
17. Discuss the etiology, assessment and management of hemoptysis

Course Format and Proposed Schedule:

The student will attend the thoracic surgery clinic and interview/examine patients under the supervision of the attending physician. The student will do rounds every morning under the supervision of the resident in charge of the service; the student will present cases to the attending physicians for discussion during morning rounds. The student will learn to gather clinical findings, vital signs, I's and O's and present the information in an organized fashion to the attending physicians and residents. The student will be present and observe operative procedures. There will be no call or weekend requirements.

Evaluation and persons performing the evaluation

The student will be evaluated by the attending physician and the residents rotating in the service. At the conclusion of the rotation the student will perform a power point presentation of a topic of his/her choice to the thoracic surgery team. The student will have 30 minutes for the presentation and 10-15 minutes for questions and answers.

First day report to: Cardiothoracic Intensive Care Unit, Feinberg 7th Floor, at 6:45 a.m.

Transplantation Surgery, Northwestern Memorial Hospital

SUR.4853.04.NMH

Dr. Jonathan P. Fryer, NMH

Students will receive instruction in clinical transplantation and transplantation immunology through observations on the multi-organ transplant service and in the histocompatibility laboratory. Students will participate in all aspects of clinical care of liver, kidney, pancreas, islet, and intestine transplant patients. Patients will be observed during the pre-transplant evaluation period, the transplant procedure, the immediate post-transplant period, and during their long-term follow-up. Opportunities will be available to participate in live donor and deceased multiorgan donor procurements and in non-transplant procedures in transplant patients. Numerous clinical conferences, symposia, and didactic sessions are available to complement the clinical experience. A four-week clerkship will achieve these objectives.

Goals:

- To obtain general understanding of the comprehensive medical and surgical management of patients that are: being assessed as transplant candidates, waiting for transplants, or are recipients of transplants.
- To obtain a general understanding of the impact of life-long immunosuppression on overall care of transplant patients.

Objectives:

- To learn the indications for transplantation of the liver, kidney, pancreas and intestine.
- To learn the principles for managing patients with end-stage organ failure of the liver, kidney, pancreas and intestine.
- To understand the basic principles of organ allocation and procurement.
- To learn the mechanisms and potential adverse effects of all immunosuppressive drugs being used for transplantation.
- To understand the basic surgical principles of organ transplantation, vascular access, and hepatobiliary surgery.

Course Format and Proposed Schedule:

- Students will join the transplant team and participate in the ongoing care of transplant patients in the hospital, the operating room, and the outpatient clinic.
- Students will be given the opportunity to participate in living and deceased donor organ procurement procedures.
- Students will participate in all seminars, symposia, lecture, and other didactic sessions relevant to Transplantation.

Evaluation and persons performing the evaluation:

Students will be evaluated on the basis of their attendance, punctuality, reliability, knowledge base, clinical acumen, interactions with patients and other health care professional, and their overall effort during their time on the transplant service.

After visiting student registration, please report to: Alina Ibrahim, Suite 3-150 (Surgery Administration) Galter Pavilion at 9:00 am Monday-Friday

Trauma/Emergency General Surgery, Northwestern Memorial Hospital

SUR.6104.04.NMH

Clerkship Director: Michael B. Shapiro, MD

Background and Justification

This rotation will offer an intensive exposure to Trauma and emergency General Surgery. Basic principles of life support, pattern recognition, resuscitation, operative and non-operative care, critical care, and the coordination of resources are all central components. The student will participate at the sub-intern level as an integral part of the surgical team, working closely with attending surgeons and residents in patient care. There is no other rotation that offers such an exposure, covering a complete time continuum of illness and recovery.

Goals and Objectives

-Provide hands-on experience and increase understanding of Trauma (blunt and penetrating thoraco-abdominal injury, acute head injury, orthopedic and spine injury), the acute surgical abdomen, hemorrhage and shock, and airway emergencies

-Gain knowledge and practice to function more effectively as a resident in surgery or any medical field.

First day report to: Chief resident, 6 AM.

Urology

Pediatric Urology, Children's Memorial Hospital

URO.4701.04.CMH

Clerkship Director: Elizabeth B. Yerkes, MD, Children's Memorial Hospital

Background and Justification:

This rotation will expose students to the uniquely appealing blend of pediatric medicine and pediatric surgery offered in the field of Pediatric Urology. Time in the operating room and exposure to the outpatient management of pediatric urologic issues will be a valuable experience for students considering a career in a surgical subspecialty or in general pediatrics/ family medicine.

Goals

- Understand the evaluation and management of common pediatric urologic issues: antenatal hydronephrosis, urinary tract infection, vesicoureteral reflux and enuresis.
- Recognize the long-term medical and surgical needs of children with neuropathic bladder and bowel dysfunction.
- Understand the spectrum of severe congenital anomalies of the genitourinary tract (applied embryology).
- Learn the principles of genitourinary reconstruction and understand the potential long-term implications of reconstructive procedures.

Objectives

By the end of the rotation, students will learn to:

- Interpret common imaging studies: renal ultrasound, voiding cystourethrogram and nuclear scans.
- Obtain a thorough urologic history, including discussion of sensitive genitourinary issues.
- Interpret urodynamic studies and formulate a plan for management of neuropathic bladder.

Course Format and Proposed schedule:

Students are expected to participate in all aspects of the Pediatric Urology service, including evaluation of patients in the outpatient clinic and on inpatient rounds. Students will identify cases of interest during preoperative conference and participate in the operative management and perioperative care of those patients. Attendance is expected at weekly didactics and surgical or medical/surgical conferences at CMH. Students will also attend Urology Grand Rounds on Thursday evening at NMH. There is no formal call for this rotation. Weekend responsibilities are limited and are at the discretion of the Chief Resident.

Evaluation and persons performing the evaluation:

Standard Northwestern student evaluations will be completed by attending physician on the month of the rotation following standards for feedback on performance during the rotation. Students will meet with Dr. Yerkes at the mid-point and end of the rotation to ensure that the objectives of the rotations are being met. Additionally, the attending physician will use standard clinical scenarios to address any deficits in the objectives as well as to assist in the evaluation of the students.

First day report to: contact the resident on the pediatric urology service by pager at least 2 to 3 days prior to the rotation. The student will be told where and when to meet on the first day of the rotation. Resident contact information will be distributed upon acceptance.

Adult Urology Clerkship, Northwestern Memorial Hospital

URO.4702.04.N/V

Clerkship Director: Dr. Kevin McVary

Background and Justification

Students are an integral part of the adult urology service, including inpatient and outpatient activities under the direction of the above doctors. They are expected to take part regularly in diagnostic and therapeutic endeavors under staff member's direction. Attendance at teaching rounds is mandatory. Students are given the opportunity to take advantage of various teaching exercises within the Department of Urology during the clerkship. Under select

circumstances, the student is permitted to assume an intern role. Each student will be assigned a faculty contact for the rotation and each is expected to meet with the faculty advisor during the clerkship. Emphasis is placed on developing case presentation skills and organizing patient data in concise, presentable fashion in a weekly case presentation didactic session.

Goals and objectives

- A. Patient care
 - 1. Gather essential and accurate information about patients necessary for postoperative care of inpatient urology service
 - 2. Gather essential and accurate information about patients necessary for outpatient evaluation of urology clinic patients
 - 3. Demonstrate daily physical examination skills relevant to postoperative care following urological surgeries and procedures
 - 4. Physical exam skills
 - a. Perform male genitourinary exam and identify a normal prostate as well as prostate nodule on digital rectal exam
 - b. Distinguish between hydrocele and hernia in adult patient
 - 5. Perform microscopic urinalysis and utilize results in patient care
 - 6. Evaluate and interpret patient radiological studies and utilize results in patient care
 - a. Triphasic CT scan of kidneys
 - b. Abdomen KUB and acute abdomen series
 - c. Diuretic renal scan
 - d. Intravenous pyelogram
 - e. Scrotal ultrasound
 - f. Renal ultrasound
 - 7. Formulate patient management plans in both the inpatient and outpatient setting and participate in implementation of those plans under the direction of upper level and attending physicians
 - a. Utilize and interact with consulting services and support staff such as home care, social work, etc.
 - b. Communicate with patients and their families in caring and respectful manner
- B. Medical knowledge
 - 1. Complete M4 reading assignments packet distributed at the start of the clerkship
 - 2. Attend grand rounds and preop/mortality and morbidity conferences weekly
- C. Interpersonal and communication skills
 - 1. Be able to utilize effective listening skills to elicit accurate patient history using verbal and nonverbal skills
 - 2. Work as an active member of inpatient team, take instruction from resident and attending staff
 - 3. Interact with consulting services and support staff in professional and respectful manner
 - 4. Work effectively with urology inpatient nurse practitioner
 - 5. Interact with consulting services in polite, appropriate, and respectful manner when necessary
- D. Professionalism
 - 1. Be appropriate in dress and appearance
 - 2. Put patients at ease during genitourinary exam
 - 3. Develop greater comfort level performing genitourinary exam
 - 4. Demonstrate a commitment to ethical principles pertaining to patient confidentiality and informed consent
- E. Systems based practice
 - 1. Utilize and interact with consult services and hospital support staff, social workers, etc. to facilitate overall needs of patients
 - 2. Utilize hospital services to appropriately facilitate discharge for indigent or debilitated patients requiring further care

Course Format and Proposed Schedule: Diversifying your service rotations at Northwestern allows you to develop a better understanding of the different services at Northwestern and their functions. During the four-week Urology senior elective, each senior student will spend one week on each of the academic urology services (RED and GREEN), one week on the private practice service (BLUE) and one week at the Veterans Administration (VA). Students will take call during their rotation; a call schedule will be sent

(via e-mail) as the date of your clerkship draws near. Students are also expected to participate in clinical rounds as assigned; participation in all assigned activities is mandatory for this clerkship.

Required conferences include Grand Rounds and Resident Teaching Conference (Thursdays, 4:30-6:30) and GU Oncology (Tuesdays, 4:00-5:00). In addition to prepared reading, clinical experience and scheduled conferences, you will meet with Dr. McVary each week during your rotation. The meetings will consist of weekly Socratic-style discussions and five-minute case presentations given by each senior. Questions regarding the elective rotation and/or information included in the reading may also be addressed at that time

Evaluation and persons performing the evaluation

Your grade will be based on the weekly small group discussions (40%) and your clinical evaluation(s) (60%). All faculty and residents are asked to evaluate students; Dr. McVary will compile these into a final grade report.

First day report to: contact the resident on your service(s) by pager at least 2 to 3 days before your rotation begins to find out where and when to meet your first day on each service. Resident contact information will be distributed upon acceptance.