

**SENIOR
ELECTIVE
CATALOG
2009-2010**

Feinberg School
of Medicine

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NORTHWESTERN UNIVERSITY FEINBERG SCHOOL OF MEDICINE 2009-2010 SENIOR YEAR PROGRAM

INTRODUCTION

Upon completion of your required third year clerkships, you will have developed competence (knowledge, skills, attitudes) within those aspects of medicine basic to most medical careers. In your fourth year, we expect that you will demonstrate that competence in the required clerkships. In these clerkships you can expect that more will be expected of you than in the M3 clerkships in terms of initiative, problem solving skills, and the formulation of appropriate treatment plans for your patients. Likewise we expect you to demonstrate more advanced communication skills that will foster the cooperation of your patients, their families and fellow members of the health care team.

Having met these expectations, you should feel confident and ready to begin any residency in the country. Very likely however, you will need to rely on a skilled advisor for assistance in developing this program and planning your residency application strategy.

Advisor: In planning your senior year, you should seek an advisor who can help you:

1. Clarify your career objectives.
2. Plan a strategy and choose appropriate electives to make it work.
3. Choose residency programs that you should apply for and hopefully interview.

Please contact the departmental career advising coordinator for advisor assignment. Faculty advisors have been identified as particularly knowledgeable persons who are willing to serve in this respect. By all means select someone with whom you can communicate easily. It is desirable, but not absolutely necessary, that your advisor be in the field of your major interest(s). Ideally he/she should be someone familiar with your clinical performance. It is your responsibility to meet with your advisor several times and to provide him/her with accurate information on your academic performance (transcript, narrative summary, other letters) and your extra-curricular interests and experiences. Only with this cooperation can he/she serve you effectively. You may have more than one advisor if you would like guidance in more than one specialty.

Career Advising Coordinators

Anesthesiology	Dr. Robert Molloy	rmolloy@nmff.org (926-8105)
Cardiac Surgery	Dr. Patrick McCarthy	pmccart@nmh.org (695-3114)
Dermatology	Dr. Bethanee Schlosser	bschloss@nmff.org (695-4698)
Emergency Medicine	Dr. Amy Kontrick	a-kontrick@northwestern.edu (926-5874)
Family Medicine	Dr. Elizabeth Ryan	e-ryan@northwestern.edu (503-4326)
Internal Medicine	Dr. David Neely	Dneely@nmh.org (926-7252)
Nuclear Medicine	Dr. William Spies	wspies@northwestern.edu (926-6441)
Neurology	Dr. Ramadevi Gourineni	r-gourineni@northwestern.edu (503-1398)
Neurosurgery	Dr. Hunt Batjer	hbatjer@nmff.org (503-1273)
Obstetrics/Gyn	Dr. Patricia Garcia	p-garcia@northwestern.edu (472-4672)
Ophthalmology	Dr. Rukhsana Mirza	m-yakich@northwestern.edu (908-8152)
Orthopaedics	Dr. Michael Schafer	j-broholm@northwestern.edu (926-4485)
Otolaryngology	Dr. Alan Micco	agm109@northwestern.edu (695-8140)
Pathology	Dr. Jon Lomasney	j-lomasney@northwestern.edu (503-0450)
Pediatrics	Dr. Jennifer Trainor	jtrainor@childrensmemorial.org (773-880-3653)
Plastic Surgery	Dr. Gregory Dumanian	gdumania@nmh.org (695-6022)
Plastic Surgery	Dr. Julia Corcoran	SurgEd@mac.com (773-327-2440)
Psychiatry	Dr. Sonya Rasminsky	s-rasminsky@northwestern.edu (926-8097)
Radiation-Oncology	Dr. Laura Millender	lmillend@nmff.org (926-2520)
Radiology	Dr. Thomas Grant	t-grant@northwestern.edu (695-3693)
PM & R	Dr. Aaron Gilbert	agilbert@ric.org (238-4615)
Surgery	Dr. Heron Rodriguez	herodrig@nmh.org (695-4857)
Urology	Dr. Chris Gonzalez	CGonzalez@nmff.org (695-2289)
	Dr. Stephanie Kielb	s-kielb@northwestern.edu (695-8146)

SENIOR REQUIREMENTS

1. A minimum of 78 weeks of third and fourth-year clerkships, including all required M3 clerkships (48 weeks), a 4-week subinternship, the 2-week PM&R clerkship, the 4 week Emergency Medicine Clerkship and a 4 week Intensive Care Clerkship, must be completed as requirements for graduation. The remaining 16 weeks of electives may be chosen from those offered in this booklet or they may include course work offered through the Graduate School or other medical schools. Additional clerkships may be taken beyond the 78-week minimum without paying additional tuition.
2. The schedule must include a four-week subinternship (Internal Medicine MED.4000.04, Pediatric PED.4000.04, or OB/GYN OBG.4331.04.NMH), the four-week Emergency Medicine Clerkship (EME.4000.04), the two-week PM&R (PMR.4000.02), and the four week Intensive Care Clerkship (MED.4561.04).
3. **You will only receive credit for an elective if you are properly registered for it before the start of the elective** and only after the signed grade and evaluation sheet or electronic report is received by the Registrar.
4. You do not have to repeat an elective which you fail, but credit is awarded only for electives which are passed. A required clerkship that is failed must be successfully repeated.
5. Up to three months of credit earned in research may be counted towards medical degree requirements, subject to the approval discussed below.
6. Students enrolled in combined MD/PhD, MD/MBA and MD/MPH programs may apply for MD degree credit for up to three months of PhD research, three months of full-time MBA course work and one month of MPH culminating experience.
7. Part or all of a quarter may be designated as an "off period". Indeed, some time should be set aside for residency interviewing in either November, December or January.
8. You will be charged your remaining tuition (for an equivalent of twelve quarters or four yearlong terms) in two billings; one in July and one in December. Additional tuition is charged for repeated classes or clerkships.
9. You may apply for credit for no more than two similar electives. Completion of additional electives, deemed too similar by the respective department to be awarded degree credit, may be done as extra, not-for-credit independent study experiences.
10. Receipt of any financial remuneration for services provided precludes obtaining academic credit for that activity.

RESEARCH ELECTIVES

You may receive academic credit for a research elective performed either at Northwestern or at another institution, provided that certain criteria are met. The purpose of the criteria is to assure that the experience will be a valid educational endeavor, and one worthy of the tuition which you pay for that quarter. A complete description of the criteria is given on the form which must be submitted in advance for credit approval. It may be requested in the Office of Medical Education. Briefly, these criteria stipulate that the research be a full-time effort for a minimum of one quarter, that it be performed after completion of the pre-clinical curriculum, and that the research plan be approved by a sub-committee of the Medical Student Research Committee. If lack of sufficient time or another interfering factor precludes meeting these criteria, you may still do the research as an "extra" experience, without degree credit. Nevertheless, you must be registered for this experience in order to assure that the University's liability and malpractice insurance programs cover your activities.

EDUCATIONAL SCHEDULING SYSTEM (ESS)

1. The Educational Scheduling System (ESS) is a computer program that initially assigns medical students to their clinical clerkships for the upcoming academic year. More information and instructions, including a Time Off Request Worksheet and a Clerkship Scheduler Input Worksheet, will be given prior to computer entry of preferences. An ESS password will be mailed to you when the site is activated.
2. Study your catalog carefully. A specific combination of letters and digits corresponds to each course description and will need to be entered exactly into the ESS program. The combination signifies the department, course, number of weeks and location of the clerkship.
3. Solicit your advisor for counsel on what combination of clerkships, research, extramural electives, etc. will best serve your needs during the senior year. Questions concerning individual course content should be directed to the department chairman or instructor rather than to the Registrar's Office.

SPECIAL ELECTIVES

You may also request credit for a medical education experience not listed in the catalog (i.e., overseas, another university, a preceptorship in a physician's office, etc.). You can find these special experiences for yourself – but may also request help from your advisor or the associate dean for student programs.

1. Submit an Extramural Elective Form with a description of the elective proposed (usually a course description or letter from the potential instructor). This must be approved and signed by the chairman of the corresponding department at NUF SOM, before the start of the clerkship in order to receive credit.
2. Up to four months credit will be given for elective clerkships taken at other American medical schools or closely affiliated hospitals. Credit may also be granted for certain electives in unaffiliated institutions or for preceptorships with private physicians, subject to approval of the corresponding department of NUF SOM.
3. By consulting the websites of many U.S. (or foreign) medical schools, you may be able to locate information and application materials for potential visiting students. You can visit the AAMC On-Line Extramural Electives Compendium at:
<http://www.aamc.org/students/medstudents/electives/start.htm>. As appealing as an elective period might be at some highly glamorous institutions, be careful to consult with your advisor or other faculty to make certain that your selections are consistent with your overall objectives.
4. Virtually all medical schools, NUF SOM included, require visiting students to submit with their application a form from the home school student health authority attesting to timely immunization for MMR, rubella, and HBV, and evidence of negative PPD or chest X-Ray within the preceding year. While your immunizations and records should be current, if there is any doubt and a likelihood that you will want to apply for a visiting clerkship, now is the time to bring your immunization status up to date. Clearly, this certification must come from the Student Health Services; it is suggested that you obtain a couple extra copies at the same time.
5. If you need a letter verifying student status and evidence of malpractice insurance please contact Barbara Reiffman by phone (312)503-1369 or via email at reiffman@northwestern.edu.

CHANGING A SCHEDULED ELECTIVE

To add, drop or change the time or site of an elective:

1. Complete a Senior Schedule Change Form available in the Augusta Webster Office of Medical Education or online at http://www.feinberg.northwestern.edu/education/reg_records/index.html.
2. Obtain an approval signature from the respective Clerkship Coordinator. A list of these contacts is on the reverse side of the form or online at the above address.
3. Request the signed form be returned to the Medical School Registrar.
4. Once the form is received, your schedule will be updated and the department roster revised.
5. No credit-bearing elective may be taken in place of an elective dropped without approval of the department.

NOTE: All changes must be made at least two weeks before the start of the elective. Courses dropped within two weeks of the start date require contacting the Registrar.

INTERVIEW TIME

Most residency interviewing occurs in either December or January. You would be wise to request from two to four weeks OFF during one of these periods, after consulting with your advisor on when would be an appropriate time for your specialty. Although some "time off" can be granted during a clerkship, there is a limit to what is reasonable and permissible if credit is to be awarded for that clerkship. Those limits are: twelve week clerkship - seven days; eight week - five days; six week - four days; four week - three days; and two week - one day. This is simply not enough time to suit the interviewing needs of most students.

SENIOR YEAR CALENDAR

Senior clerkships are listed as either two, four or six weeks duration. Four week electives are available every four week period of the year, except as noted in individual clerkship descriptions.

Calendar

START	END
07/06	07/31
08/03	08/28
08/31	09/25

09/28	10/23
10/26	11/20
11/23	12/18

01/04	01/29
02/01	02/26
03/01	03/26

03/29	04/23

Other important dates:
 Labor Day, Monday September 7, 2009
 Thanksgiving, Thursday-Friday November 26-27, 2009
 Graduation, (tentative) Friday, May 21, 2010

*****Interdepartmental*****

Science and Technology at the American Medical Association INT. 4016. 04. AMA

Clerkship Director:

Litjen (L.J) Tan, MS, PhD, Litjen.tan@ama-asn.org

Goals

- Develop an understanding of how organized medicine examines issues at the interface of medicine and public health.
- Learn how medical and public health scientific information is used to develop and inform education and advocacy.

Objectives

- Gain an understanding of and appreciation for the role of the AMA in pursuing and answering scientific questions of interest to the medical profession.
- Obtain a broad overview of the specific medicine and public health activities of the AMA.
- Participate in scientific discussions with AMA science staff and expert consultants on a variety of issues specific to areas at the interface of medicine and public health, including racial and ethnic health care disparities, immunizations and infectious diseases, chronic disease prevention and management, and promotion of healthy lifestyles.
- Participate in ongoing projects at the AMA.

Learning Opportunities

1. Contribution to the Development of Scientific and Educational Projects: In order to maximize the learning experience, at least one on-going project will be identified for students before they commence their training experience. They will then work with staff assigned to the project. Students provide a valuable resource to the AMA through:
 - o Providing new ideas to the development of the project by participating in internal team meetings and, at times, meetings of external advisory groups;
 - o Gathering data by conducting literature searches or key informant interviews of national experts;
 - o Developing briefing books in preparation for meeting with external experts or representatives of other national organizations;
 - o Writing brief reports; and
 - o Conducting surveys.In addition to their primary project, students are also encouraged to expand their learning experience by becoming involved with other on-going projects in which they are interested. By the end of their rotation, almost all students have taken advantage of this opportunity.
2. Observe AMA Functions: Depending on the time of year, students would have the opportunity to attend a variety of local AMA functions including:
 - o The annual meeting of the AMA House of Delegates (June)
 - o Meetings of the AMA Council on Science and Public Health
 - o Meetings of the AMA Commission to Eliminate Disparities in Health Care
 - o Journal club(s)
 - o Meetings of various external advisory groups and task forces

Arrangements

With the exception of December, students may schedule their elective during any period of medical school that is mutually agreeable to the student, Northwestern University's Feinberg School of Medicine, and the AMA. Minimal length is four weeks; maximum, eight weeks. Advance permission of Dr. Tan is required as is completion of all mandatory junior clerkships. Evaluation will be by an AMA staff member designated for supervising the student's activities.

NUvention: Medical Innovation INT.4017.04.NMH

NUvention: Medical Innovation is a two-quarter inter-disciplinary and experiential learning program involving students from the Law, Medicine, Engineering, and Business schools of NU focused on identifying unmet clinical needs, innovating novel medical technology solutions to address those needs, and bringing these innovations to the bedside to affect patient care. Students work in specific clinical area interdisciplinary teams to experience the entire medical technology product and business development process. Feinberg and other NU school faculty work closely with each team. NUvention: Medical Innovation received over \$250K of funding from the leading medical technology companies.

Goal = Develop New Healthcare Innovations & Improve Patient Care

- Clinical needs finding
- Intellectual Property
- Prototyping of Novel Medical Technology with funding of up to \$10K per team
- Business Plan Development
- Pitch to NUvention Advisory Board composed of executives of leading medical technology companies and potential investors

Structure = Team Project Based

- Shadow Clinical Faculty Leaders
- Accompanying evening, weekly lecture series
- Up to 8 teams per year, in up to 8 different clinical specialties
- Current and past teams have included
 - Cardiology
 - Cardiothoracic Surgery
 - Emergency Medicine
 - General Surgery/Minimally Invasive Surgery
 - Neurosurgery

Anesthesiology

Preceptorship in Clinical Anesthesiology **ANE. 4071. 04. NMH**

Advisor: Naveen Nathan, MD

Clerkship Director:

Dr. Katherine S.L. Gil, 312/695-9872, 312/926-9026

Clerkship Coordinator:

Carolyn Betts, cbetts@nmff.org, 312/926-8105

Background and Justification:

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 5:00 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. 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 that will be available to 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%.

Number of weeks: Four weeks.

Number of students: Six student's maximum at NMH.

Number of credits: One credit.

Pre-rotation information: Students' past anesthetic experiences should be e-mailed to cbetts@nmff.org at least one week prior to rotations so that appropriate instructors may be assigned.

Sites: Northwestern Memorial Hospital

First day report to: Carolyn Betts in the McGaw Pavilion, 240 E. Huron, 1st Floor. Please arrive at 8:30 a.m. for orientation.

Critical Care/Anesthesiology ANE. 4076. 04. NMH

Advisor: Dr. Sherif Afifi

Clerkship Director:

Michael Ault, 251 E. Huron, Feinberg 8-336, 312/926-2537, mault@northwestern.edu

Clerkship Coordinator:

Angela Gipson, 251 E. Huron, Feinberg 8-336, 312/926-2537, agipson@nmff.org

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. In addition, the students will be exposed to the complications of immunosuppression and various infectious processes in critically ill patients. 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 and are required to take in-house night call.

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.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Site: NMH

First day report to: Angela Gipson in Feinberg 8-336 (Respiratory Care Hallway) at 8:30am.

Obstetric Anesthesiology

ANE. 4073. 04. NMH

Clerkship Director:

Dr. Cynthia Wong

Clerkship Coordinator:

Carolyn Betts, cbetts@nmff.org, 312/926-8105

Background and Justification:

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 a.m. through approximately 5:00 p.m.
- 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.

Number of students: One

Number of weeks: Four

Number of credits: One

Sites: Northwestern Memorial Hospital (Prentice Women's Hospital).

First day report to: Carolyn Betts in the McGaw Pavilion, 240 E. Huron, 1st Floor. Please arrive at 8:30 a.m. for orientation.

Preceptorship in Pain Management

ANE. 4074. 04. NMH

Clerkship Director:

Dr. Honorio Benzon

Clerkship Coordinator:

Carolyn Betts, cbetts@nmff.org, 312/926-8105

Background and Justification:

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 blocks as well as pharmacologic treatment of the different pain syndromes.

Goals

- Understand the mechanisms and pathways of the ascending and descending nociceptive systems.
- Increase ability to diagnose and treat acute and chronic pain syndromes.
- Learn the rational use of analgesics, nonsteroidal anti-inflammatory drugs, antidepressants, membrane stabilizers, and other drugs used to manage pain.
- Learn the rationale, risks, and techniques of pain management.

Objectives

Be better able to:

- Treat postoperative, cancer, and chronic non-cancer pain.
- Treat complex regional pain syndrome (CRPS).
- Treat headache.
- Treat postherpetic neuralgia and myofascial syndrome.
- Understand and apply the pharmacology of the major and minor analgesics.
- Understand the role and apply 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.

Evaluation and persons performing the evaluation:

Evaluations will be completed by attending and resident physicians at the end of the rotation. These evaluations will be summarized using a standard FSM evaluation form. Students are encouraged to seek verbal feedback throughout the rotation.

Number of students: Two

Number of weeks: Four

Number of credits: One

Sites: Northwestern Memorial Hospital (Galter Building).

First day report to: Carolyn Betts in the McGaw Pavilion, 240 E. Huron, 1st Floor. Please arrive at 8:30 a.m. for orientation.

*****Cell and Molecular Biology*****

Advanced Anatomical Studies

CMB.4054.02.NMH (Two Weeks)

CMB.4054.04.NMH (Four Weeks)

Clerkship Director:

Larry R. Cochard, Ph.D., Tarry 2-722 (office); Ward 3-130 (Dept.: Office of Medical Education and Faculty Development), lcochard@northwestern.edu, 312/503-0575

Background and Justification

The Advanced Anatomy Elective is designed for special projects in anatomy, histology, embryology, or neuroanatomy. Teaching is not an option for elective credit; it only applies to the Teaching Selective.

Goals

- Strengthen knowledge of anatomy, histology, neuroanatomy, or embryology in a chosen specialty area.
- Develop resources for anatomical education (depending on the project – see below).

Objectives

Depending on the project (see below), a student will be able to

- Perform, present, and describe detailed anatomy dissections.
- Describe the surgical significance of selected aspects of the anatomy.
- Apply his or her knowledge of anatomy to the development of educational resources.
- Demonstrate and describe the significance of anatomical variations.
- Devise and perform a research protocol to address an anatomical problem.

Course Format and Proposed Schedule:

A variety of projects are suitable for the elective. Examples include the following:

- Anatomical research.
- Detailed dissections of anatomical regions.
- Development of anatomical teaching resources, including work on anatomy-related websites, imaging exercises, anatomy “dry lab” exercises, the Arey-Krantz collection of prenatal and pathological specimens, the FSM digital histology initiative, or new teaching tools. Projects can be developed for clerkships or clinical education and not just for the M1 curriculum.

To enroll in the elective, a student must identify a project and faculty sponsor who will develop specific objectives relating to the chosen project. These will be reviewed and approved by Dr. Cochard. Faculty sponsors can come from any department. The elective is available in any two or four week blocks throughout the year.

Evaluation and persons performing the evaluation:

Depending on the project, students will be evaluated on their anatomical knowledge base relating to the project, quality of the work, initiative, creativity, and time spent. The faculty sponsor will evaluate the student with input from Dr. Cochard and any other relevant faculty members.

Number of students per rotation: 4 (or more if more faculty sponsors participate)

Number of weeks: Two or Four

Number of credits: One credit for four weeks.

Minimum and maximum hours per week: 25-40

Sites: Depends on the project.

First day report to: Faculty sponsor.

Dermatology

Clinical Dermatology DER. 4201. 04. NMH

Advisors: Amy S. Paller, M.D., Department Chair, Murad Alam, M.D., Neda Ashourian, MD, Joaquin Brieva, MD, William Caro, MD, Sarah Chamlin, MD, Pedram Gerami, MD, Joan Guitart, MD, Mario Lacouture, MD, Anne Laumann, MD, Anthony Mancini, MD, Mary Martini, MD, Bethanee Schlosser, MD, Heather Wickless, MD, MPH, Simon Yoo, MD

Clerkship Director:

Heather W. Wickless, MD, MPH, 676 North St. Clair, Suite 1600, Chicago, IL 60611, hwickless@gmail.com, 312/695-8106.

Clerkship Coordinator:

Trish Gougis, 676 North St. Clair, Suite 1600, tgougis@nmff.org, 312/695-6837

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 are advised to contact any of the above faculty members at any time during medical school to express their interest and solicit advice. Dr. Wickless, Clerkship Director; Dr. Paller, Residency Program Director; or Dr. Schlosser, Associate Residency Program Director are happy to discuss career goals and objectives.

It is recommended that students interested in a career in dermatology schedule clinical rotation as early in the fourth year as possible. For rotations at Children's Memorial Hospital in pediatric dermatology, contact Dr. Mancini (773/327-3509).

Goals

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 of 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, need to be made by special arrangement prior to the rotation. While the clinical clerkship is directed by Dr. Wickless, 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, lectures, and conferences, 2) an end-of rotation case presentation given by each student, 3) an 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.

Number of students per rotation: Six

Number of weeks: Four

Number of credits: One

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

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

Cutaneous Surgery and Research DER. 4203. 04. NMH

Advisor: Murad Alam, M.D.

Clerkship Director:

Murad Alam, M.D., 676 North St. Clair, Suite 1600, m-alam@northwestern.edu, 312/695-8106

Clerkship Coordinator:

Trish Gougis, 676 North St. Clair, Suite 1600, tgougis@nmff.org, 312/695-6837

Background and Justification:

Cutaneous surgery is a rapidly evolving subspecialty of dermatology. Procedures in this category include Mohs micrographic surgery and reconstruction for skin cancer, excisional surgery, cutaneous laser, tumescent liposuction, soft-tissue augmentation, hair transplantation, and other cosmetic interventions. Cutaneous surgery patients are ambulatory, with surgeries performed under local anesthesia or minimal sedation. All surgery is performed in the outpatient surgical suite in the 676 North St. Clair Building, Suite 1600.

Goal

Familiarize student with cutaneous surgery through observation and completion of a mentored research project.

Objectives

- Understand the types of cosmetic and skin cancer procedures performed by dermatologists.
- Learn how cutaneous surgeons interact with general dermatologists and primary care physicians, and how referral patterns include plastic surgeons, oculoplastic surgeons, facial plastic surgeons, and oncologic surgeons.
- Begin to assess the potential for success and limitations associated with particular cutaneous surgical procedures.
- Identify and refine a research hypothesis worth investigating.
- Initiate and complete a research project, and write and submit a paper to a peer-reviewed journal.

Course Format and Proposed Schedule:

Students will participate in relevant procedures, as appropriate, under the direct supervision of attending staff. Approximately 20% of student time on this rotation will be direct patient care activities. The remaining 80% of time will be devoted to developing and completing a research project relevant to cutaneous surgery. This project may be related to cancer surgery or cosmetic surgery, and may be less or more substantial. It may range from a case-report or review, to human subject research requiring an IRB protocol or a laboratory investigation. Mentorship and help will be provided in the selection of an appropriate project and its execution. In addition to assisting with surgery, students will meet weekly with their mentor/advisor to discuss and advance their project. The end product will be a publication in a peer-reviewed journal on which the student will be an author. Students contemplating this elective should contact Dr. Alam to set up a meeting to discuss their plans, and begin development of a research question and protocol in advance of the clerkship. Every effort will be made to modify the elective to meet individual student needs. Success in this elective will require a capacity for independent work and an interest in clinical investigation.

Evaluation and persons performing the evaluation: Clinical performance on this elective will be evaluated by Dr. Alam. Dr. Alam will take into account written comments from other attending surgeons and the head surgical nurse regarding the student's willingness to learn, ability to assist safely and effectively, capacity for appropriate interactions with patients, fund of knowledge, and skill level. Additionally, the research project will account for 2/3 of the grade. While the resulting paper will likely not be accepted by the time the grades are submitted, work to date will be graded on the following: degree of difficulty of the project chosen; rate of progress towards completion; student's ability to work on assigned tasks effectively and with minimal supervision; student's ability to initiate appropriate and frequent communications with mentor to apprise the latter on progress and seek out help for problems; completeness and accuracy of data collection; thoughtfulness of data analysis; and quality of writing.

Number of students per rotation: Two

Number of weeks: Four weeks to twelve weeks.

Number of credits: One to three

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

First day report to: Student will report to Murad Alam, M.D. at 9:00 a.m. in the Dermatology Clinic, Outpatient Surgical Suite on the first day of rotation.

Pediatric Dermatology**PED. 4425. 04. CMH****Clerkship Director:**

Anthony J. Mancini, MD

Clerkship Coordinator:

Grace Alvarado, 2300 Children's Plaza, Box 18, galvarado@childrensmemorial.org, 773/880-4302

*******This course is offered only by special permission from the Department of Pediatrics and the Division of Pediatric Dermatology. Submit all requests for this elective to Grace Alvarado at CMH.*******

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.

Course Format and Proposed Schedule:

Students are expected to: participate in the evaluation and management of patients in the clinics and on the inpatient service, attend the bi-monthly dermatology divisional conference and the monthly Chicago Dermatological Society meetings, be guided in reading throughout the clerkship and have access to a large collection of color slides as well as atlases of skin disease for additional study. 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 the attending dermatology staff on his or her approach to the patient, collection of data, and interpretation of the clinical findings.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: CMH

First day report to: Student will be emailed instructions.

Advanced Dermatology

DER.4205.04.NMH

Advisors: Joaquin Brieva, MD, Bethanee Schlosser, MD, Heather Wickless, MD, Peter Lio, MD, Maria Colavincenzo, MD

Clerkship Director:

Heather W. Wickless, MD, MPH, 676 N. St. Clair, Suite 1600, hwickless@gmail.com, 312/695-8106

Clerkship Coordinator:

Trish Gougis, 676 N. St. Clair, Suite 1600, tgougis@nmff.org, 312/695-6837

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 completion 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. Wickless, 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) and a written 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.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

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.

*****Family Medicine*****

Faculty Contacts:

Dr. Elizabeth Ryan; 312-503-1273; e-ryan@northwestern.edu

Please note that each elective request form must be approved and signed by the Department Vice-Chair for Education

**Family Medicine Service Clerkship, West Suburban Family Practice Residency;
Lake Forest, IL
FAM. 4000. 04. WS**

***Note:* Please note that each elective request form must be approved and signed by the Department Vice-Chair for Education, Dr. Elizabeth Ryan**

Advisors: Dr. Elizabeth Ryan

Clerkship Director:

Dr. Scott Levin, 7411 West Lake Street, Suite 1100, River Forest, Illinois 60305

Clerkship Coordinator:

Vernita Smith, 7411 West Lake Street, Suite 1100, River Forest, Illinois 60305

Goals

- Develop competency and independence in assessment, workup, and management of inpatients regardless of age, sex, or admission diagnosis.
- Develop skills in the collaborative management of patients with consultants from other specialties.
- Gain an appreciation of the biopsychosocial model of medicine in an inpatient setting and the importance of the family in this process.
- Provide the student with an exposure to the inpatient practices of community family physicians.
- Gain a better understanding of family practice residency training in a community hospital setting.

Objectives

To expose the medical student to the wide variety of clinical situations encountered on a community hospital family practice adult inpatient teaching service.

Course Format and Proposed Schedule:

Under the supervision of the family medicine service medical team (faculty members, resident, and community practitioners), the student is assigned patients and is responsible for their diagnostic and therapeutic management.

The student's responsibilities include:

- Charting an initial history and physical and writing admitting orders.
- Daily rounds, including charting orders and progress notes.
- Disseminating appropriate information about the patient's progress to the patient and the family.
- Maintaining contact with the attending physician and consultants.
- Developing a discharge and follow-up plan aimed at preventing further hospitalization.
- Developing a plan for quality outpatient care and discussing this plan with the attending physician.
- Call: Overnight call is approximately every fourth night, with the assigned family practice intern.

In addition, the student may elect to spend one-half day a week in an outpatient setting at the residency program's Family Practice Center.

Number of students per rotation: Two

Number of credits: One

Number of weeks: Four

Sites: 7411 West Lake Street, Suite 1100, River Forest, Illinois 60305

First day report to: Dr. Levin

Maternal Health Care Rotation, West Suburban Family Health Care Center FAM. 4047. 04. WS

Note: Please note that each elective request form must be approved and signed by the Department Vice-Chair for Education, Dr. Elizabeth Ryan

Advisors: Dr. Elizabeth Ryan

Clerkship Director:

Dr. Scott Levin, 7411 West Lake Street, Suite 1100, River Forest, Illinois 60305

Clerkship Coordinator:

Vernita Smith, 7411 West Lake Street, Suite 1100, River Forest, Illinois 60305

Background and Justification:

A fundamental marker of a nation's health is the well being of its mothers and children. The infant mortality rate has long been recognized as an essential measurement of this well being. In reality, babies born to women in many Third World countries have a better chance of surviving than those born in several neighborhoods in the United States.

"Maternal and Child Health" is a phrase deeply rooted within public health systems worldwide. It is inherently understood that the two are an integrated whole, and that it is not possible to work to improve the conditions of children without affecting and improving the care of mothers, and vice versa. The MCH service at West Suburban Health Care seeks to incorporate this philosophy by combining obstetrical training with newborn and pediatric care. This training is further enhanced through experience with community and social service resources.

The MCH team consists of one senior resident, three interns, one or more medical students, and possibly residents on an elective rotation. A family practice attending physician or an around-the-clock back-up is designated for teaching rounds and technical assistance.

Course Format and Proposed Schedule:

- Pre-rounds: The student presents a brief up-to-date assessment of his or her patients to facilitate the day's management plan.
- Work Rounds (7:30 am): All patients are briefly reviewed with the team to facilitate patient care. Team members then see their own patients. Attending physicians are available to assist as needed.
- Morning report is a formal conference where all new patients are presented and all existing patients are reviewed.
- PCC Clinic: The Parent Child Center is a community health center that provides medical care for the underserved Austin neighborhood. The center has a family practice model with an emphasis on maternal and child health. Students are encouraged to gain an understanding of the clinical and sociopolitical aspects of health center operations. Attending physicians supervise direct patient care.
- Call: every fourth night, including labor and delivery, pediatrics, and nursery care

Number of students per rotation: Two

Number of credits: One

Number of weeks: Four

Sites: 7411 West Lake Street, Suite 1100, River Forest, Illinois 60305

Note: Please note that each elective request form must be approved and signed by the Department Vice-Chair for Education, Dr. Elizabeth Ryan

Rural Family Medicine Electives FAM. 4051. 04. RUR

Note: Please note that each elective request form must be approved and signed by the Department Vice-Chair for Education, Dr. Elizabeth Ryan

Advisors: Dr. Elizabeth Ryan

Clerkship Director: Varies

Clerkship Coordinator: Varies

Course Format and Proposed Schedule:

A large number of different sites are available for students who wish to have experience in the practice of family medicine in a rural setting. **sites include Montana, Wyoming, Iowa, Idaho, and Illinois.** Family medicine practices in these settings often encompass a large range of care, including obstetrics; many procedures, such as colposcopy, sigmoidoscopy, etc., including some operative surgery; and urgent and emergency care. Most settings are scenic and friendly, and students generally have had outstanding experiences.

Student wishing to arrange an elective at a site of their choice should first check availability at that site, and then contact Dr. Ryan for approval. Most family medicine residency sites will be approved for rotations.

Objectives

The goal of this course is to provide an elective advanced rural preceptorship experience for fourth-year medical students that will allow them to:

- Experience continuity of patient care in a rural community setting.
- Have advanced experience in active participation in management of medical problems commonly seen in a rural family medicine practice.
- Learn effective strategies for patient care in a rural environment.
- Become familiar with and learn to attend to the general emotional health needs of rural patients and their families as well learning about those emotional health issues unique to rural patients and their families.
- Further strengthen their patient communication skills.
- Develop more advanced skills in health maintenance and patient education activities.
- Learn more about rural health issues.
- Explore their interest in careers in rural family medicine.

Number of students per rotation: One per site

Number of weeks: Four

Number of credits: One

Sites: Various

First day report to: Assigned Physician

Note: Please note that each elective request form must be approved and signed by the Department Vice-Chair for Education, Dr. Elizabeth Ryan.

Community/Underserved Medicine Elective FAM.4058.04.VAR

Advisor and Director:

Dr. Elizabeth Ryan, Abbott Hall, Suite 1301, e-ryan@northwestern.edu, 312/503-4326.

Clerkship Coordinator:

Gia DiGiacobbe, Abbott Hall, Suite 1301, gdigiacobbe@northwestern.edu, 312/503-1851

Please note: Site placement needs to be coordinated through the Director and Clerkship Coordinator.

Course Description:

The Community/Underserved Medicine Elective provides an opportunity for students to rotate one-on-one with a physician that provides care in a community health center; specifically the rotation is designed for a 4th year medical student experience. Community Health Centers are private, nonprofit, community owned and operated centers that are governed by volunteer consumer boards (comprising at least 51% users of the health center). These boards serve as the voice of the community and assure that the needs of their community are being met. Community Health Centers provide care to the medically underserved that experience geographic, economic, cultural, or other barriers to accessing health care and preventive services. Each of the Community Health Centers involved with this Community/Underserved Medicine elective are Federally Qualified Healthcare Centers (FQHC). FQHCs are a kind of Community Health Center and provide care to the working poor, uninsured, low-income elderly, and medically underserved. Across the nation, over eleven million individuals rely on community health centers for care.

The Community/Underserved Medicine elective provides an opportunity for Northwestern University Feinberg School of Medicine students to learn about healthcare delivery systems on a macro and micro level, learn how primary care services are delivered through a Community Health Center, learn how to perform History and Physical Exams and how the findings are influenced by the patient's biological, psychological and social context, learn about family medicine as a specialty career option and how this specialty fits into the global picture of patient care.

Objectives

1. Gain a broad understanding about how community health centers fit into healthcare delivery systems (on a macro level) providing access to healthcare for vulnerable/underserved patient populations.
2. Understand (from a patient's perspective) barriers to healthcare.
3. Addressing the micro level of healthcare delivery systems, identify ways to improve access to healthcare services for the community where you work.
4. Perform history and physical exams applying the biopsychosocial model of healthcare.

Course Format and Proposed Schedule:

The rotation format follows an apprentice model. The student is assigned to one family medicine faculty member working in one of the Department of Family Medicine's affiliated Community Health Centers. The student's rotation schedule is dependent on that of the faculty preceptor. The student will see:

- patients in the clinic (at the level of independence of an M4),
- work on an outreach/community medicine project that is aimed at improving the health and welfare of a community (such as creating patient education materials for the clinic, creating a survey that evaluates a need or a service provided by the clinic, etc...)
- and write one reflection paper per week based on the Community Engagement and Service competency initiatives and on their experience.

The student and faculty preceptor will create a specific schedule and identify an outreach/community medicine project the first day of the rotation. A typical workweek will include the equivalent of three days seeing patients in the clinic and two days dedicated to working on the community medicine project. A workweek should not exceed 40 hours per week but may include an evening clinic or Saturday morning clinic. If house-calls are an option the student would be encouraged to participate with their faculty preceptor, given a safe environment. The community medicine project will address a need of the community, specifically aimed at promoting the health and welfare of a community. Reflection papers are anchored to Feinberg School of Medicine's Community Engagement and Service competency initiatives. Each week the student will submit a written reflection paper to their assigned preceptor to discuss and obtain feedback from their faculty preceptor. The student must choose to write their weekly reflection papers choosing from the questions below:

1. How does the United State's Safety Net system address individual health, community health, and quality healthcare? What are the pros and cons of the system? And how has your understanding of the Safety Net system changed through this experience?

2. How does behavioral, socioeconomic, and cultural dynamics affect individual and community healthcare? Describe your level of understanding prior to this rotation, your current level of understanding and how the experience has impacted you.
3. Articulate the significance that healthcare disparities plays on individual and community health and the role of physicians to eliminate them.
4. Explain the challenges of providing high quality healthcare to members of vulnerable groups. Describe an experience you had with members of a vulnerable group, during this rotation. Describe a critical incident(s) that jolted a belief or practice and describe what you learned as a result of the experience.
5. Describe an experience during your rotation where you had to advocate for a patient or a community. Did this experience impact how you will practice in the future? Please explain.
6. Describe an experience that you had during this rotation that addresses developing health policy and navigating the legislative system to promote the health and welfare of the community the clinic serves. What insights have you gained and how will they or how will it not impact your future practice?

The student's assigned faculty preceptor will provide feedback on their performance (at a minimum) weekly and at the end of the elective.

Call: Call is not a mandatory activity of this rotation but exists if the student wishes to take call with their assigned faculty mentor. Some of the faculty preceptors take labor and delivery call in an affiliated community hospital and others rotate at homeless shelters. Call presents an opportunity to gain an understanding of the roles family physicians play in healthcare delivery but is not a required element in this elective.

Evaluation and persons performing the evaluation:

The student will be evaluated via faculty observation (50%), evaluation of community medicine project (25%) and weekly reflection journal entries (25%).

Number of students per rotation: One student per rotation/per site.

Number of weeks: Four

Number of credits: One

Community Health Center Course Site Locations:

Site:	Address:	City/State:	Zip:
1. <i>Chicago Family Health Center</i>	<i>9119 S. Exchange Ave.</i>	<i>Chicago, IL</i>	<i>60617</i>
2. <i>Heartland Alliance Health Outreach Center</i>	<i>1015 W Lawrence Ave.</i>	<i>Chicago, IL</i>	<i>60640</i>
3. <i>Heartland Alliance International Health Center</i>	<i>2200 W. Touhy Avenue</i>	<i>Chicago, IL</i>	<i>60644</i>
4. <i>PCC Austin Family Health Center</i>	<i>335 North Mason Avenue</i>	<i>Chicago, IL</i>	<i>60644</i>
5. <i>PCC Lake Street Family Health Center</i>	<i>14 W. Lake Street</i>	<i>Oak Park, IL</i>	<i>60302</i>
6. <i>PCC Salud Family Health Center</i>	<i>5359 West Fullerton Avenue</i>	<i>Chicago, IL</i>	<i>60639</i>
7. <i>PCC Norwegian American Health Center</i>	<i>1044 N. Francisco Avenue</i>	<i>Chicago, IL</i>	<i>60622</i>
8. <i>Erie Family Health Center</i>	<i>1701 W. Superior Street</i>	<i>Chicago, IL</i>	<i>60622</i>
9. <i>Winfield Moody Near North Family Health Center</i>	<i>1276 N. Clybourn Avenue</i>	<i>Chicago, IL</i>	<i>60610</i>

First day report to: Assigned physician.

Internal Medicine

Internal Medicine

Department of Medicine

Douglas E. Vaughan, Irving S Cutter Professor, Chairperson

Dr. Martin, Vice Chair

Dr. Neely, Director, Undergraduate Education. Galter 3-150, 312/926-7252

Identifying an Advisor

To more evenly distribute the demand for advising among Department of Medicine faculty, the department requests that students seeking an advisor submit a list of three to five names to Mrs. Agata Rocka Stadiem in Galter 3-150. Lists will be drawn randomly and students matched to the top-listed faculty member who does not already have three advisees.

Advisors:

Andy Anderson, MD

Liz Apolonio, MD

Jeff Barsuk, MD

Jennifer Bierman, MD

Greg Brisson, MD

Jennifer Burman Meece, MD

John Butter, MD

Vinky Chadha, MD

Tom Corbridge, MD

Angelo Costas, MD

Ray Curry, MD

Richard Davison, MD

Aarti Didwania, MD

Aashish Didwania, MD

Nancy Dolan, MD

David Donnersberger, JD, MD

Dan Evans, MD

Dan J. Fintel, MD

Anne Franke, MD

Jordana Friedman, MD

Leslie Grammer, MD

Marianne M. Green, MD

Josh Hauser, MD

Robert Hirschtick, MD

Neenoo Khosla, MD

Cynthia Lagone, MD

Frank Lefevre, MD

David Liebovitz, MD

Gary Martin, MD

Marla Mendelson, MD

Kathy Neely, MD

Gary Noskin, MD

Kevin O'Leary, MD

James Paparello, MD

Aparna Priyanth, MD

Nalini Rajammanan, MD

Douglas Reifler, MD

James Rosenthal, MD

Hiren Shah, MD

Neil Stone, MD

Eric Terman, MD

Arvydas Vanagunas, MD

Students Considering Internal Medicine as a Career

In addition, Dr. Neely moderates an electronic mailing list for students interested in an internal medicine residency. Send a message to listserv@listserv.it.northwestern.edu, leaving the subject blank. For the text of the message, write <subscribe medmatch firstname lastname>. Students anticipating a career in internal medicine should complete the medical school's acting internship requirement through the Department of Medicine.

Allergy-Immunology

Allergy/Immunology Clerkship

MED. 4551. 04.NMH

Clerkship Director:

Dr. Pedro Avila, 675 N. St. Clair, Galter 18-250, Chicago, IL 60611. 312-695-8624

Clerkship Coordinator:

Shay Knuth, shay-knuth@northwestern.edu, 312/695-4147

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.

Number of students per rotation: Two

Number of weeks: Four

Number of credits: One

Sites: NMH

Cardiology

Clinical Cardiology Consulting Service, Northwestern Memorial Hospital MED. 4554. 04. NMH

Clerkship Director:

Marla A. Mendelson, M.D., 676 N. St. Clair, Suite 600

Clerkship Coordinator:

Joan Draves, 676 N. St. Clair, Suite 600, jdraves@nmff.org, 312/695-2458

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.

Course Format and Proposed Schedule:

The student is required to attend rounds, daily cardiology conferences and evaluate patients. The approximate hours are from 7:30 a.m. to 5:00 p.m. daily. There is no required call or weekend participation.

Evaluation and persons performing the evaluation

The student will be observed and evaluated by Cardiology faculty and Fellows. Their participation in rounds and quality of patient presentations will comprise their grade.

Number of students per rotation: Three

Number of weeks: Four

Number of credits: One

Sites: NMH

First day report to: Joan Draves, 8:30 a.m., 676 N. St. Clair, Suite 600.

Cardiology-Graphics Lab, Northwestern Memorial Hospital MED. 4556. 04. NMH

Clerkship Director:

Marla A. Mendelson, M.D., 676 N. St. Clair, Suite 600

Clerkship Coordinator:

Joan Draves, 676 N. St. Clair, Suite 600, jdraves@nmff.org, 312/695-2458

Goals

- Understand the clinical use and interpretation of echocardiogram.
- Improve cardiac examination skills.

Objectives

- Interpret echocardiograms.
- Correlate echo findings with physical examination.
- Understand diagnostic uses of different types of echo tests.
- Learn echocardiographic cardiac anatomy.

Course Format and Proposed Schedule:

The student will participate in Echo reading sessions, attend conferences and observe tests being performed. The approximate hours are 7:30am to 5:30pm. There is no required call or weekend participation.

Evaluation and persons performing the evaluation

The student will be evaluated by Faculty and Fellows. A pretest and posttest may be administered.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: NMH

First day report to: Joan Draves, 8:30 a.m., 676 N. St. Clair, Suite 600.

Cardiovascular Disease in Women**MED. 4557. 04. NMH****Clerkship Director:**

Marla A. Mendelson, M.D., 676 N. St. Clair, Suite 600

Clerkship Coordinator:

Joan Draves, 676 N. St. Clair, Suite 600, jdraves@nmff.org, 312/695-2458

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 7:30 a.m. to 5:00 p.m. 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.

Offered only by special arrangement with Dr. Marla Mendelson. No students are to be scheduled without her permission.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: NMH

First day report to: Joan Draves, 8:00 a.m., 676 N. St. Clair, Suite 600.

Four-Week Outpatient Cardiology Elective MED. 4555. 04. ADA

Clerkship Director:

Marla A. Mendelson, M.D., 676 N. St. Clair, Suite 600.

Clerkship Coordinator:

Joan Draves, 676 N. St. Clair, Suite 600, jdraves@nmff.org, 312/695-2458

Goals

- Increase ability to diagnose and treat outpatient cardiovascular disorders.
- Increase ability to diagnose and treat outpatient lipid disorders.
- In-depth experience with preventative cardiology.

Objectives

- Evaluate and treat hyperlipidemia.
- Perform proficient histories and physical exams for cardiovascular diseases.
- Provide therapy for outpatient cardiovascular problems such as congestive heart failure, arrhythmias, cardiomyopathy, ischemic and vascular heart disease.

Course Format and Proposed Schedule:

Will be arranged with Dr. Neil Stone prior to start date.

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 required paper.

Offered only by special arrangement with Dr. Neil Stone.

Number of students per rotation: One

Number of weeks: Four (Not available in December)

Number of credits: One

Sites: NMH

First day report to: Dr. Neil Stone. Start time will be arranged with Dr. Stone.

Acute Cardiac Care MED. 4591. 04. NMH

Clerkship Director:

Dan J. Fintel, MD, 201 E. Huron, Galter 10-240, dfintel@northwestern.edu , 312/695-2745

Clerkship Coordinator:

Denise Malone, 201 E. Huron, Galter 10-240, dmalone@nmff.org, 312/695-0363

Background and Justification

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

Number of weeks: Four

Number of credits: One

Sites: NMH

First day report to: Students will be expected to work up new admissions on a daily basis, and attend daily teaching conference. Students assigned to the clerkship will report at 8:00 a.m. to Dr. Fintel's office at Galter 10-240.

Heart Failure, NMH MED. 4592. 04. NMH

Clerkship Directors:

Galter 11-240, 312/695-0008, Center for Heart Failure and William Cotts, MD

Clerkship Coordinator:

Joan Draves, 676 N. St. Clair, Suite 600, jdraves@nmff.org, 312/695-2458

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

Students will acquire basic ability to:

- 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.

Number of students per rotation: Two

Number of weeks: Four

Number of credits: One

Site: NMH

First day report to: Michelle Gatny, 201 E. Huron, Galter 11-240, 312/695-0008, at 8:30 a.m.

Endocrinology

Endocrinology and Metabolism Clerkship MED. 4562. 04. VAR

Clerkship Director:

Grazia Aleppo, MD pager #5-7755, 312/926-5431, aleppo@northwestern.edu

Clerkship Coordinator:

Andrew Casavant, Galter 14-100, ACasavan@nmff.org, 312/926-8601

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.

Number of students per rotation: Two

Number of weeks: Four

Number of credits: One

Site: NMH

First day report to: Students assigned to this clerkship will report to Dr. Aleppo (pager 5-7755) in Galter 14-100 at 9:00 a.m. on the first day OR student will be emailed instructions.

Gastroenterology

Gastroenterology Clinical Clerkship MED. 4563. 04. N/V

Clerkship Director:

Laura Yun, MD, 676 N. St. Clair St., Suite 1400, lyun@northwestern.edu, 312/695-1631

Clerkship Coordinator:

Judy McGowan, 676 N. St. Clair St., Suite 140003A, j-mcgowan@northwestern.edu, 312/695-5398

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 is 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:

Two services are open to the student: VA Lakeside and NMH GI service. Each 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 selecting 8-week rotations may split their time between two services.

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.

NU students will receive preference.

A gastroenterology research experience is also available

Number of students per rotation: Two

Number of weeks: Four or Eight weeks (Not offered in Spring Quarter)

Number of credits: One or Two

Site: NMH, VAW

Geriatrics

Geriatric Medicine Clinical Clerkship

MED. 4564. 04. NMH

Clerkship Director:

Adnan Arseven, MD, 645 N. Michigan Avenue, Suite 630, a-arseven@northwestern.edu, 312/695-4557

Background and Justification:

This rotation emphasizes an interdisciplinary team approach to frail older adults to respond to their medical, functional and psychosocial needs to improve quality of life and satisfaction for both patients and their family caregivers. Experience in different settings including in-patient, outpatient, nursing home, and home will be provided. Familiarity with assessment tools including screening questionnaires /tests (i.e. MMSE, Geriatric Depression Scale, Mini-Nutritional Assessment Scale, Get-Up&Go Test), interpretation of routinely used laboratory testing and brain imaging will be provided.

Goals

- Using the principles of geriatric medicine, the student will develop an integrated (team) approach to the evaluation and care of a 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 pharmacological therapy
- Perform a functional assessment
- Determine rehabilitation needs
- Develop an understanding of and approach to common problems encountered in the frail older adult (i.e. falls, dementia, incontinence, depression, sensory impairment, deconditioning and iatrogenesis)
- Gain an understanding of the physician's role in patient transition between levels of care and the importance of continuity of care in older adults
- Develop a heightened alertness of the ethical issues related to frail older adult care.

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.

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.

Evaluation and persons performing the evaluation: The student is evaluated based on her/his ability to integrate the principles of geriatric medicine in the assessment and care of the older adult.

Number of students per rotation: Two

Number of weeks: Four

Number of credits: One

Sites: NMH

First day report to: student will report to Dr. Adnan Arseven at 8:30 a.m. on first day.

Hematology/Oncology

Hematology/Medical Oncology

MED. 4565. 04. NMH

Clerkship Director:

James Brandman, MD, 676 N. Saint Clair Street, Suite 850, j-brandman@northwestern.edu, 312/695-6180

Clerkship Coordinator:

Ollistine Jude, 676 N. Saint Clair Street, Suite 850, ojude@nmff.org, 312/695-4033

Background and Justification:

In this 4-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 benign hematological disorders. Clerkship students are exposed to various treatment approaches, including stem cell transplantation.

Students participate in inpatient rounds each morning in Feinberg. They may choose malignant hematology, benign hematology, or medical oncology for their first two weeks. Similarly, in their final two weeks, students may choose from one of the other two inpatient services. Four afternoons each week are spent in the NMFF Hematology/Oncology outpatient clinic (Galter-21), sharing responsibility with the

Hematology/Oncology fellows for the initial evaluation and follow-up of patients with hematologic and/or oncological problems through diagnosis and therapy.

Rotations have been scheduled to encourage students to attend several of our weekly multidisciplinary conferences as well.

Goals

- To provide a broad based experience in benign and malignant hematology and medical oncology.

Objectives

To enable the student to:

- Gain a better understanding of the physician's role in the diagnostic evaluation and multidisciplinary treatment of patients with solid tumors or hematologic malignancies.
- Gain experience with multi-disciplinary approach to malignancies
- Enhance his/her knowledge of the management of anemias, coagulation disorders, and other non-malignant hematological conditions as well as plasmapheresis and other topics related to transfusion medicine.
- Gain expertise in the interpretation of peripheral blood smears, bone marrow aspirates, and malignant pathology specimens.
- Develop a heightened awareness of ethical and psychosocial issues relating to patient care.

Course Format and Proposed Schedule:

Daily rounds, corresponding to the first two weeks rotation, as follows:

- 7:30 a.m.: Malignant Hematology, 15 East Feinberg
- 7:30 a.m.: Solid Tumors, 15 West Feinberg
- 7:30 a.m.: Benign Hematology, variable starting point

AND:

- 12:30 p.m.: Daily Multidisciplinary conferences
- 1:30 p.m.: NMFF Hematology/Oncology outpatient clinic 4 afternoons a week

Please Note: No weekends or night call is expected

Observation and Evaluation:

Observations and evaluations will be performed by faculty.

Number of students per rotation: Three

Number of weeks: Four

Number of credits: One

Sites: NMH (Feinberg) and NMFF Hematology/Oncology outpatient clinic (Galter 21)

First day report to: Students assigned to this clerkship should report at 9:00 a.m. on the first day to 676 North Saint Clair Street, Suite 850 to meet with Dr. Brandman and to determine the first two weeks rotation.

Palliative Care

Palliative Medicine/Hospice Clinical Clerkship

MED. 4577. 02. NMH (2 Weeks)

MED. 4577. 04. NMH (4 Weeks)

Contacts:

Jamie Von Roenn, MD, 312/695-6180

Joshua Hauser, MD, 312/503-3478 or pager 312/695-5405

Clerkship Coordinator: Randy Boston, 676 N. St. Clair #850, rboston@nmff.org, 312/695-6182

Background and Justification

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, a 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

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

Course Format and Proposed schedule:

- Inpatient rounds are at 7:30 a.m. and 4:00 p.m. each day.
- Home hospice meeting is from 8:00 a.m. - 11:00 a.m. on Tuesdays
- Didactic sessions are at 11:00 a.m. and Tuesdays, 12:30 p.m. on Thursdays and 7:00 a.m. Fridays

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.

Number of students: Two

Number of weeks: Two or four

Number of credits: One half or one

Sites: NMH

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

Infectious Diseases

Infectious Diseases Clerkship

MED. 4566. 04. NMH

John P. Flaherty, MD 312/695-5090

Clerkship Coordinator:

Mary Marta, 645 N. Michigan, Suite 900, 312/695-5090, mary-marta@northwestern.edu

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.

Goal

- 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 infection.

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.

For interested students, eight weeks of research experience in studying infectious diseases may be arranged after an interview with Dr. Flaherty. Students interested in research should phone 312/695-5090 for further information.

Number of students: Four

Number of weeks: Four

Number of credits: One

Sites: NMH

First day report to: Rosemary Clark at 8:30 a.m. (645 N. Michigan Avenue, Suite 900, Chicago, IL 60611), 312/695-5090, rosemaryclark@northwestern.edu.

Management of HIV Infection**MED. 4567. 04. NMH****Clerkship Director:**

John P. Flaherty, MD, 312/695-5090

Clerkship Coordinator:

Mary Marta, 645 N. Michigan, Suite 900, 312/695-5090, mary-marta@northwestern.edu

Background and Justification: In this elective clerkship, the senior medical student shares the responsibility for ambulatory management of HIV-infected persons and learns basic concepts relevant to the diagnosis and management of HIV infections. In addition, the student participates in the Sexually Transmitted Diseases Clinic and in all conferences. Participation in the conferences assures contact with the division's faculty members, provides exposure to discussions on pediatric and adult infectious disease as well as exploring infectious disease related literature.

Goal

- An increased understanding of clinical complications and management of HIV infection.

Objectives

- Understand the issues related to the diagnosis of HIV infections.
- Understand the acute and chronic management of HIV infection.
- Understand the principles of appropriate antiretroviral therapy.

Course Format and Proposed Schedule: Students are expected to work in the HIV center five days a week under the supervision of the division faculty. Additionally, students participate at least once in the Monday evening STD Clinic. Students are required to attend the weekly lectures and conferences. There is no written examination. There is no weekend work and no night or holiday call. Attending staff members rotate at NMH.

Evaluation and persons performing the evaluation: Observation performed by faculty.

Students interested in this clerkship should phone Rosemary Clark at 312/695-5090.

Number of students: One

Number of weeks: Four

Number of Credits: One

Site: The ambulatory care facilities are located in NMH at Galter 13-205.

First day report to: Students assigned to this clerkship on the Chicago campus report to the NMH HIV Center at Galter 13-205.

For interested students, research experience in infectious diseases may be arranged after an interview with Dr. Flaherty. Students interested in research should phone 312/695-5090 for further information.

Integrative Medicine

Integrative Medicine Intensive

MED.4594.02.NMH

Advisor: Melinda Ring, MD

Clerkship Director:

Melinda Ring, MD, 150 E. Huron, Suite 1100, mring@nmh.org, 312/926-1593

Clerkship Coordinator:

Sherri Peavy, RN, 150 E. Huron, Suite 1100, speavy@nmh.org, 312/926-1593

Background and Justification:

Goals

- Develop and understanding of the key principles of integrative medicine and how they enhance the quality of patient-centered care.
- Explore a clinical area of interest within Integrative Medicine.
- Promote self-exploration/self-care.
- Experience first hand complementary medicine treatments.
- Become knowledgeable in benefits and limitations of common CAM modalities.
- Identify conditions for which an integrative approach could be beneficial.

Objectives

- Perform an Integrative Medicine interview.
- Communicate effectively with patients about CAM in an open manner which increases patient self-efficacy and empowerment.
- Use evidence-based resources to explore an area of interest.
- Develop an in depth Integrative Medicine Treatment Plan specifically tailored to meet an individual patient's needs in a holistic fashion.
- Interact with practitioners from varied healing traditions in a collegial manner to facilitate coordinated patient care.
- Describe the benefits of mind/body therapies and understand how to teach a brief relaxation exercise to patients.

Course Format and Proposed Schedule:

This two week long rotation consists of ambulatory patient care at the NMPG Center for Integrative Medicine and Wellness (CIMW). The participant will attend clinic or be involved in assigned activities Monday-Friday 8am – 5pm. There are no weekend or call responsibilities. Instructional strategies include informal lectures, experiential learning, and small group discussion of assigned reading, clinical experiences, and a paper case.

Evaluation and persons performing the evaluation: Evaluation by preceptor will include reviews of a reflective journal, evidence-based paper and case presentation. All components (preceptorship activities, reflective journal, presentation and paper) must be satisfactorily completed in order to receive a satisfactory grade for the course.

Number of weeks: Two

Number of students: Five

Number of credits: One half credit.

Prerequisites: A one page application for the elective demonstrating appropriate interest and commitment to learning about Integrative Medicine. Students interested in taking this elective should familiarize themselves with the basic definition of different CAM modalities which can be found at the NCCAM website: <http://nccam.nih.gov>.

Sites: NMPG Center for Integrative Medicine and Wellness, 150 E. Huron, Suite 1100.

First day report to: Sherri Peavy, RN at 8am on first day, or student will be e-mailed instructions.

Nephrology

Nephrology Clinical Clerkship

MED. 4568. 04. NMH

Advisors: James Paparello, M.D.

Clerkship Director:

James Paparello, MD, Tarry 4-713, jpaparello@nmff.org, 312/926-4878

Clerkship Coordinator:

Dulcie Gannett, Tarry 4-713, dgannett@nmff.org, 312/908-8328

Background and Justification

As a subspecialty of Internal Medicine, Nephrology provides insight into a major organ system and its relation to other systems of the body. We emphasize physiology and pathophysiology to explain and treat illness. We are consulted by Surgery, Medicine, and OB services, and have a sizeable number of patients in the ICU. With this diversity, the rotation can be relevant to students going into any discipline. We can tailor the rotation to focus on outpatient nephrology, transplantation, or dialysis if requested.

Goals

- Provide experience in the diagnosis and treatment of renal disease
- Provide didactic teaching on acid-base and electrolyte problems, hypertension, renal failure, and renal replacement therapies, which include dialysis and transplantation
- Provide insight into the consultation for nephrological problems, including end-stage renal disease

Objectives

Student will be better able to:

- Work up renal problems, particularly renal failure (acute & chronic), renal syndromes, and hypertension management
- Understand the staging of chronic kidney disease and its management
- Interpret electrolytes, arterial blood gas data, and urine electrolytes in clinical context

Course Format and Proposed Schedule:

Assignments are made by Dr. Paparello. Students wishing a particular assignment should call 312/926-4880.

Students are expected to attend rounds Monday through Friday. Students should check in with the Nephrology fellow after Medicine resident report at 8:30 a.m. Students see new patient consults and provide follow up care on the patients they have seen throughout the rotation. The timing of rounds is attending-dependent, although rounds usually end by 5:00 p.m. Students usually follow from 1-5 patients, depending on the size of the team. If students are specifically interested in transplantation, dialysis, or outpatient nephrology, the rotation can be tailored to focus on those areas.

Evaluation and persons performing the evaluation

Nephrology attendings rotate every half month. The attending who is most familiar with the student will fill out the evaluation based on student performance, data accumulation, presentation skills, and knowledge base

Number of students per rotation: Four at NMH.

Number of weeks: Four

Number of Credits: One

Sites: NMH.

First day report to: Students at NMH report on the first day to the inpatient dialysis unit, Feinberg 9-748 312/926-1696 at 8:30 a.m. Students assigned to ENH report to room 3213.

Pulmonary

Pulmonary Medicine Clinical Clerkship – NMH

MED. 4571. 04. NMH

Advisors: Division of Pulmonary and Critical Care Medicine Faculty

Clerkship Director:

Peter H. S. Sporn, M.D., 240 E. Huron St., McGaw M-300, p-sporn@northwestern.edu, 312/908-8163

Clerkship Coordinator:

Olga Garcia, 240 E. Huron, Mezzanine, o-garcia@northwestern.edu, 312/908-7737

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

To enhance the student's ability to:

- 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.

Number of students per rotation: Two

Number of weeks: Four

Number of credits: One

Sites: NMH

First day report to: Olga R. Garcia, 240 E. Huron St., McGaw M-325, 312/908-7737 at 8:00 a.m.

Rheumatology

Arthritis-Connective Tissue Clinical Clerkship

MED. 4552. 04. NMH

Clerkship Director:

Calvin R. Brown, MD, McGaw M-300, 240 E. Huron St., 312/503-8220

Clerkship Coordinator:

Jan Barber Harris, 675 N. St. Clair #14-100, jbharris@nmff.org, 312/695-8641

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.

Goals

- 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 Drs. Pope, Schmid, Chang, Schroeder, Koch, and Sharma.

Number of students per rotation: Six

Number of weeks: Four weeks, may be extended to eight weeks

Number of credits: One

Site: Medical Center clinics and hospitals. Students assigned to this clerkship should report to Jan Barber-Harris in the Medical Specialties Clinic, Galter Pavilion NMH 14-100, at 8:30am on the first day of clinic.

Neurology

Advisors: Jack Kessler, MD, Sandeep Aggarwal, MD, Senda Ajroud-Driss, MD, Mark Alberts, MD, Jeff Allen, MD, Sarice Bassin, MD, Richard Blonsky, MD, Richard Bernstein, MD, PhD, Allan Burke, MD, Katherine Carroll, MD, Dane Chetkovich, MD/PhD, Bruce Cohen, MD, Yvonne Curran, MD, Joy Derwenskus, DO, Darren R. Gitelman, MD, Nida Gleveckas-Martens, MD, Jay Gottfried, MD, PhD, Ramadevi Gourineni, MD, Sean Grimm, MD, Jaime Grutzendler, MD, Scott L. Heller, MD, Sam Ho, MD, Daniel Homer, MD, Joseph Mayer, MD, Onur Melen, MD, M. Marsel Mesulam, MD, Michael Macken, MD, Andrew Naidech, MD, Takashi Nishida, MD, Sandra F. Olson, MD, Puneet Opal, MD, PhD, Stuart Perlik, MD, JD, Jeffrey Raizer, MD, Jack Rozental, MD, PhD, Stephan Schuele, MD, MPH, Pradip Sethi, MD, Alan Shepard, MD, Teepu Siddique, MD, Tanya Simuni, MD, Mark Slutzky, MD, PhD, Robert L. Sufit, MD, Aleksandar Videnovic, MD, Chuang-Kuo Wu, MD, PhD, Cindy Zadikoff, MD, Steven Zak, MD, Phyllis Zee, MD, PhD.

Clerkship Director:

Dr. Ramadevi Gourineni, Department of Neurology, 710 N. Lake Shore Drive,
r-gourineni@northwestern.edu, 312/908-8737.

Clerkship Coordinator:

Kristin Boyd, Department of Neurology, 710 N. Lake Shore Drive,
kristin-boyd@northwestern.edu, 312/503-1398.

Background and Justification

The neurology department offers a number of clinical and research opportunities for senior medical students who believe they require advanced neurological training for their career plans (e.g., internal medicine, neurological surgery) or who are considering/planning a career in neurology. Students planning a career in neurology are advised to do a senior elective for 4 weeks, which may be a subinternship or a more varied experience at NMH. Additional time may be spent in neurological research according to the student's interests. Students should meet with the clerkship director to discuss and set up their senior elective.

Senior Subinternship in Neurology

NEU. 4301. 04. NMH

Course Format and Proposed Schedule:

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. Under the supervision of Dr. Ramadevi Gourineni and faculty members of department.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: NMH

First day report to: Abbott Hall 11th floor conference room at 8:00 a.m.

Selected Experiences in Neurology, Northwestern Memorial Hospital

NEU. 4303. 04. NMH

Course Format and Proposed Schedule:

Special electives are available to interested students in any of various neurological subspecialties, including epilepsy, stroke, sleep medicine, cognitive disorders, neuromuscular disorders, clinical

neurophysiology (EEG, EP, EMG-NCV), neuro-otology, neuro-ophthalmology, neuroncology, neuron-intensive care. Also pediatric neurology (see Department of Pediatrics), neuropathology and neuro-radiology can be considered by special arrangement with the neurology and other respective departments. A "smorgasbord" elective may be arranged where the student spends time in different subspecialty clinics in the outpatient setting. This may also be combined with selected inpatient experience. Under the supervision of Dr. Ramadevi Gourineni and faculty members of the department.

Number of students per rotation: Number of students, location and hours are by prior arrangement.

Number of weeks: Four

Number of credits: One

Site: NMH

Research in Neurology

NEU. 4304. 04. NMH

Course Format and Proposed Schedule

The student participates in investigational work under a faculty preceptor in clinical and/or basic research. Under the supervision of Dr. Kessler and members of the department

Number of students per rotation: Number of students, location and hours are by prior Arrangement.

Number of weeks: 12

Number of credits: Three

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

Neurological Surgery SUR. 4846. 04. NMH

Advisors:

H. Hunt Batjer, MD, Chair; Christopher C. Getch, MD; Aruna Ganju, MD

Clerkship Director:

Christopher C. Getch, MD, 676 N. St. Clair St., Suite 2210, Chicago, IL 60611, cgetch@nmff.org, 312/695-6279

Clerkship Coordinator:

Emily Hanak, 676 N. St. Clair St., Suite 2210, Chicago, IL 60611, EHanak@nmff.org 312/695-0464

Course Format and Proposed Schedule:

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

Evaluation and persons performing the evaluation

Dr. Christopher C. Getch will evaluate the student, taking into account the feedback of faculty and residents.

Number of students: Four

Number of weeks: Four

Number of credits: One

Sites: NMH

First day report to: Student will be emailed/mailed instructions.

Obstetrics & Gynecology

Maternal-Fetal Medicine, Prentice Women's Hospital OBG. 4331. 04. NMH

Course Director:

Svena Julien, MD, s-julien@northwestern.edu, Prentice Women's Hospital, 250 E. Superior, Suite 5-2175, Chicago, IL 60611, 312/472-4672 or -4685.

Clerkship Coordinator:

Mallori Kelley, makelley@nmh.org, 312/472-4672

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-conceptional 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 per week during 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.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: Prentice Women's Hospital, 250 East Superior

First day report to: Student will report to High Risk team, Prentice 8th floor, Labor and Delivery.

Gynecologic Oncology OBG. 4332. 04. NMH

Course Director:

Barbara Buttin, MD, BButtin@nmff.org, Prentice Women's Hospital, 250 E. Superior, Suite 5-2179, Chicago, IL 60611, 312/472-4672 or -4685.

Additional Faculty:

Diljeet Singh, MD, DrPH, Julian Schink, MD, John Lurain, MD, M. Patrick Lowe, MD, GYN-Oncology Fellows

Clerkship Coordinator:

Mallori Kelley, makelley@nmh.org, 312/472-4672

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.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: Prentice Women's Hospital, 250 E. Superior

First day report to: Student will report to Prentice 14th floor.

Reproductive Endocrinology and Infertility

OBG. 4333. 04. NMH

Course Director:

Ralph R. Kazer, M.D., 676 North St Clair, Suite 1845, rkazer@northwestern.edu, 312/926-8244

Clerkship Coordinator:

Mallori Kelley, makelley@nmh.org, 312/472-4672

Faculty:

Ralph R. Kazer, MD, Edmond Confino, MD, Randall Barnes, MD, Magdy Milad, 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.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Site: Northwestern Memorial Hospital.

First day report to: Student will report to Galter-Pavilion, 14th floor

Reproductive Genetics

OBG. 4334. 04. NMH

Course Director:

Lee P. Shulman, MD and Jeffrey S. Dungan, MD, Prentice Women's Hospital, 250 E. Superior, Suite 5-2168, Chicago, IL 60611, 312/472-4672 or -4685.

Clerkship Coordinator: Mallori Kelley, makelley@nmh.org, 312/472-4672

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

Drs. Lee Shulman and Jeffrey Dungan 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.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: Prentice Women's Hospital, 250 E. Superior

First day report to: student will report to Prentice 5th floor, Ste 5-2168 8:30 a.m. on first day.

Ambulatory Obstetrics and Gynecology

OBG. 4335. 04. NMH

Course Director:

Gary Lipscomb, MD and faculty., 680 North Lake Shore
Dr., Suite 1015, 312/695-8486, 312/695-7382

Clerkship Coordinator:

Mallori Kelley, makelley@nmh.org, 312/472-4672

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: ultrasound (NMFF/NMH), family planning clinic (NMH), urogynecology (NMFF), general obstetrics and gynecology (NMFF), reproductive genetics (NMH), ovarian cancer screening (NMFF), colposcopy (NMFF/NMH), women's rehabilitation (RIC), complex contraception (NMFF), vulvar diseases (NMFF), and reproductive endocrinology and infertility (NMFF).

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.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: Northwestern Medical Faculty Foundation offices, Northwestern Memorial Hospital, additional obstetrical and gynecologic outpatient facilities

First day report to: One to two weeks prior to starting student e-mail Angela Scott at ascott2@nmff.org for instructions. Dr. Lipscomb must approve all requests.

Research

OBG. 4336. 12. NMH

Advisors: John J. Sciarra, M.D., Sherman Elias, M.D., S. Bulun, M.D.

Course Director:

Louis G. Keith, M.D., 680 North Lake Shore Drive, Suite 1015, lgk395@northwestern.edu, 312/695-1677

Clerkship Coordinator:

Mallori Kelley, makelley@nmh.org, 312/472-4672

Background and Justification:

Students benefit from research and writing skills when they enter their residencies, and residency directors look with favor upon students who have completed a paper, which has either been submitted or accepted for publication.

Goals

- The student will select a topic for an in-depth tutorial with one or two faculty (clinical or basic science).
- The student will prepare a paper for possible submission to a journal.

Objectives

- Research a topic
- Prepare an outline of a paper
- Develop a paper for submission to a journal

Course Format and Proposed Schedule:

The student will be given the opportunity to review a subject in depth with the idea of preparing a written paper at the end of his/her work. Topics will be selected in agreement by the student and the faculty advisor. Work will be in a clinical, laboratory, or library setting. Chart reviews and case reports may be included.

Evaluation and persons performing the evaluation:

Evaluation and persons performing the evaluation: The student meets with the advisor on regular occasions to plan the project, obtain advice about selecting references, proper writing style, format, analysis and synthesis.

Number of students per rotation: One to Two

Number of weeks: 12

Number of credits: Three

Sites: Prentice Women's Hospital of Northwestern Memorial Hospital

First day report to: student will report as arranged with supervising faculty member.

Women's Health, Prentice Women's Hospital OBG. 4337. 04. NMH

Course Director:

Cassing Hammond, M.D., 680 N Lake Shore Dr, Ste 1015, cha038@northwestern.edu, 312/695-5486

Clerkship Coordinator:

Mallori Kelley, makelley@nmh.org, 312/472-4672

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.

Any interested student should contact the preceptor, Dr. Cassing Hammond (cha038@northwestern.edu) at least one month in advance of starting this elective so

individualized scheduling can be completed prior to the students' arrival for the elective. **No student will be permitted to take this course without such prearranged scheduling.**

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.

Number of students per rotation: One

Number of weeks: Four or Eight

Number of credits: One or Two

Sites: Prentice Women's Hospital

First day report to: Student will report to 680 N. Lake Shore Building, Suite 1015.

Medical Spanish and Reproductive Health OBG. 4357. 04. EHC

Course Director:

Virgil Reid, III, M.D., Erie Family Health Center; 1701 West Superior, 2nd Floor, v Reid@eriefamilyhealth.org, 312/432-7365

Faculty:

Virgil Reid, III, MD, Miriah Plawer, MD

Clerkship Coordinator:

Mallori Kelley, makelley@nmh.org, 312/472-4672

Background and Justification

This course was developed to provide students with intensive exposure to medical Spanish in a reproductive health setting. Increasingly, physicians practicing in the United States are called upon to interact with patients in languages other than English. It is estimated that by the year 2010 one-third of the population of Chicago will have Spanish as their dominant language. High quality, culturally-sensitive medical care depends to a large extent on communication between patients and their providers.

Goals

- To improve Spanish language skills needed for the provision of patient care in reproductive health
- To gain exposure to the practice of clinical obstetrics and gynecology in the outpatient setting
- To gain insight into the challenges of providing health care to an underserved, indigent population attending a community health clinic
- To gain insight into the special needs of immigrant populations

Objectives

- To conduct a complete reproductive health history and physical in Spanish
- To conduct patient counseling in prenatal education, lactation and safer sex in Spanish
- To gain additional experience in assessment of patients with reproductive health needs
- To develop strategies for providing culturally sensitive reproductive health care

Course Format and Proposed Schedule:

Students will have the opportunity to improve their Spanish language skills while seeing patients at a community health center in the West Town neighborhood of Chicago. Erie Family Health Center is a federally qualified health center (FQHC) serving a predominantly Latino community. Students should have some basic knowledge of Spanish grammar and vocabulary. Language skill will be assessed at the beginning of the clerkship and objectives for learning will be determined

accordingly. Students will be expected to prepare and teach part of a prenatal class to a group of Spanish speaking patients. Students will spend each day at EFHC and participate in the evaluation and care of obstetric and gynecologic outpatients. They will be expected to elicit histories and perform physical exams under the supervision of faculty mentors. There will also be an opportunity to spend some time in the hospital (rounding, surgery, labor and delivery) with the faculty mentors. Call is optional.

Evaluation and persons performing the evaluation

Each student will have an initial interview with Dr. Reid in order to gauge the level of language proficiency and develop a plan for language acquisition. Each student must be observed performing a complete reproductive health history and physical in Spanish before the conclusion of the clerkship. Each student will also be observed conducting a portion of a prenatal class by a staff member of EFHC. Dr. Reid will synthesize evaluations from the faculty mentors and EFHC staff and conduct an exit interview to provide feedback to the student.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: Prentice Women's Hospital, Erie Family Health Center, 1701 West Superior, Second Floor.

First day report to: Erie Family Health Center at 9:00 a.m. on Monday, the first day.

Ophthalmology

Department of Ophthalmology

Lee M. Jampol, MD, Chairman, 645 North Michigan, Suite 440, 312/908-8152

Director, Ophthalmology Student Education

Rukhsana G. Mirza, MD, c/o m-yakich@northwestern.edu

Director, Resident Program

Ann E. Bidwell, MD, c/o s-stuecheli@northwestern.edu

Advisers

Surendra Basti, MD; Paul J. Bryar, MD; Robert S. Feder, MD; Manjot Gill, MD;

May Khadem, MD; Theodore Krupin, MD; Gary S. Lissner, MD; Alice T. Lyon, MD; Onur Melen, MD;

Dmitry Pyatetsky,

MD; Michael A. Rosenberg, MD; Carol Schmidt, MD; Angelo P. Tanna, MD; Robert D. Wertz, MD

Children's Memorial Hospital

Janice B. Lasky Zeid, MD, Marilyn B. Mets, MD, Bahram Rahmani, MD, 773/880-4346

Clerkship Director

Dr, Mirza, c/o m-yakich@northwestern.edu

Clerkship Coordinator

Marge Yakich, m-yakich@northwestern.edu

Ophthalmology Research

OPH. 8900. 12. N/C

Angelo P. Tanna, MD

645 N. Michigan Avenue, Suite 440

Background and Justification:

An introduction to basic or clinical ophthalmology research. The student selects a mentor and a specific project to be completed under the direction of that mentor.

Basic Research

- Glaucoma: M. Rosario Hernandez-Neufeld, DDS; Paul A. Knepper, MD, PhD; Arthur H. Neufeld, PhD; Angelo P. Tanna, MD,

- Retina: Steve DeVries, MD, PhD; Arthur H. Neufeld, PhD; Vijay Sarthy, PhD, Joshua Singer, PhD

- Corneal Stem Cell Biology: Robert Lavker, PhD (Department of Dermatology)

- Biomedical Engineering: Mark Johnson, PhD; Robert A. Linsenmeier, PhD

Clinical Research

- Glaucoma: Arthur H. Neufeld, PhD; Angelo P. Tanna, MD

- Retina: Manjot Gill, MD; Lee M. Jampol, MD; Alice T. Lyon, MD; Rukhsana Mirza, MD

- Neuro-ophthalmology: Michael Rosenberg, MD

- Cornea: Surendra Basti, MD; Robert Feder, MD

- Eye Pathology: Paul Bryar, MD

- Pediatric Ophthalmology: Janice Lasky Zeid, MD; Marilyn Mets, MD; Bahram Rahmani, MD

- Uveitis: Dmitry Pyatetsky, MD

Number of students per rotation: N/A

Number of weeks: 12

Number of credits: Three

Site: NMH or CMH

Ophthalmology Clinical Clerkship

OPH. 4353. 04. NMH

Clerkship Director:

Dr. Mirza, MD, 645 North Michigan Avenue, Room 440

Clerkship Coordinator:

Marge Yakich, 312/908-8152, m-yakich@northwestern.edu

Goals

To provide an understanding of the primary care 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 ophthalmology with both medical and surgical experiences at one or more of the component units of NMH, CMH, VA Westside, and NMFF. 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.

Number of students per rotation: Two students except in July, August, and September when more are taken

Number of weeks: Four

Number of credits: One

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

Senior Clerkship in Orthopaedic Surgery

ORT. 4000. 04. NMH

Advisors:

Mark Bowen, MD, Charles Carroll, MD, Scott Cordes, MD, Luciano Dias, MD, Raju Ghatge, MD, Clare Giegerich, MD, John Grayhack, MD, Stephen Gryzlo, MD, James Hill, MD, Wellington Hsu, MD, Joseph Janicki, MD, David Kalainov, MD, Armen Kelikian, MD, Erik King, MD, Steven Kodros, MD, Jason Koh, MD, Bradley Merk, MD, Srdjan Mirkovic, MD, Daniel Nagel, MD, Mark Nolden, MD, Gordon Nuber, MD, Lalit Puri, MD, Nasim Rana, MD, John Sarwark, MD, George Sisson, Jr., MD, John Stogin, MD, David Stulberg, MD, Joseph Weistroffer, MD, Richard Wixson, MD, and Alan Yasko, MD

Clerkship Director:

Michael F. Schafer, MD, 645 N. Michigan Avenue, Suite 910, 312/908-7937

Clerkship Coordinator:

Joan Broholm, 645 N. Michigan Avenue, Suite 910, j-broholm@northwestern.edu, 312/926-4485

Background and Justification

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.

The department encourages all students who plan to practice clinical medicine, regardless of intended career choice, to avail themselves of at least some exposure to orthopaedic surgery.

Students are advised to limit their elective rotation in orthopaedic surgery to a four-week period.

The remainder of the elective periods might be chosen from a broad selection, including neurology, cardiology, rheumatology, endocrinology, and psychiatry as well as basic science review courses prepared for surgical careers.

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, sport 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.

Course Format and Proposed Schedule:

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.

Evaluation and persons performing the evaluation:

Attending physician for the four-week rotation will complete Standard Northwestern Student Evaluations. The attending physician will use standard clinical scenarios to address any deficits in the objections as well as to assist in the evaluation of the students.

Number of students per rotation: Three

Number of weeks: Four

Number of credits: One

Site: NMH

First day report to: student will report to Joan Broholm at 9 a.m. on the first day, located at 645 N. Michigan Avenue, Suite 910 (Enter the building on Erie Street).

**Senior Clerkship in Pediatric Orthopaedic Surgery
ORT. 4373. 04. CMH****Advisors:**

John Sarwark, MD, John Grayhack, MD, Joseph Janicki, MD Erik King, MD and Luciano Dias, MD

Clerkship Director:

Michael F. Schafer, MD, 645 N. Michigan Avenue, Suite 910, 312/908-7937

Clerkship Coordinator:

Joan Broholm, 645 N. Michigan Avenue, Suite 910, j-broholm@northwestern.edu, 312/926-4485

Background and Justification

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.

The department encourages all students who plan to practice clinical medicine, regardless of intended career choice, to avail themselves of at least some exposure to orthopaedic surgery. Students are advised to limit their elective rotation in orthopaedic surgery to a four-week period. The remainder of the elective periods might be chosen from a broad selection, including neurology, cardiology, rheumatology, endocrinology, and psychiatry as well as basic science review courses prepared for surgical careers.

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, sport 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.

Course Format and Proposed Schedule:

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.

Evaluation and persons performing the evaluation:

Attending physician will complete Standard Northwestern student evaluations for the month of the rotation. The attending physician will use standard clinical scenarios to address any deficits in the objections as well as to assist in the evaluation of the students.

Number of students per rotation: Two

Number of weeks: Four

Number of credits: One

Site: CMH

First day report to: student will call Laura Hovis prior to the first day at 773-327-1176 to find out where and when to report.

*****Otolaryngology-Head and Neck Surgery*****

Externship in Otolaryngology – Head and Neck Surgery OTO. 4000. 04. NMH

Advisors: Alan G. Micco, M.D.

Clerkship Director:

Alan G. Micco, M.D., 303 E. Chicago, Searle 12-573, agm109@northwestern.edu, 312/695-3222

Clerkship Coordinator:

Jennifer Malloy, 303 E. Chicago, Searle 12-573, oto-hns@northwestern.edu, 312/695-3222

Background and Justification

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 sensory organs. Students experience the surgical procedures done by this specialty and participate actively in pre-and postoperative care.

Goals and 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.

Course Format and Proposed Schedule:

Student Responsibilities: 60-80 HOURS per week; required conference on Thursdays from 4-7pm; Call not required but suggested at least one night per week.

Evaluation and persons performing the evaluation

Faculty and resident evaluations. No exam.

Number of students per rotation: Three

Number of weeks: Four

Number of credits: One

Ambulatory Time: 0-50 percent.

Sites: NMH.

First day report to: student will email Jennifer Malloy (oto-hns@northwestern.edu) one week prior to Externship for instructions.

Outpatient Otolaryngology – Head and Neck Surgery OTO. 4383. 02. OUT (Two Weeks) OTO. 4383. 04. OUT (Four Weeks)

Advisors: Gordon J. Siegel, M.D., gsiege@gmail.com, 312/988-7777

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.

Goal

- 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.

Number of students per rotation: One

Number of weeks: Two or four

Number of credits: One half or one credit.

Ambulatory Time: 0 percent.

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

First day report to: student will email Gordon J. Siegel, M.D. (gsiege@gmail.com) or call 312/988-7777 one week prior to Externship for instructions.

*****Pathology*****

Pathology, NMH PAT. 4000. 04. NMH

Clerkship Advisor and Director:

Anjana V Yeldandi, M.D., 312/926-8959, Feinberg Pavilion 7-342, a-yeldandi@northwestern.edu

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. Each student will give an oral presentation on a topic in pathology.

Evaluation and persons performing the evaluation:

Standard Northwestern student evaluations will be completed by supervising faculty or residents.

Number of students:

Two per four week rotation

Number of weeks: Four

Number of credits: One

Sites: Northwestern Memorial Hospital.

First day report to: NMH: Students will report to Feinberg 7-514D Conference Room by 8:00 a.m. on the first day of the rotation.

Pediatrics

Adolescent Medicine Medical Student Elective PED.4445.04.CMH

Clerkship Director:

Michelle Forcier, MD, MPH, mforcier@childrensmemorial.org, 773/868-8958, 2300 Children's Memorial Plaza, Box 16.

Clerkship Coordinator:

Grace Alvarado, 2300 Children's Plaza, Box 18, galvarado@childrensmemorial.org, 773/880-4302.

Background and Justification

• Prerequisites – completion of entire MS-3 curriculum including pediatrics. There is no current elective focused on the adolescent medicine.

Goals

Upon completion of the adolescent medicine clerkship, students should recognize that the skill set required for exemplary clinical care which involves the ability to:

1. Discuss with parents and patients aspects of privacy and confidentiality that are specific to adolescent health services. Know and understand state laws and their impact on adolescent health services.
2. Perform anticipatory health and risk screening in the early, middle, and late adolescent patient.
3. Take comprehensive histories and perform physical exams for acute problems commonly seen in the adolescent out patient clinic setting.
4. Perform consults in the hospital clinic or in patient setting for complex adolescent medical problems.
5. Organize the data set to form a working hypothesis for differential diagnoses and management plans for common adolescent problems.
6. Review the literature and acquire new information from appropriate sources; realize that each case provides opportunities to affirm evidence-based practices, the potential for research and the importance of life long learning.
7. Communicate effectively with patients, families and other healthcare providers, comprehending the value of compassion and clarity in settings where adolescents are seen.
8. Develop youth oriented listening and counseling skills in order to help promote healthier youth behaviors.

Objectives

1. Discuss areas of health care that are protected by state laws
 - a. List the laws and scope of confidentiality
 - b. Interpret these laws in actual clinical settings, providing ethically sound adolescent care
2. Perform HEADDSSS screening during adolescent well care/anticipatory guidance visit
 - a. Assess the development stage (cognitive, emotional, physical) of patients
 - b. Use HEADDSSS screening techniques to assess risks and prioritize a management plan for each patient
3. Perform clinical assessments, interpretations, and devise treatment plans for common acute adolescent problems such as:
 - a. Common infectious processes in teens (STIs, UTI, PID, etc.)
 - b. Acne and other common dermatologic problems
 - c. Possible pregnancy and family planning
 - d. Chronic pain complaints (headache, back pain, abdominal pain)
 - e. Substance use/abuse
 - f. Common labs and screening for significant adolescent disease (cervical cancer screening, STIs, obesity/diabetes)
 - g. Dating violence, neighborhood violence, other safety related issues
 - h. Mental health assessments and referral strategies
4. Perform effective patient centered counseling during anticipatory guidance visits and acute problem visits, with both patients and parents.

Course Format and Proposed Schedule:

The student will be an integral part of the Adolescent Medicine team, responsible for patient care, case presentations, documentation, and the gathering and reading of pertinent literature under the direct supervision of pediatric residents, fellows, and faculty members. In both the in-patient and out-patient settings, medical students will be responsible for taking an initial history and physical examination independently, reviewing the medical record, do an evidence based review of the literature if appropriate, and come up with an initial assessment and plan. Medical students will present their findings to residents and attendings and will participate in team discussions regarding appropriate care. Medical students may also observe residents and attending during the month, but again, will be encouraged to see patients initially and independently for the most part. Medical students will document in the medical record and do patient and parent education both independently and with supervision. Medical students may also do patient call backs and participate in other adolescent team activities. Typical week 8-9 hour days; no weekends.

Evaluation and persons performing evaluation

- Students will be evaluated by residents, fellows, and faculty.
- The students will be evaluated based on clinical performance, comprised 100% of faculty, fellow, and resident observation. All attending, fellows and residents who work with the student will be involved in the evaluation process.
- The standard Feinberg School of Medicine form will be utilized.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: CMH

Pediatric Allergy/Immunology**PED. 4421. 04. CMH****Clerkship Director:**

Jacqueline A. Pongracic, MD, and Division of Allergy and Immunology staff, CMH

Clerkship Coordinator:

Grace Alvarado, 2300 Children's Plaza, Box 18, galvarado@childrensmemorial.org, 773/880-4302

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 allergic 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.

Course Format and Proposed Schedule:

Responsibilities include participation in ambulatory clinics, Monday-Friday. The student will participate on the inpatient service when the schedule permits. There is no hospital-based night, weekend or call

responsibility. The student participates in division conferences. In addition to patient presentations, the student is expected to discuss a topic at the division conference. The student will be provided or directed to recommended reading.

Evaluation and persons performing the evaluation

The student meets daily with staff members and is assessed on his or her knowledge, the skills developed in evaluating and managing patients, the collection and interpretation of clinical findings and a database as well as the quality of his or her formal and informal presentations.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: CMH

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

**Pediatric Cardiology
PED. 4423. 04. CMH**

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

Clerkship Coordinator:

Grace Alvarado, 2300 Children's Plaza, Box 18, galvarado@childrensmemorial.org, 773/880-4302

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.

Number of students per rotation: One

Number of weeks: Four

Sites: CMH

First day report to: The student will be e-mailed instructions prior to the start of the rotation.

Research in Pediatric Cardiology PED. 4424. 04. CMH

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

Clerkship Coordinator:

Grace Alvarado, 2300 Children's Plaza, Box 18, galvarado@childrensmemorial.org, 773/880-4302

Goals

- The student, in addition to his/her primary research experience, has an opportunity to participate in some clinical teaching programs of the Division of Cardiology.
- A research project suggested and carried out primarily by the student is preferred. Participation in an ongoing project is acceptable when the student can assume a sufficiently independent role with supervision and direction.
- Research methodology, including data collection, clinical analysis, statistical analysis, and reporting, is emphasized appropriately.

Methods

Research experience in the clinical or laboratory aspects of pediatric cardiology include such areas as

- **Clinical cardiovascular physiology:** Projects involving daily and intimate participation in the cardiovascular laboratory with specific application to some physiologic or angiographic research problem.
- **Clinical cardiology:** Projects involving the analysis of clinical, surgical, and other special diagnostic data to analyze a specific disease entity, for example, clinical course of aortic stenosis in infancy.
- **Cardiovascular pathology:** Projects based on analysis of extensive pathological material from the congenital heart collection with correlation to clinical, surgical, cardiac catheterization, and other imaging techniques.
- Special facilities and expert guidance are available for specific projects in preventive cardiology, echocardiography, laboratory, and exercise stress testing for research projects.

Assessment

An oral presentation to the cardiology group and a written exposition of the research project are required.

Number of students per rotation: One

Number of weeks: Four or eight

Number of credits: One or two

Sites: CMH

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

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

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

Clerkship Coordinator:

Grace Alvarado, 2300 Children's Plaza, Box 18, galvarado@childrensmemorial.org, 773/880-4302

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 completes a CD-ROM study guide and 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. To introduce the legal aspect of child abuse and neglect, the student is oriented to the child advocacy center model for the evaluation of child victims of sexual abuse. He or she also attends a county death review meeting, shadows a DCFS caseworker, and observes the courtroom testimony of any members of the PST around child abuse or neglect.

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.

**Pediatric Critical Care Medicine Elective
PED. 4447. 04. CMH**

Advisors: Denise M. Goodman, MD/Ranna A. Rozenfeld, MD

Background and Justification

This rotation emphasizes the approach to the diagnosis and treatment of critically ill children with both medical and surgical problems. The student will receive a comprehensive experience in stabilization, development of a plan of treatment options, monitoring, cardiorespiratory support, and integration of physiology into daily clinical practice.

Goals

Upon completion of the critical care clerkship, students should recognize that the skill set required for exemplary critical care (illustrated by the mnemonic PROPER CARE) involves the ability to: Prioritize activities, procedures and tests in critically ill patients understanding the tempo required for resuscitation and stabilization and the relationship between treatment intensity and clinical benefit

Recognize common clinical patterns and how they indicate impending cardiopulmonary arrest, circulatory shock, respiratory failure and need for resuscitation

Organize the data set (link the information in a cohesive manner) to form a working hypothesis concerning the mechanisms responsible for critical illness so that diagnostic or therapeutic interventions can test that possibility

Protect patients from disorders acquired in the intensive care unit; provide appropriate prophylaxis against nosocomial infection, venous thromboembolism and gastrointestinal bleeding

Evaluate ethical aspects of care and end of life issues; examine whether therapeutic goals should change from “cure to comfort”

Review the literature and acquire new information from appropriate sources; realize that each case provides opportunities to affirm evidenced-based practices, the potential for research and the importance of life long learning

Communicate effectively with patients, families and healthcare providers, comprehending the value of teamwork (pharmacy, nursing, respiratory therapy, nutrition, etc.), compassion and clarity in the ICU setting

Assess illness severity and appropriate patient disposition

Recognize personal limitations and request appropriate consultations

Evaluate a patient's response to critical care interventions to generate new hypotheses and diagnostic/treatment strategies

Objectives

1. List the steps in resuscitation and stabilization of critically ill children.
2. Interpret data obtained from common monitoring modalities (includes the application of monitoring modalities, age-appropriate normals, potential pitfalls, etc.)
 - a. Pulse oximetry
 - b. Non-invasive CO₂ monitoring
 - c. ECG's
 - d. Noninvasive and invasive blood pressure monitoring
3. Coordination of care
 - a. Develop and maintain a detailed problem list, appropriately prioritized
 - b. Coordinate care with consultants
 - c. Coordinate transfer to another provider when PICU is no longer required
4. Developmentally appropriate care/recognition of family dynamics
 - a. Recognize the role of developmentally appropriate interventions in order to alleviate anxiety, mitigate discomfort, and maintain optimal growth and development during critical illness
 - b. Describe the changes in family dynamics and parental role when a child is hospitalized
 - c. Identify the unique role of child life, chaplain, OT, PT, SW, and speech therapy, and others in caring for the critically ill child.
5. Employ fundamental knowledge of respiratory failure, including identification of disorders of oxygenation, disorders of ventilation, and differential diagnosis for each.
6. Propose a plan of care for supported ventilation, including indications for invasive vs. non-invasive modalities; basic parameters such as rate, PEEP, tidal volume, and pressure limits; understand the concept of compliance with respect to the relationship between pressure and volume during mechanical ventilation; describe complications of mechanical ventilation; and identify criteria for weaning and extubation of mechanically ventilated patients.
7. Interpret blood gases with respect to respiratory and metabolic disorders.
8. Classify shock with respect to pathophysiology, hemodynamics, and clinical context (hypovolemic, cardiogenic, distributive).
9. Select the correct intervention for patients with hemodynamic instability
 - a. Indications for colloid vs. crystalloid use
 - b. Selection of appropriate vasoactive agents
10. Recognize conditions predisposing to neurologic dysfunction
 - a. Metabolic disorders
 - b. Traumatic brain injury
 - c. Increased intracranial pressure
 - d. Status epilepticus
 - e. Neurologic infection
11. List the etiology and management of common fluid and electrolyte abnormalities
 - a. Hypo- and hypernatremia
 - b. Hypo- and hyperkalemia
 - c. Hypo- and hypercalcemia

12. Discuss nutritional support in the PICU, including enteral vs. parenteral support; use of age-appropriate formulas; monitoring of nutritional status.
13. Identify indications for renal replacement therapy.

Course Format and Proposed Schedule: (this should include: student responsibilities, beginning/ending hours of rotation, required conferences, lectures, call schedule, typical week, weekend requirements)

During the week the student will pre-round on patients, participate in rounds, attend lectures and conferences, and remain for night call once/week (total 4 calls per rotation) – expected work hours are 55-60/week.

While on call, the student will work with the pediatric resident to attend to the needs of existing PICU patients (under the supervision of resident/fellows) and will commonly work up one new admission.

Proposed lecture schedule (student to attend resident and fellow lectures):

1. Resident lectures occur twice a week, 7-7:30 AM
2. Fellow didactic lectures occur on Wednesday's 1:30-2:30 and 2:30-3:30
3. General PICU conference occurs Wednesday's at noon: 1st Wed general business; 2nd Wed case-based ethics discussion; 3rd Wed case-based physiology discussion; 4th Wed M&M
4. Multidisciplinary conference: the student presents his/her patients to the team (OT, PT, child life, chaplains, SW, speech therapy, etc.), once per week
5. Department-wide conferences: Tuesday 8-9 Firms (case presentation); Friday 8-9 Grand Rounds

Evaluation and persons performing the evaluation

Students will be evaluated by residents, fellows, and faculty.

The students will be evaluated based on clinical performance, comprised 100% of faculty, fellow, and resident observation. All attending, fellows and resident who work with the student will be involved in the evaluation process. The standard Feinberg School of Medicine form will be utilized

Number of students per rotation : One

Number of weeks: Four

Number of credits: One

Sites: CMH

First day report to: Student will be e-mailed instructions, but will typically report to the attending physician on duty in the PICU at 7:30 a.m. the first day of the rotation.

Pediatric Dermatology

PED. 4425. 04. CMH

Clerkship Director:

Anthony J. Mancini, MD

Clerkship Coordinator:

Grace Alvarado, 2300 Children's Plaza, Box 18, galvarado@childrensmemorial.org, 773/880-4302

*******This course is offered only by special permission from the Department of Pediatrics and the Division of Pediatric Dermatology. Submit all requests for this elective to Grace Alvarado at CMH.*******

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.

Course Format and Proposed Schedule:

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 a large collection of color slides as well as atlases of skin disease for additional study. 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 the attending dermatology staff on his or her approach to the patient, collection of data, and interpretation of the clinical findings.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: CMH

First day report to: Student will be emailed instructions.

Senior Pediatric Emergency Medicine

PED. 4426. 04. CMH

Clerkship Director: Jennifer Trainor, MD, jtrainor@childrensmemorial.org

Clerkship Coordinator:

Grace Alvarado, 2300 Children’s Plaza, Box 18, galvarado@childrensmemorial.org, 773/880-4302

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.

Number of students per rotation: Two

Number of weeks: Four

Number of credits: One

Sites: CMH

First day report to: The student should report to the Division of Pediatric Emergency Medicine, 2356 N. Lincoln Ave., 1st floor, at 8:20 a.m. the first day of the rotation. Nancy Ryan, 773/880-8245, nryan@childrensmemorial.org will have information regarding the details of the schedule at that time.

Pediatric Endocrinology

PED.4427.04.CMH

Clerkship Director:

Donald Zimmerman MD, and endocrinology staff; CMH

Clerkship Coordinator:

Grace Alvarado, 2300 Children's Plaza, Box 18, galvarado@childrensmemorial.org, 773/880-4302

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 responsible for the initial evaluation of selected referral patients. He/she accompanies the service on ward rounds and inpatient consultations and attends and participates in Pediatric Endocrine Conference that meets weekly. The student is guided in reading about patients' problems. 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
PED. 4429. 04. CMH**

Clerkship Director:

Peter F. Whittington, MD, and GI staff

Clerkship Coordinator:

Grace Alvarado, 2300 Children's Plaza, Box 18, galvarado@childrensmemorial.org, 773/880-4302

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 hospitalbased 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.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: CMH

First day report to: Information will be e-mailed before the first day of the rotation.

Clinical Genetics

PED. 4430. 04. CMH

Clerkship Director:

Joel Charrow, MD

Clerkship Coordinator:

Grace Alvarado, 2300 Children's Plaza, Box 18, galvarado@childrensmemorial.org, 773/880-4302

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: Clinical Genetics, Neurofibromatosis, PKU and Metabolic 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 laboratory is optional. 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

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

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: CMH

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

PED. 4432. 04. CMH

Clerkship Director:

Elaine Morgan, MD

Clerkship Coordinator:

Grace Alvarado, 2300 Children's Plaza, Box 18, galvarado@childrensmemorial.org, 773/880-4302

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.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: CMH

First day report to: the outpatient conference room on 4West at 9:00 a.m.

Pediatric Infectious Disease

PED. 4435. 04. CMH

Clerkship Director:

Stan Shulman, MD

Clerkship Coordinator:

Grace Alvarado, 2300 Children's Plaza, Box 18, galvarado@childrensmemorial.org, 773/880-4302

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 hour each day in the diagnostic microbiology laboratory for at least one week during the clerkship.
 - Make daily rounds with the pediatric residents and/or fellow and the attending physician on the infectious disease service.
 - Participate in the teaching conferences, including the general pediatric conferences and the twice monthly Infectious Diseases conferences held with the adult infectious disease group at NMH.
 - See/evaluate requested Infectious Diseases consults.
- 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

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: One

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.

Pediatric Kidney Diseases**PED. 4439. 04. CMH****Clerkship Director:**

Craig B. Langman, MD, Kidney Diseases, Children’s Memorial Hospital, 2300 Childrens Plaza, MS #37, Chicago, IL 60614.

Clerkship Coordinator:

Grace Alvarado, 2300 Children’s Plaza, Box 18, galvarado@childrensmemorial.org, 773/880-4302

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 occurs in infants, 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, types of renal tubular acidosis, forms of hypertension that occur, conditions leading to kidney stones, genetic and acquired metabolic bone diseases, kidney transplant indications and the 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 8:00 a.m. through 5:00 p.m., 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 diseases.

Evaluation and persons performing the evaluation

The student will be evaluated by all Faculty members 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.

Number of students per rotation: Three

Number of weeks: Four

Number of credits: One

Sites: CMH

First day report to: The student should report at the regularly scheduled Department of Pediatrics Conference that occurs each day at 8:00 a.m., and thereafter, to the Outpatient Practice site of the Division of Pediatric Kidney Diseases (currently, Suite 902, Clark Building, Lincoln Park campus).

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 – CMH**PED.4436.04.CMH****Clerkship Director:**

Robin Steinhorn, MD and staff

Clerkship Coordinator:

Grace Alvarado, 2300 Children's Plaza, Box 18, galvarado@childrensmemorial.org, 773/880-4302

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.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: CMH

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

Neonatology - Prentice

PED. 4436. 04. NMH

Clerkship Director:

Robin Steinhorn, MD and staff, Prentice

Clerkship Coordinator:

Grace Alvarado, 2300 Children's Plaza, Box 18, galvarado@childrensmemorial.org, 773/880-4302

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.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: Prentice Women's Hospital

First day report to Special Care Nurse, 4th floor, Prentice Women's Hospital 8:00 a.m.

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

Clinical Pediatric Neurology

PED. 4422. 04. CMH

Clerkship Director:

Joshua Goldstine, MD, jgoldstine@childrensmemorial.org

Clerkship Coordinator:

Grace Alvarado, 2300 Children's Plaza, Box 18, galvarado@childrensmemorial.org, 773/880-4302

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.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: CMH

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

Pediatric Pulmonology

PED. 4431. 04. CMH

Clerkship Director:

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

Clerkship Coordinator:

Grace Alvarado, 2300 Children's Plaza, Box 18, galvarado@childrensmemorial.org, 773/880-4302

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 pulmonary medicine 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 divisional faculty members

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: CMH

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.

Essentials of Pediatric Radiology RAD. 4646. 04. CMH

Clerkship Director:

Mary Wyers, M.D., mwyers@childrensmemorial.org, 773/880-4943 or -3520.

Clerkship Coordinator:

Mary Ann Anderson 773/880-3520

Background and Justification

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.

Number of students per rotation: Four

Number of weeks: Four

Number of credits: One

Clinical Pediatric Rheumatology PED. 4433. 04. CMH

Clerkship Director:

Marisa Klein-Gitelman, MD, klein-gitelman@northwestern.edu, 773/880-3579

Clerkship Coordinator:

Grace Alvarado, 2300 Children's Plaza, Box 18, galvarado@childrensmemorial.org, 773/880-4302

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 radiologic 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 subspecialist.

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.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: CMH

First day report to: On call physician at 9:00 a.m. on first day. Contact the Pediatric Rheumatology Office at 773/880-4360. The offices are on the 6th floor of the NAB building.

Pediatric Cardiothoracic Surgery

SUR. 4855. 04. CMH

Clerkship Directors:

Carl L. Backer, MD and Sunjay Kaushal, MD (Children's Memorial Hospital)

Clerkship Coordinator:

Dena Zabilka, 2300 Children's Plaza, Box 22, dzabilka@childrensmemorial.org, 773/880-4378

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.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: Children's Memorial Hospital

First day report to: The arrangements for this elective must be made through the office of Dr. Backer and Dr. Kaushal at Children's Memorial Hospital, (773) 880-4378

Pediatric General Surgery

PED. 4428. 04. CMH

Advisors: Drs. M. Reynolds, K. Barsness, A.Chin, S. Luck, MB Madonna, D. Rothstein, R. Superina

Clerkship Director:

Marleta Reynolds, MD, 2300 Children's Plaza, Box 63, Chicago, IL 60614, mreynolds@childrensmemorial.org, 773/880-4912

Clerkship Coordinator:

Valerie Rodriguez, 2300 Children's Plaza, Box 63, Chicago, IL 60614, vrodr@childrensmemorial.org, 773/880-4912

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 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.

Number of students per rotation: Two

Number of weeks: Four

Number of credits: One

Sites: Children's Memorial Hospital

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

Pediatric Surgery for Pediatricians PED. 4446. 04. CMH

Advisors: Drs. M. Reynolds, K. Barsness, A. Chin, S. Luck, MB Madonna, D. Rothstein, R. Superina

Clerkship Director:

Marleta Reynolds, MD, 2300 Children's Plaza, Box 63, Chicago, IL 60614,
mreynolds@childrensmemorial.org, 773/880-4912

Clerkship Coordinator:

Valerie Rodriguez, 2300 Children's Plaza, Box 63, Chicago, IL 60614, vrodr@childrensmemorial.org,
773/880-4912

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 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.

Number of students per rotation: One

Number of weeks: Eight

Number of credits: Two

Sites: Children's Memorial Hospital

First day report to: student will report to Valerie Rodriguez at NAB Building, 700 W. Fullerton, 6th Floor, Room N.643 by 8:30 a.m. on first day of his/her rotation.

Physical Medicine and Rehabilitation

Department Chair

Elliot J. Roth, MD

Clinical Adult Inpatient Service

PMR. 4941. 04. RIC

Advisors: Aaron Gilbert, MD, James A. Sliwa, DO, and faculty

Clerkship Director:

Aaron Gilbert, MD, RIC, 345 E. Superior Street, agilbert@ric.org, 312/238-2870

Clerkship Coordinator:

Diane Ross, RIC, 345 E. Superior Street, dross@ric.org, 312/238-2870

Background and Justification:

This rotation emphasizes the management of disabled individuals in an adult inpatient rehabilitation setting. The students may choose from various rotations emphasizing conditions such as brain injury, spinal cord injury, stroke, orthopedics, or general disability. Experiences involving the treatment of patients with disabilities in an outpatient setting are also available.

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 role of the psychiatrist in the treatment of the disabled patient.
- Understand the team oriented interdisciplinary management of the patient.
- Understand the characteristics of an appropriate inpatient rehabilitation candidate.
- Understand the role of the rehabilitation nurse, physical therapist, occupational therapist, and speech therapist in the treatment of the disabled patient.
- 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 psychiatric intervention.

Course Format

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.

Evaluation and persons performing the evaluation:

Student evaluations will be completed by the supervisory attending physician on the inpatient service.

Number of Students: Two

Number of Weeks: Four or eight

Number of Credits: One or two

Site: Rehabilitation Institute of Chicago

First day report to: Students assigned to this clerkship report at 9:00 a.m. on the first day to RIC room 1600.

Clinical Pediatric Rehabilitation Service PMR. 4942. 04. RIC

Advisors: Charles E. Sisung, MD

Clerkship Coordinator:

Diane Ross, RIC, 345 E. Superior Street, dross@ric.org, 312/238-2870

Background and Justification:

This rotation emphasizes the management of children in an adult inpatient rehabilitation setting. The students will have experiences treating conditions such as brain injury, spinal cord injury, stroke, orthopedics, or general disability. Experiences involving the treatment of children with disabilities in an outpatient setting are also available.

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.
- Differentiate between disease, impairment, disability, and handicap.
- Understand the role of the psychiatrist in the treatment of the disabled patient.
- Understand the team oriented interdisciplinary management of the patient.
- Understand the characteristics of an appropriate inpatient rehabilitation candidate.
- Understand the role of the rehabilitation nurse, physical therapist, occupational therapist, and speech therapist in the treatment of the disabled patient.
- Formulate therapeutic plans based on stage of growth and development.
- Apply intervention in communication disorders in children.
- Manage myelodysplasia in children.
- 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.

Course Format

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 that serve disabled children as well as attend outpatients at RIC.

Evaluation and persons performing the evaluation:

Student evaluations will be completed by the supervisory attending physician on the inpatient service.

Number of Students: Two

Number of Weeks: Four

Number of Credits: One

Site: Rehabilitation Institute of Chicago

First day report to: Students assigned to this clerkship report at 9:00 a.m. on the first day to RIC room 1600.

Clinical Management of Chronic Pain PMR. 4951. 04. RIC

Advisors: Steven Stanos, DO

Clerkship Coordinator:

Diane Ross, RIC, 345 E. Superior Street, dross@ric.org, 312/238-2870

Background and Justification:

The experience emphasizes evaluation and treatment of individuals with chronic pain in an outpatient setting.

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.

Course Format

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.

Number of Students: Two

Number of Weeks: Four or eight

Number of Credits: One or two

Site: Rehabilitation Institute of Chicago

First day report to: Students assigned to this clerkship report at 9:00 a.m. on the first day to the Chronic Pain Care Center. 980 N. Clark Street, 8th Floor, Chicago, IL 60610. Contact person: Christine Pfeil, 312/238-7809.

Sports and Spine Rehabilitation: Principles and Practice PMR. 4949. 04. RIC

Advisors: Christopher Plastaras, MD,

Clerkship Coordinator:

Diane Ross, RIC, 345 E. Superior Street, dross@ric.org, 312/238-2870

Background and Justification:

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

Goals

- Create a detailed exercise prescription for patients with musculoskeletal disorders.
- Integrate the musculoskeletal physical examination into the kinetic chain assessment.
- Understand the principles of functional therapeutic exercise.
- 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.

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.

Course Format

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 Center for Spine, Sports, and Occupational Medicine at 1030 North Clark Street. Students are expected to attend evening and weekend clinics, sporting event coverage as well as the weekly journal clubs.

Pre- or Corequisite

- The prospective student must first register for an inpatient rehabilitation elective at RIC or elsewhere
- The permission slip for this elective must be approved by the clerkship director and the administrative director of the Sports Rehabilitation Program before scheduling the elective with the Office of Medical Education. Please contact the PM&R Chief Resident 312/238-1250.

Number of Students: One

Number of Weeks: Four

Number of Credits: One

Site: Rehabilitation Institute of Chicago

First day report to: Students assigned to this clerkship report at 8:00 a.m. on the first day to Suite 500, 1030 North Clark Street, Chicago.

Rehabilitation Research

PMR. 4947. 04. RIC

Advisors: W. Zev Rymer, MD, PhD

Clerkship Coordinator:

Diane Ross, RIC, 345 E. Superior Street, dross@ric.org, 312/238-2870

Background and Justification:

The rotation will provide extensive opportunities for research in Physical Medicine and Rehabilitation on topics including studies of sensory-motor dysfunction, spinal cord injury, stroke, and studies of muscle and joint dysfunction in arthritis.

Goal and Objectives

Provide meaningful learning experience in research with emphasis on neurologic and musculoskeletal disability.

Course Format

Supervision is provided for students with original research ideas, or students may consult with department faculty members for research ideas. The clerkship is customized on an individual basis to provide maximum learning experience in clinical research and to offer insight to the field of physical medicine and rehabilitation.

Number of Students: Number of students at the discretion of the instructor.

Number of Weeks: 12

Number of Credits: Three

Site: Rehabilitation Institute of Chicago

First day report to: Students assigned to this clerkship report at 9:00 a.m. on the first day to RIC room 1600.

Individual Studies**PMR. 4948. 04. RIC**

Advisors: PM&R faculty

Clerkship Coordinator:

Diane Ross, RIC, 345 E. Superior Street, dross@ric.org, 312/238-2870

Background and Justification:

Special studies are designed for students on an individual basis that may include aspects of physical medicine and rehabilitation such as electrodiagnostic procedures, psychological implications, spinal cord injuries, orthotics, prosthetics, and outpatient.

Goal and Objectives

Enhance the student's understanding of a specific area in physical medicine and rehabilitation: electrodiagnostic medicine, orthotics/prosthetics, or performing arts medicine.

Course Format

At the discretion of the instructor

Number of Students: Number of students at the discretion of the instructor.

Number of Weeks: Four or eight

Number of Credits: One or two

Site: Rehabilitation Institute of Chicago

First day report to: Students assigned to this clerkship report at 9:00 a.m. on the first day to RIC room 1600.

*****Psychiatry*****

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

Clerkship Supervisors:

Sandra Swantek, MD (10 West Geriatrics), Morris Goldman, MD (8 West), Ashraf Helmy, MD (8 East)

Clerkship Director:

Sonya Rasminsky, MD, 446 E. Ontario St. #7-130, s-rasminsky@northwestern.edu, 312/926-8097

Clerkship Coordinator:

Rebekah Dommel, 446 E. Ontario St. #7-200, r-dommel@northwestern.edu, 312/926-8097

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.
- 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:

Nehama Dresnar, MD; John Franklin, MD; Susan Pearlson, MD; Allison Kurzman, MD, Virgilio Arenas, MD, Mehmet Dokuco, MD

Clerkship Director:

Sonya Rasminsky, MD, 446 E. Ontario #WS7-130, s-rasminsky@northwestern.edu, 312/926-8097

Clerkship Coordinator:

Rebekah Dommel, 446 E. Ontario, Suite 7-200, r-dommel@northwestern.edu, (312) 926-8097

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 (six or eight weeks possible by special arrangement).

Number of credits: One

Sites: NMH.

First day report to: Students will be emailed instructions.

Emergency Psychiatry

PSY. 4705. 04. NMH

Clerkship Supervisor:

Pedro L. Dago, MD;

Clerkship Director:

Sonya Rasminsky, MD, 446 E. Ontario #WS7-130, s-rasminsky@northwestern.edu, 312/926-8097

Clerkship Coordinator:

Rebekah Dommel, 446 E. Ontario, Suite 7-200, r-dommel@northwestern.edu, (312) 926-8097

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.

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, 446 E. Ontario #WS7-130, s-rasminsky@northwestern.edu, 312/926-8097

Clerkship Coordinator:

Rebekah Dommel, 446 E. Ontario, Suite 7-200, r-dommel@northwestern.edu, 312/926-8097

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, (amarcoux@childrensmemorial.org, 773/880-4833), 700 West Fullerton, Room 411 (Students will be e-mailed their full schedule prior to the start date.)

Community Psychiatry PSY.4707.04.VAR

Clerkship Supervisors:

Will Cronenwett, MD (NMH), Rodney Eiger, MD (VA)

Clerkship Director:

Sonya Rasminsky, MD, 446 E. Ontario #WS7-130, s-rasminsky@northwestern.edu, 312/926-8097

Clerkship Coordinator:

Rebekah Dommel, 446 E. Ontario, Ste. 7-200, r-dommel@northwestern.edu, 312/926-8097

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.

*****Radiation Oncology*****

Radiation Oncology RAD. 4643. 04. NMH

Advisors:

Maryanne Marymont, MD, mmarymon@nmh.org and Radiation Oncology attending staff

Clerkship Director:

Maryanne Marymont, MD, Galter LC-178, 312/926-2520

Clerkship Coordinator:

Angela Salley, 676 North St Claire, Suite 1820, asalley@nmff.org, 312/695-1787

Background and Justification

This elective introduces the student to the use of radiation therapy in the care of cancer patients. 50% of all cancer patients will be treated with radiation therapy, either curatively or palliatively. Since this is a common treatment modality in the care of cancer patients, all physicians should be aware of the indications and consequences of radiation therapy.

Goals

- Understand how radiation affects normal and neoplastic tissue
- Increase knowledge and understanding of different cancers and the modalities used in different cancers

Objectives

The student will be better able to understand

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

Course Format and Proposed Schedule:

Students will be assigned to different attendings to obtain a wide exposure to different cancers. Students will be expected to be available for all activities of the assigned attending, attend all conferences in the department, and attend multidisciplinary conferences. Students will see consultations and follow-ups and report on those patients to the service. The student will be involved in treatment planning, and observe the treatment process. No weekend call is required. Typical days last from 7-8:00 am through 5-6:00 pm.

Evaluation and persons performing the evaluation

Grades are assigned by the attendings, based on performance and learning. A 45 minute talk will be presented to the department, on a topic related to radiation oncology of the student's choice. There are no exams. This elective is intended for students considering radiation oncology residency.

Number of students per rotation: Two (total at any one time, including students on 2 weeks elective rotation)

Number of weeks: Four

Number of credits: One

Sites: NMH.

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

Introduction to Radiation Oncology

RAD. 4644. 02. NMH

Advisors:

Maryanne Marymont, MD, mmarymon@nmh.org and Radiation Oncology attending staff

Clerkship Director:

Maryanne Marymont, MD, Galter LC-178, 312/926-2520

Clerkship Coordinator:

Angela Salley, 676 North St Claire, Suite 1820, as asalley@nmff.org, 312/695-1787

Background and Justification

This elective introduces the student to the use of radiation therapy in the care of cancer patients. 50% of all cancer patients will be treated with radiation therapy, either curatively or palliatively. Since this is a common treatment modality in the care of cancer patients, all physicians should be aware of the indications and consequences of radiation therapy.

Goals

- Understand how radiation affects normal and neoplastic tissue
- Increase knowledge and understanding of different cancers and the modalities used in different cancers

Objectives

The student will be better able to understand

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

Course Format and Proposed Schedule: This is a 2 week introduction. Students will be assigned to different attendings to obtain a wide exposure to different cancers. Students will be expected to be available for all activities of the assigned attending, attend all conferences in the department, and attend multidisciplinary conferences. Students will see consultations and follow-ups and report on those patients to the service. No weekend call is required. Typical days last from 7-8:00 am through 5-6:00 pm.

Evaluation and persons performing the evaluation

Grades are assigned by the attendings, based on performance and learning. There are no exams.

Number of students per rotation: Two (total at any one time including those students on the 4 week elective)

Number of weeks: Two

Number of credits: One half credit.

Sites: NMH.

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

Radiology

The Clinical Basis of Nuclear Medicine

RAD. 4641. 04. NMH

Clerkship Coordinator:

Jermel L. Joyner, BS, Galter 8-102, jxtaylor@nmh.org, 312/926-0411

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, 4:00-5:00 p.m.
- Follow-up conference, monthly.
- Interdepartmental conferences, as scheduled.

Number of students: Three

Number of weeks: Four

Number of credits: One

Site: Nuclear Medicine laboratory, Galter 8th Floor.

Essentials of Pediatric Radiology RAD. 4646. 04. CMH

Clerkship Director:

Mary Wyers, M.D., mwyers@childrensmemorial.org, 773/880-4943 or -3520.

Clerkship Coordinator:

Mary Ann Anderson 773/880-3520

Background and Justification

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.

Number of students per rotation: Four

Number of weeks: Four

Number of credits: One

Radiology NMH

Department Chair

Eric J. Russell, MD, 676 North St. Clair, 8th floor, 312/695-5103

Advisors

Thomas Grant, DO, 676 North St. Clair, 8th Fl, 312/695-3693, t-grant@northwestern.edu

Paul Nikolaidis, MD, 676 North St. Clair, 8th Fl, 312/695-6225, p-nikolaidis@northwestern.edu

Richard Chen, DO, Feinberg 4-710, 312/926-5112, rchen@northwestern.edu

Tarek Hijaz, MD, 676 North St. Clair, 14th Fl. 312/695-1292, thijaz@nmff.org

Ellen Mendelson, MD, Galter 13, 312/926-6120, emendelson@nmff.org

David Channin, MD, 448 E. Ontario, Suite 300, 312/926-9165, dsc@northwestern.edu

Essentials of Diagnostic Radiology – NMH

RAD. 4646. 04. NMH

Clerkship Director: Thomas Grant, DO

Clerkship Coordinator: Julia Clark Burks, 312/926-4068, Suite 800, jclark@nmff.org

Background and Justification:

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.

Course Format and Proposed Schedule:

Students will be assigned to a particular section of radiology to observe for a morning. Students will observe radiologists day-to-day and observe the radiology technologists as they perform certain studies. Also, we encourage students to meet patients in the department and to observe procedures from a patient's perspective.

On most days at 1:00 PM and occasionally at 2:00 PM, a member of the radiology department will give a lecture, usually in a case presentation format. The topics will vary widely just as radiology does. A 4:00 PM Resident Conference occurs every day and is also a requirement. There may also be special lectures on a given day.

Evaluation and persons performing the evaluation:

Final evaluation will be based upon input from attendings and residents as well as attendance, student's presentation, and exam performance. The exam will be given on the final day of the rotation and will consist of written questions drawn from the assigned readings and observational objectives. The exam will also have radiological unknowns to evaluate.

Number of students: 12

Number of weeks: Four (not offered Fall 3 or Spring 3)

Number of credits: One

Site: Northwestern Memorial Hospital

First day report to: Students will report to Julia Clark Burks on the first day of the rotation at 10:00 a.m.: 676 N. St. Clair in Suite 800 to begin the rotation.

Diagnostic Radiology Specialty Electives-NMH

Location:

Northwestern Memorial Hospital

Contact

For all NMH specialty electives, please contact Julia Clark Burks, 312 926-4068; jclark@nmff.org

Prerequisite: Students must complete one Essentials of Diagnostic Radiology elective (RAD.4646 CMH, NMH) before taking the diagnostic radiology specialty electives.

Four weeks. One credit. One or two students per specialty.

SPECIALTY ELECTIVES OFFERED:

Body Imaging

RAD. 4655. 04. NMH

Clerkship Director: Paul Nikolaidis, MD

Background and Justification:

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.

Course Format and Proposed Schedule:

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.

Evaluation and person performing the evaluation:

Final evaluation will be based upon input from attendings and residents

Number of students: Two

Number of weeks: Four

Number of credits: One

Site: Northwestern Memorial Hospital

First day report to: Unless otherwise instructed, students will report to Julia Clark Burks on the first day of the rotation at 9:30 a.m.; 676 N. St. Clair in Suite 800.

Neuroradiology

RAD. 4645. 04. NMH

Clerkship Director: Tarek Hijaz, MD

Background and Justification:

This clerkship gives the interested student a deeper look into Neuroradiology than can be provided in a general radiology course.

Course Format and Proposed Schedule:

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.

Evaluation and person performing the evaluation:

Final evaluation will be based upon input from attendings and residents

Number of students: Two

Number of weeks: Four

Number of credits: One

Site: Northwestern Memorial Hospital

First day report to: Unless otherwise instructed, students will report to Julia Clark Burks on the first day of the rotation at 9:30 a.m.; 676 N. St. Clair in Suite 800.

Interventional Radiology RAD. 4657. 04. NMH

Clerkship Director: Richard Chen, MD

Background and Justification:

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.

Course Format and Proposed Schedule:

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.

Evaluation and person performing the evaluation:

Final evaluation will be based upon input from attendings and residents

Number of students: Two

Number of weeks: Four

Number of credits: One

Site: Northwestern Memorial Hospital

First day report to: Unless otherwise instructed, students will report to Julia Clark Burks on the first day of the rotation at 9:30 a.m.; 676 N. St. Clair in Suite 800.

Breast Imaging RAD. 4658. 04. NMH

Clerkship Director: Ellen Mendelson, MD

Background and Justification:

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.

Course Format and Proposed Schedule:

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.

Evaluation and person performing the evaluation:

Final evaluation will be based upon input from attendings and residents

Number of students: Two

Number of weeks: Four

Number of credits: One

Site: Northwestern Memorial Hospital

First day report to: Unless otherwise instructed, students will report to Julia Clark Burks on the first day of the rotation at 9:30 a.m.; 676 N. St. Clair in Suite 800.

Medical Computing and Imaging Informatics RAD. 4659. 04. NMH

Clerkship Director: David Channin, MD

Background and Justification:

The goal of this clerkship is to educate undergraduate, graduate, and medical students in practical issues related to work and information flow in modern, computerized, filmless radiology departments.

Course Format and Proposed Schedule:

Specific attention is paid to identifying the various computer systems in the department and understanding how they communicate both among themselves in the context of picture archiving and communication systems (PACS) and with other hospital information systems. The course focuses on the use of information system standards and gives students an opportunity to get working knowledge of these standards. The Integrating the Healthcare Enterprise initiative will also be presented.

Prerequisites

Working knowledge of computer systems, including client server architectures and basic networking.

Evaluation and person performing the evaluation:

Final evaluation will be based upon observation and interaction between student and Dr. Channin.

Number of students: Two

Number of weeks: Four

Number of credits: One

Site: Northwestern Memorial Hospital

First day report to: Unless otherwise instructed, students will report to Julia Clark Burks on the first day of the rotation at 9:30 a.m.; 676 N. St. Clair in Suite 800.

SURGERY

In the Department of Surgery, all undergraduate activities are administered through the Office of Undergraduate Surgical Education. Julia Corcoran, M.D., is the Director of Undergraduate Surgical Education. Please send Inquires to: Jessica Voth, Program Coordinator, 251 E. Huron Street, Galter 3-150, Chicago, IL 60611, 312/926-9411 phone, 312/926-7404 fax. jvoth@nmh.org.

*Clerkship Director: Julia Corcoran, M.D., j-corcoran1@northwestern.edu

Scheduling Information:

Schedules for fourth year students interested in a surgical career should be arranged on an individual basis to best prepare the student for postgraduate residency training. Interested students are encouraged to choose an advisor from the list below. Also, the brochures "Application to a Surgical Residency: Guidelines for Northwestern University Medical Students", are available in 3-150 Galter Pavilion.

Advisors:

General Surgery

Kevin Bethke, M.D. 676 N. St. Clair, #1525, 312/943-2746
John Coyle, M.D. 251 E. Huron Galter 3-150, 312/926-8060
Alberto De Hoyos, M.D. 675 N. St. Clair, Galter 10-105, 312/695-3800
Amy Halverson, M.D. 675 N. St. Clair, Galter 10-105, 312/695-4842
Wilson Hartz, M.D. 676 N. St. Clair, #1525, 312/951-5640
Seema Khan, M.D. 675 N. St. Clair, Galter 10-105, 312/695-4845
Edwin McGee, M.D. 675 N. St. Clair, Galter 10-105, 312/695-0454
Alexander Nagle, M.D. 675 N. St. Clair, Galter 10-105, 312/695-1419
Jay Prystowsky, M.D. 675 N. St. Clair, Galter 10-105, 312/695-1414
Nathaniel Soper, M.D. 675 N. St. Clair, Galter 10-105, 312/695-1419
Steven Stryker, M.D. 676 N. St. Clair, #1525A, 312/943-5427
Cord Sturgeon, M.D. 675 N. St. Clair, Galter 10-105, 312/695-0641
Mark Toyama, M.D. 675 N. St. Clair, #1525, 312/943-2746
Gerald Ujiki, M.D. 676 N. St. Clair, #1525, 312/664-8748
Jeff Wayne, M.D. 201 E. Huron St., Galter 10-105, 312/695-4853

Plastic Surgery

Greg Dumanian, M.D. 675 N. St. Clair, Galter 19-250, 312/695-6022
Julius Few, M.D. 675 N. St. Clair, Galter 19-250, 312/695-6022
Neil Fine, M.D. 675 N. St. Clair, Galter 19-250, 312/695-5658
Victor Lewis, M.D. 201 E. Huron St., Galter 12-240, 312/335-9155
Thomas Mustoe, M.D. 675 N. St. Clair, Galter 19-250, 312/695-5657

Vascular Surgery

Mark Eskandari, M.D. 201 E. Huron St., Galter 10-105, 312/695-4740
Melina Kibbe, M.D. 201 E. Huron St., Galter 10-105, 312/695-6107
Jon Matsumura, M.D. 201 E. Huron St., Galter 10-105, 312/695-4858
Mark Morasch, MD 201 E. Huron St., Galter 10-105, 312/695-4952
William Pearce, M.D. 201 E. Huron St., Galter 10-105, 312/926-5774

For all students (both those who are and are not interested in a surgical career), the following senior electives are available.

GENERAL SURGERY SUR. 4847. 04. NMH

Advisor: Dr. Alexander Nagle

Clerkship Coordinator: Clare Broad, Galter 3-150, 312/926-9411, jvoth@nmh.org

Background and Justification:

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 post operative 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.
- The 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 and persons performing the evaluation:

The student will be evaluated by all attending surgeons and senior residents on the service who consider the student's:

- o general attitudes toward patients, other health care workers, and teachers
- o interest in his/her own education
- o performance of clinical skills
- o communication of patient information, both verbal (oral presentations) and written (H&Ps, progress notes).

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: NMH

First day report to: Jessica Voth, Galter 3-150, 312/926-9411, jvoth@nmh.org

**SURGICAL ONCOLOGY- NMH CHICAGO CAMPUS
SUR. 4850. 04. NMH**

Advisors: Amy L. Halverson, MD, David J. Bentrem, MD, Jeffrey D. Wayne, MD, Anne-Marie Boller, MD, David M. Mahvi, MD

Clerkship Director:

Jeffrey D. Wayne, MD, 676 N. St. Clair Street Suite 650, 312/695-4853

Clerkship Coordinator:

Remi Love, 676 N. St. Clair Street Suite 650, rlove@nmff.org, 312/695-4853

The four or six 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. Registration possible only by prior approval of the course director, 312/695-4853.

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

Number of students per rotation: Two

Number of weeks: Four

Number of credits: One

Ambulatory time: 25-33 percent. NMH.

Sites: NMH Chicago Campus

First day report to: Student will report to Chief Resident at 8am. Contact Remi Love at 312-695-4853 for Chief Resident contact information.

Pediatric Surgery for Pediatricians

PED. 4446. 04. CMH

Advisors: Drs. M. Reynolds, K. Barsness, A. Chin, S. Luck, MB Madonna, D. Rothstein, R. Superina

Clerkship Director:

Marleta Reynolds, MD, 2300 Children's Plaza, Box 63, Chicago, IL 60614,
mreynolds@childrensmemorial.org, 773/880-4912

Clerkship Coordinator:

Valerie Rodriguez, 2300 Children's Plaza, Box 63, Chicago, IL 60614, vrodr@childrensmemorial.org, 773/880-4912

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 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.

Number of students per rotation: One

Number of weeks: Eight

Number of credits: Two

Sites: Children's Memorial Hospital

First day report to: student will report to Valerie Rodriguez at NAB Building, 700 W. Fullerton, 6th Floor, Room N.643 by 8:30 a.m. on first day of his/her rotation.

Pediatric General Surgery**PED. 4428. 04. CMH**

Advisors: Drs. M. Reynolds, K. Barsness, A.Chin, S. Luck, MB Madonna, D. Rothstein, R. Superina

Clerkship Director:

Marleta Reynolds, MD, 2300 Children's Plaza, Box 63, Chicago, IL 60614,
mreynolds@childrensmemorial.org, 773/880-4912

Clerkship Coordinator:

Valerie Rodriguez, 2300 Children's Plaza, Box 63, Chicago, IL 60614, vrodr@childrensmemorial.org,
773/880-4912

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 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.

Number of students per rotation: Two

Number of weeks: Four

Number of credits: One

Sites: Children's Memorial Hospital

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

Pediatric Cardiothoracic Surgery SUR. 4855. 04. CMH

Clerkship Directors:

Carl L. Backer, MD and Sunjay Kaushal, MD (Children's Memorial Hospital)

Clerkship Coordinator:

Dena Zabilka, 2300 Children's Plaza, Box 22, dzabilka@childrensmemorial.org, 773/880-4378

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.

Number of students per rotation: One

Number of weeks: Four

Number of credits: One

Sites: Children's Memorial Hospital

First day report to: The arrangements for this elective must be made through the office of Dr. Backer and Dr. Kaushal at Children's Memorial Hospital, (773) 880-4378

Plastic and Reconstructive Surgery SUR. 4845. 04. VAR

Advisor: Victor L. Lewis, MD

Clerkship Director:

Victor L. Lewis, 201 E. Huron St., Suite 12-240, nw_aesthetics@yahoo.com, 312/335-9155

Clerkship Coordinator:

Consuelo Campos, 201 E. Huron St., Ste.12-240, Chicago, IL 60611, nw_aesthetics@yahoo.com, 312/335-9155

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 in the Galter Pavilion at 8:30 a.m. on the first day of the rotation.

Basic Science of Vascular Surgery

SUR. 4848. 04. NMH

Advisors:

Dr. Morasch, Dr. Eskandari, Dr. Kibbe, Dr. Pearce, Dr. Matsumura, Dr. Rodriguez

Clerkship Director:

Dr. Mark Morasch, 201 E. Huron St., Galter 10-105, 676 N. Saint Clair St, Suite 650, mmorasch@nmh.org, 312/695-4952

Clerkship Coordinator:

Sara Minton, 676 N. Saint Clair St, Suite 650, sminton@nmh.org, 312/695-4857

Background and Justification

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 both participate in surgery and 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 attending
- Required conferences include grand rounds, journal club and residency teaching conferences
- No formal call schedule
- Students make rounds on assigned Saturdays and Sunday s

Evaluation and persons performing the evaluation

Presentation to faculty members of a selected topic emphasizing original literature. Evaluation by faculty members. Evaluation by chief residency 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 clerkships on a subject in vascular surgery chosen in consultation with the residents and staff members.

Number of students per rotation: Two

Number of weeks: Four

Number of credits: One

Sites: Northwestern Memorial Hospital

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

Transplantation Surgery

SUR. 4853. 04. NMH

Clerkship Director: Jonathan P. Fryer, MD

Clerkship Coordinator: Alina Ibrahim, Galter 17-200, 312/695-1892, aibrahim@nmh.org

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.

Number of students per rotation: Two

Number of weeks: Four

Number of credits: One

Site: Northwestern Memorial Hospital, 675 North St. Clair Street, Chicago, Illinois 60611-2923

First Day report to: Susan Benning, Suite 17-200 Galter Pavillion at 9:00 a.m. Monday – Friday.

Trauma/Emergency General Surgery SUR.6104.04.NMH

Advisors/Faculty: Gary C. An, MD, Marie A. Crandall, MD, MPH, Nabil M. Issa, MD, Michael B. Shapiro, MD

Clerkship Director:

Michael B. Shapiro, MD, 676 N. St. Clair, Suite 650, 312-695-4835,
mshapiro@northwestern.edu

Clerkship Coordinator:

Joy Serletic-Freeman, 676 N. St. Clair, Suite 650, 312-695-4835,
jsrleti@nmh.org

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

Number of students per rotation: Two

Number of weeks: Four

Number of credits: One

Site: NMH

First day report to: Contact Joy (jserleti@nmh.org or 312/695-4835) one week before rotation begins to obtain the name of the chief resident and contact information for the 6AM start.

Thoracic Surgery

SUR.4857.04.NMH

Clerkship Director:

Alberto deHoyos, MD, FCCP, 201 E. Huron, 10-105, adehoyos@nmh.org, 312/695-4957.

Clerkship Coordinator:

Andrea Slagel, 201 E. Huron, 10-105, aslagel@nmh.org, 312/695-4630.

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 offer 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.

Number of students per rotations: One

Number of weeks: Four

Number of credits: One

Sites: NMH

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

Cardiac Surgery

SUR.4856.04.NMH

Clerkship Director:

Richard Lee, MD, 201 E. Huron St., Galter 11-140, rlee@nmh.org, 312/695-4977.

Clerkship Coordinator:

Michael Yensel, 201 E. Huron St., Galter 11-140, myensel@nmh.org, 312/695-3662.

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.

Number of students per rotation: Two

Number of weeks: Four

Number of credits: One

Sites: NMH

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

*****Urology*****

Pediatric Urology, CMH

URO. 4701. 02. CMH (Two Weeks)

URO. 4701. 04. CMH (Four Weeks)

Advisors: William E. Kaplan, MD, Antonio H. Chaviano, MD, Earl Y. Cheng, MD, Max Maizels, MD, Elizabeth B. Yerkes, MD

Clerkship Director:

Elizabeth B. Yerkes, MD, Children's Memorial Hospital, 2300 Children's Plaza, Chicago, IL 60614, rallard@childrensmemorial.org, 773/880-4428,

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.

Number of students: Two

Number of weeks: Two or four

Number of credits: One half or one

Sites: Children's Memorial Hospital

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

URO. 4702. 04. N/V

Advisors:

Drs. Robert Brannigan, Christopher Gonzalez, Stephanie Kielb, James Kozlowski, Kevin McVary, Robert Nadler, Kent Perry, Anthony Schaeffer, Norm Smith

Clerkship Director:

Dr. Kevin McVary, Galter 20-150, k-mcvary@northwestern.edu, 312/908-8600

Clerkship Coordinator:

Kelly Ross, Tarry 16-703, k-ross@northwestern.edu, 312/503-3238

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 p.m.) and GU Oncology (Tuesdays, 4:00-5:00 p.m.). 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.

Number of students per rotation: Three (Six in summer sessions)

Number of weeks: Four

Number of credits: One

Sites: NMH, VA.

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.

You should also make arrangements to meet with your preceptor at the beginning of your Urology elective and after the completion of the first two weeks. The senior clerkship director is Dr.

Kevin McVary. You should check in with Dr. McVary at the beginning of your rotation; failure to do so may result in no grade for your clerkship.