

ANAT 743 - Advanced Anatomy Elective**4th Year Elective**

The Musculoskeletal (MSK) Advanced Anatomy Course is a four-week elective focused on providing exposure to clinically relevant anatomy. This course is designed around weekly anatomical regions associated with a high frequency of patient visits (shoulder/neck, hip/lumbar spine, knee and ankle) and cases often requiring a multi-disciplinary clinical care approach. Each week will consist of a 3-day sequence: Day 1 will focus on the relationship of anatomy with patient history and physical exam with the cadaver lab being utilized to explore and highlight pertinent surface anatomy. Day 2 will focus on anatomical landmarks needed for using and understanding diagnostic tools; including MSK radiology and appropriate neurological exams. In the cadaver lab, we will begin exploratory surgical approaches. Day 3 will be focused on anatomy relevant to patient treatment including review of important rehabilitation techniques and surgical approaches. The overall objectives of this course is to aid in vertical integration of basic science anatomy and its application in clinical care, to enhance understanding of the interplay of clinical specialties in patient treatment, and to facilitate the transition of anatomical application in the clinic.

Course Objectives

- Recognize essential anatomical components of frequently used physical exam techniques
- Demonstrate ability to perform physical and neurological exam skills
- Discriminate between MSK derived symptoms and those derived from “referred pain”
- Develop knowledge of MRI anatomy and its clinical applications
- Predict “patient” pathologies based on radiological images and confirm these findings through cadaveric dissection
- Develop critical thinking skills applicable to MSK cases and extrapolate learned concepts to cases in the clinical wards
- Translate knowledge learned in lecture to a clinical presentation in journal entries and oral presentation

This course integrates the following clinical specialties: family medicine/sports medicine, surgery, radiology, pain medicine, physical therapy, neurology and anatomy.

Course Director: Michelle Lazarus, mlazarus@hmc.psu.edu

Hershey Medical Center

February Block - There is a minimum of 5 students and a maximum of 10 students

Prerequisite: Must be a 4th year student.

ANSTH 700 - Anesthesia for Third Year Students**3rd Year Elective**

This four week preceptorship will include an active daily experience in clinical Anesthesiology, a rapidly changing and broadening field of clinical patient care, with a single staff physician. The student will not be expected to have Anesthesia as their career of choice but wish to develop an understanding of cardiorespiratory monitoring, neurophysiological monitoring, rapid-response applied pharmacology, airway management techniques, and emergency medical responses. The preceptor's clinical assignments include one week blocks of critical care medicine for surgical patients, including invasive line placement and fiberoptic bronchoscopy, intraoperative care of patients undergoing both general and regional anesthesia with attendant exposure to airway management skills, anesthesia and conscious sedation for patients, requiring alternate-site diagnostic and/or therapeutic procedures in sites such as Interventional Radiology, Invasive Neuroradiology, and MRI, acute responses to codes, airway

emergencies, and trauma responses, and exposure to intraoperative EEG and evoked potential monitoring. The exact student exposure will vary with clinical assignment and clinical activity available.

Program Director: Dr. Carolyn Barbieri

Course Coordinator: Pam Myers

October to June (NOT July, August or September)

5 Students

Hershey

4 Weeks

Prerequisite: Completion of first two years of medical school.

ANSTH 770 - Anesthesiology Elective

4th Year Elective

The course at Lehigh will depend on the specific location. The course at Hershey is designed for senior medical students who are seeking a career in anesthesia. The rotation will have 4th year medical students interested in pursuing a career in anesthesia act as CA-1s. The medical student will have the majority of their time in the OR (Neuroanesthesia, Pediatric, or Cardiothoracic Anesthesia) or the Acute Pain Team, working with residents and/or the anesthesia attending. The medical student will be required to read the patient's history the night before and be able to discuss the anesthetic implications with the anesthesia team the day of surgery. They should also formulate and discuss a plan for induction, maintenance, and emergence with the team. At the end of the month, the medical student should know the common drugs in anesthesia including the mechanism of action, dosage, side effects, and indications of use. The medical student should also be able to interpret anesthetic monitors, ventilator management, understand indications for various anesthetic techniques (general anesthesia vs. regional vs. Monitored Anesthesia Care), perform a pre-operative evaluation, and understand anesthetic implications of various diseases and their intra-op management. The student will be required to take overnight call, where they will continue to gain experience in pre-op evaluation, intra-op care, and post-op care of the surgical patient. The student will attend all didactic sessions which the 1st year anesthesia residents attend. The medical student may also receive a number of sessions in the simulation lab. The medical student's evaluation will be based on a preoperative evaluation, a written examination, procedure log, and daily evaluations by residents and attendings.

The student's patient-care responsibilities will be determined by their individual experience and educational motivation, as assessed by the supervising anesthesia faculty. Student performance of technical procedures will be encouraged but only within the context of patient safety and the student's knowledge of the patient, pertinent anatomy, and the risks and benefits of such procedures. Every effort will be made to "track" students with specific faculty or senior residents to enhance familiarity and, thus, enrich the educational experience.

Program Director: Dr. Carolyn Barbieri

Course Coordinator: Pam Myers

Hershey (6)

Hershey- July/August/September

Third year core clerkships and ANSTH 700

ANSTH 772 - Pain Management Elective

4th Year Elective

The course involves the medical evaluation and treatment of patients with pain due to cancer and other chronic pain syndromes. The student is closely involved with the diagnosis and treatment of various

painful conditions. Emphasis is placed on evaluation of the pain patient; the pharmacology of analgesic and adjuvant agents; and interventional techniques for the treatment of pain. Grading for this rotation will be based on faculty evaluation of the student's knowledge base, participation, and interest. As this rotation does not require any of the traditional duties of internship other than evaluation and diagnosis, and acting internship is not available.

Program Director: Dr. Vitaly Gordin

Course Coordinator: Ms. Connie Williard (cwilliard@hmc.psu.edu)

1 student

All Rotations

Third year core clerkships.

ANSTH 796 - Anesthesia Individual Studies Elective

3rd / 4th Year Elective

Individual Studies Elective

Anesthesia Faculty Member

Penn State College of Medicine Medical Students Only

All Rotations

Successful completion of first three semesters of medical college curriculum.

DERM 732 - Dermatology Elective

3rd / 4th Year Elective

This elective is designed to provide the student with an extensive, indepth exposure to clinical dermatology. They will be involved, in a primary way, in the evaluation and management of patients in the dermatology clinics. Students will also be provided the opportunity to do the initial evaluation of the inpatient consults. Students will attend the daily dermatology rounds and morning conferences.

Course Director: Joslyn Sciacca Kirby, MD

Course Coordinator: Michelle Ball

All Rotations at Hershey

4 students

Date(s)/Time/Location: 7:45 a.m., UPC I, Suite 100 [On the first day, please report to the 4th floor conference room, UPC]

Third Year Medicine Clerkship

DERM 740 - Dermatopathology Elective

4th Year Elective

Intended for students who are pursuing a career in dermatology or pathology, the course involves studying the pathology of cutaneous disorders. At a multi-headed microscope, the students will observe "sign out" of skin biopsies obtained in outpatient and inpatient settings that are performed by dermatologists, plastic surgeons, ophthalmologists and family practitioners. Students will have the opportunity to preview cases on their own and are expected to do so. With the aid of the dermatopathologists, students are expected to complete a project that can feasibly be completed within the one month-long rotation and lead to publication. By the end of the course, students are expected to be able to diagnose common skin lesions on their own, which will be assessed by questioning at the microscope. This course complements what is learned in dermatology and pathology rotations. A four-week block is recommended, with a maximum of two students at any given time.

Course Director: Dr. Michael Ioffreda

Course Coordinator: Jeanne Faust (jfaust@hmc.psu.edu)

All Rotations at Hershey

4 weeks

Prerequisite: Third Year Core Clerkships & course is for students who are pursuing a career in dermatology or pathology.

DERM 796 - Dermatology Individual Studies Research Elective

3rd / 4th Year Elective

Individual Studies Elective

Dermatology Faculty Member

Penn State College of Medicine Medical Students Only

All Rotations

GH - 747 - Global Health 4th Year Elective

4th Year Elective

Penn State College of Medicine Medical Students Only

EMED 740 - Emergency Medicine Ultrasound Elective

4th Year Elective

Emergency Medicine Ultrasound

1. Brief outline

This course will introduce medical students to basic concepts and applications of bedside ultrasonography in the evaluation of a wide variety of Emergency Department patients. The skills of image acquisition and immediate interpretation will be a core of the rotation experience.

Learning opportunities will include:

- a. Self-directed didactic modules covering the physics and instrumentation of ultrasonography and the applications of US in the Emergency Department.
- b. Bedside, supervised ultrasound studies performed by the student with direct supervision by emergency ultrasound credentialed faculty during dedicated ED shifts.
- c. Attendance at Emergency Medicine weekly resident conference.
- d. Completion and discussion of a pre-test and post-test consisting of still image and video interpretation and case-based material.
- e. Completion of a written case report of a patient evaluated during the rotation.
- f. Emphasis will be placed on the acquisition and interpretation of images at the bedside.
- g. Use of the textbook ?Manual of Emergency and Critical Care Ultrasound?.

2. Topics which will be covered include:

- a. Ultrasound physics and instrumentation.
- b. Trauma
- c. Biliary
- e. Renal
- f. Aorta
- g. Cardiac
- h. Obstetrical
- i. Procedural guidance
- j. Deep venous thrombosis
- k. Soft tissue imaging

3. Course Description

This course is designed to introduce students to the role of emergency medicine ultrasound as well as provide initial skills development in the hands-on acquisition of ultrasound images at the patient's bedside. Emergency ultrasound has a unique role: the provider must perform and interpret the study right at the patient's bedside and rapidly add the findings to their assessment and management of the patient. Students will work in the Emergency Department refining their skills at image acquisition and interpretation working closely with credentialed emergency medicine faculty. Students will not be responsible for direct patient care during this rotation.

The student will have access to a variety of self-directed resources for the course material including video, online learning modules, and an image bank for review. Teaching resources will consist of bedside practice and teaching by credentialed Emergency Medicine faculty as well as independent reading and self-directed learning modules. The resources of the Simulation Center will be utilized for instruction and practice in the use of ultrasound for procedural guidance. At the beginning of the rotation, the focus will be on understanding the indications to perform bedside imaging and the skills to obtain optimal images including an understanding of the various controls of the ultrasound machines. As the student progresses through the rotation, more emphasis will be placed on image interpretation and inclusion of findings in the clinical care of the patient. The overall goals of the rotation will be for the student to demonstrate the ability to obtain proper ultrasound studies at the bedside, to recognize normal and abnormal studies, and to discuss the role of bedside ultrasound in the overall care of the Emergency Department patient.

This course will be offered throughout the entire academic year.

Dr. Daniel Rodgers, MD, RDMS, Assistant Professor of Emergency Medicine, Director, Emergency Ultrasound, Department of Emergency Medicine.

All Rotations – 2 Students

Prerequisite: Successful completion of Year III and must have previously taken an Emergency Medicine elective or AI.

EMED 754 - Medical Toxicology Elective

4th Year Elective

Medical Toxicology Elective

A one-month toxicology elective for fourth year medical students includes the following educational opportunities:

Toxicology admissions and consults: The Pinnacle Health Toxicology Center at Harrisburg Hospital is one of the busiest inpatient toxicology services in the nation. The Center operates a 10-bed Toxicology Unit with over 900 service admissions and consults and more than 5000 telephone consults per year. The telephone consult service provides more than 50 hospitals in central Pennsylvania a direct physician consult for poisoned patients. The service provides immediate recommendations for the treatment of poisoned patients as well as medical air transport to the center for specific antidotes and management. Every telephone consult is discussed immediately with a board certified Medical Toxicologist.

Weekly Conferences: The conferences include lecture presentations, journal clubs, toxicology chapter reviews, and topic of the week discussions.

Toxicology Center Morning Conference: This occurs daily and provides opportunity for the team to discuss all telephone consults that have been received by the on-call resident.

Independent Study: The Toxicology Center admissions and consults along with the telephone consult service should expose the student to the most common toxicologic poisonings. Journal articles and outlines will be available for the students to review as these cases appear. There will be a list of suggested poisonings for review so that if certain cases do not occur through the month, the student will have the opportunity to read and discuss these poisonings with the attending physician during the last week of the rotation.

Research: The Toxicology Service actively participates in a number of ongoing clinical studies.

Program Director: J. Ward Donovan, M.D

Course Coordinator: 782-3362

Harrisburg Hospital Pinnacle Health System

All Rotations – 4 weeks

Prerequisite: Completion of third year clerkships

EMED 756 - Emergency Medicine Elective for Third Year Students

3rd Year Elective

This course is designed to introduce the 3rd year student to various aspects of Emergency Medicine. The course includes 2 weeks of shifts in the ED, working closely with the senior residents and faculty to learn assessment of the undifferentiated patient. The course is offered January - June of the 3rd year.

Program Director: Dr. Kimberly Scholfield

Hershey

2 Weeks

January through June

7:00 a.m., Emergency Department

Completion of first two years of medical school.

EMED 796 - Emergency Medicine Individual Studies

3rd / 4th Year Elective

Individual Studies Elective

Emergency Medicine Faculty Member

Penn State College of Medicine Medical Students Only

All Rotations

EMED 797 - Emergency Medicine Special Topics

3rd / 4th Year Elective

Penn State College of Medicine Medical Students Only

FCMED 730 - Paired Observation & VideoEditing (POVE) (4th year)

4th Year Elective

FCMED 730 - Advanced Communications Elective Paired Observation & VideoEditing (POVE) (4th year)

Description:

This four week elective provides the opportunity for two fourth year students working together to advance their communication skills in clinical settings.

Course Outline:

1. Brief outline

This is a 4 week elective experience for fourth year medical students working in pairs seeing patients in the outpatient setting under the guidance of faculty preceptors. Students take turns in the roles of

interviewer/examiner v. observer for these taped encounters, compose a computer-edited narrative summary of selected portions of their taped encounters, construct a separate doctor-patient communications tape, and receive added didactic training on advanced elements of the doctor-patient relationship & patient-centered communication.

Learning opportunities will include:

- a. Direct patient care in the ambulatory family medicine setting working in pairs, being taped (digital format)?with appropriate patient selection (age > 18 years) and consent, and structured peer observation/feedback forms.
- b. Structured peer to peer and faculty-mentored tape review and reflection.
- c. Communications teaching sessions with faculty preceptors with emphasis on narrative and motivational interviewing techniques.
- d. Medical humanities,literature & film with emphases on the doctor-patient relationship & patient-centered communication.
- e. Participation (as schedule permits) in medical student communications teaching sessions (such as small group teaching in FCM I or 3rd Year Island I component on Motivational Interviewing; subject to change pending proposed 3rd Year curricular reform).
- f. Creation, sharing, and review/commentary of patient-care related videoessay.
- g. Creation, sharing, and review/commentary of teaching tape (acted student-patient encounter).
- h. Student pre and post elective self evaluation

2. Topics which will be covered include:

- a. Relationship, Communication, & Efficiency in the Clinical Encounter.
- b. Eliciting, Respecting, & Responding to the Patient's Perspective
- c. Up-Front Collaborative Agenda Setting
- e. Narrative Medicine
- f. Motivational Interviewing
- g. Patient-Centered Communication
- h. Communication with the Patient during the course of the Physical Examination
- i. Shared Decision-Making
- j. Communication (as appropriate) with Patient's Family, Friends, Spouses/Partners
- k. Cross-Cultural Dimensions of Patient Care/Communication
- l. Use of IMovie on MacBook Pro for creation of videoessay and teaching tape

Drs. Adelman, Lewis, Richard

Hershey Location – 2 students paired

Teaching Blocks: Oct., Nov., Mar.

4 weeks

Prerequisite: Successful completion of third year required clerkships.

FCMED 796 - FCMED Individual Studies Research Elective

3rd / 4th Year Elective

Individual Studies Elective

Family Medicine Faculty Member

Penn State College of Medicine Medical Students Only

All Rotations

FCMED 797 - Family Medicine Special Topics Elective

3rd / 4th Year Elective

Penn State College of Medicine Medical Students Only

MED 715 - Infectious Disease Elective**3rd / 4th Year Elective**

This elective provides exposure to an inpatient consultation service in Infectious Diseases. The student(s) will be responsible for workup and following patients, presenting the case and all follow-up data to the attending physician and others on the service.

Course Objectives:

Diagnosis, laboratory workup and treatment of a variety of Infectious Diseases by first-hand experience. In addition, a collection of articles on twenty-four of the most important Infectious Diseases topics is reviewed monthly.

Additional Information:

Course Specific Requirements: Attendance at all case conferences, ward rounds, and laboratory visits. Presentation of cases at the weekly clinical conference.

Program Director: Dr. Tonya Crook

Course Coordinator:

Reading: Robin Salyards, salyardsr@readinghospital.org

1 Student

All Rotations

Prerequisite: Third Year Medicine Clerkship

MED 721 - Cardiology for Third Year Students**3rd Year Elective**

This course complements the third year medicine clerkship and provides additional experience caring for in-patients with cardiac problems. During the first week, students will be introduced to the non-invasive and invasive procedures by spending one day each in the following areas to learn how procedures are performed and interpreted: echocardiography, exercise stress testing, and cardiac catheterization laboratories. One day will be spent with the "Harvey" mannequin and one day interpreting electrocardiograms. The final three weeks will be spent as a clinical clerk on one of the two in-patient cardiology services. Under the guidance of a resident student's will function as a third year clinical clerk. Student duties will depend on the level of experience.

Course Objectives:

By the completion of this course students will be able to evaluate appropriately and treat common cardiovascular problems requiring admission to hospitals: acute coronary syndromes, heart failure and syncope. They will learn how to establish a program for post discharge care including cardiac rehabilitation following myocardial infarction.

Additional Information:

Course Specific Requirements: Attendance at cardiology presentations if applicable. Students are expected to work-up, write-up, present, and follow patients as assigned by their assigned team.

Program Director: Dr. Zellis

4 Students

All Rotations

4 Weeks

Report To: Hershey 8:00 a.m., Echocardiography Lab, Cardiovascular Center (adjacent to North Lobby)

Prerequisite: Successful completion of first two years of medical school.

MED 723 - Clinical Elective in Gastroenterology Elective**3rd / 4th Year Elective**

Clinical Elective in Gastroenterology

The gastroenterology service will provide a busy and intensive clinical training ground with emphasis on the pathophysiological approach to the management of a broad spectrum of gastrointestinal, hepatobiliary and pancreatic diseases.

Course Objectives:

Main topics and concepts covered during the elective are; peptic ulcer disease, gastrointestinal oncology, pancreatitis, irritable bowel syndrome, inflammatory bowel disease, obstructive jaundice.

Program Director: Emannelle "Manny" Williams , MD

Course Coordinator: Ms. Cindy Strine (cstrine@hmc.psu.edu)

Time & Location: 8 AM, UPC II Suite 4100

HY, Reading (Dr. Lisa Motz; Reading: Robin Salyards, salyardsr@readinghospital.org; York (Dr. Brian Pollack); Harrisburg Course Contact: Sandy Newman

All Rotations

4 Weeks

Prerequisite: Third Year Medicine Clerkship

MED 724 - Hematology Elective**3rd / 4th Year Elective**

This elective provides supervised clinical experience in the diagnosis and management of hematologic diseases. The fourth year student is responsible to the hematology attending on service for that month and is expected to assist in the evaluation of patients seen in the outpatient clinics, as well as those seen on the inpatient hematology consultation service. After performing a complete history and physical examination, the student presents the clinical findings to the attending physician, confirmation at the bedside, and together with the attending physician, examines relevant peripheral smears, bone marrow preparations, and x-ray studies. The student is expected to attend ward rounds, weekly case conference, lymphoma board, and the combined hematology/oncology conference.

Course Objectives:

Familiarity with basic knowledge of various types anemias, leukopenia and thrombocytopenia. General information regarding the diagnosis and management of hemorrhagic and thrombotic disorders.

Program Director: Dr. Michael Evans

Course Coordinator: Lynn Kreider lkreider@hmc.psu.edu

8 AM, Room CI T4425

Hershey, Reading (Dr. Lisa Motz; Reading: Robin Salyards, salyardsr@readinghospital.org), York (Dr. Brian Pollack), Harrisburg (Course Contact Sandy Newman)

All Rotations

4 Weeks

Prerequisite: Third Year Medicine Clerkship

MED 725 - Oncology Elective**3rd / 4th Year Elective**

The student will spend this rotation on the oncology consult service and be expected to:

- 1) participate in daily patient rounds with an oncology attending and fellow
- 2) to share consults with the fellow
- 3) attend outpatient clinics, new patient evaluations and follow-ups
- 4) attend didactic sessions and conferences in the division (approx. 5/week)

Course Objectives:

Main topics/concepts covered during the elective include:

1. Appreciation of interdisciplinary management of common solid tumors
2. Understanding the principles of supportive care in oncology - especially pain management
3. Learn principles of chemotherapy - mechanisms of action, use and complications

Program Director: Dr. Nelson Yee

Course Coordinator: Ms. Lynn Kreider (lkreider@hmc.psu.edu)

Hershey, Prior Approval Reading (Dr. Lisa Motz; Reading: Robin Salyards, salyardsr@readinghospital.org), Prior Approval York (Dr. Brian Pollack), and Harrisburg (Course Contact Sandy Newman). Call Lynn Kreider prior to start of rotation for instructions.

All Rotations

4 Weeks

Prerequisite: Third Year Medicine Clerkship

MED 727 - Pulmonary Medicine Elective**3rd / 4th Year Elective**

Student is responsible for initial consultation, case presentation, and daily follow-up. Evaluation of the patient is then reviewed by faculty on a bedside presentation on daily rounds. Chest x-ray, pulmonary function testing, and other laboratory evaluations are also the responsibility of the student as the month progresses. A varied outpatient environment is also available to the student, including pulmonary consultation, sleep disorders, allergy, lung cancer, and occupational pulmonary medicine. Students are responsible for creating one multi media case for the Web site and will meet with a trained patient/actor to develop clinical skills.

Course Objectives:

- * To become familiar with the diagnosis, management and treatment of common respiratory system disorders in an acute patient care environment.
- * To understand basic pulmonary physiology to assist and guide patient care.
- * To be able to interpret normal and abnormal chest radiological studies.

Additional Information:

Course Specific Requirements: Students are responsible for creating one multi-media case for the website.

Hershey, York (Dr. Brian Pollack)

2 (HY) , Prior Approval 1 (York)

All Rotations

4 Weeks

Prerequisite: Third Year Medicine Clerkship

MED 728 - Nephrology Elective**3rd / 4th Year Elective**

The Nephrology elective introduces students to the diagnosis and management of patients with fluid and electrolyte disorders, acute renal failure, and chronic renal failure. The elective is delivered through the inpatient Nephrology consult service at the Hershey Medical Center. Students round with the

consult service, evaluate new patients, formulate diagnostic and therapeutic plans, and discuss each patient with the attending staff. Practical experience is supplemented with weekly conferences.

Course Objectives:

Main topics and concepts covered during the elective are:

- * Methods to evaluate kidney function
- * Diagnosis and treatment of acute renal failure
- * Diagnosis and treatment of chronic renal failure
- * Diagnosis and treatment of proteinuria
- * Diagnosis and treatment of hypertension
- * Diagnosis and treatment of hyponatremia
- * Diagnosis and treatment of hyperkalemia
- * Diagnosis and treatment of acid-base disorders
- * Diagnosis and treatment of edema

Additional Information:

Course Specific Requirements: Present a patient at case conference. Briefly discuss a paper at literature update conference.

Program Director: Nasrollah Ghahramani, M.D.

Course Coordinator: Ms. Tracey Erickson (terickson@hmc.psu.edu)

Hershey 2 students, Prior Approval York 1 student (Dr. Brian Pollack)

All Rotations

4 Weeks

Report: 8 AM, RM C5830, BMR

Prerequisite: Third Year Medicine Clerkship. 8 AM, RM C5830, BMR

MED 734 - Endocrinology Elective

3rd / 4th Year Elective

To provide experience in the diagnosis and management of all endocrine and metabolic disorders both in the outpatient and inpatient setting. Clinical experience is complemented by didactic lectures, e.g., weekly endocrine grand rounds, one-on-one teaching sessions with fellows.

Additional Information:

Course Specific Requirements: Attend endocrine conferences, clinics, rounds and teaching sessions.

Case presentations and review of pertinent literature.

Program Director: Dr. Andrea Manni

Course Coordinator: Ms. Lisa Doster (ldoster@hmc.psu.edu)

Hershey, Prior Approval York (Dr. Brian Pollack), and Harrisburg (Course Coordinator: Sandy Newman)
2 (HY) , Prior Approval 1 (York), and 1 (Harrisburg)

All Rotations

4 Weeks

Prerequisite: Third Year Medicine Clerkship

MED 738 - Cardiology Elective

3rd / 4th Year Elective

This course is for fourth year medical students who wish to expand clinical skills in cardiology. Students will gain experience with interpretation of common cardiovascular diagnostic procedures and work with a Cardiology Fellow on the cardiology inpatient consultation service. Students are responsible for evaluating, presenting, and following patients on all services seen in consultation by cardiology.

Students have the opportunity to spend half days in the following areas: echocardiography, exercise

stress testing, and cardiac catheterization laboratories to observe how procedures are performed and interpreted. Other learning activities can be arranged with the attending cardiologist and fellow on services if desired.

Course Objectives:

By the completion of this course students will be able to assess the cardiac risk of a patient about to undergo non-cardiac surgery. They will be familiar with recognizing common electrocardiographic abnormalities, able to recognize and treat common arrhythmias, and cardiac causes of chest pain, dyspnea, and syncope.

Additional Information:

Course Specific Requirements: Attendance at cardiology presentations if applicable. Students are expected to examine and evaluate patients and present findings to the faculty cardiology on services. Hershey, York (Dr. Brian Pollak), and Reading (Dr. Lisa Motz; Reading: Robin Salyards, salyardsr@readinghospital.org).

2 (HY), Prior Approval 1 (York), and Prior Approval 1 (Reading)

All Rotations

4 Weeks

Prerequisite: Third Year Medicine Clerkship

MED 742A - Allergy and Immunology Elective for 3rd Year Students

3rd Year Elective

Allergy and Immunology Elective for 3rd Year Students

Program Director: Dr. Timothy Craig

Course Coordinator: Ms. Renee Morton (rmorton@hmc.psu.edu)

2 Students

All Rotations

2 Weeks

For Third Year Medical Students Only-2 week elective

MED 745 - Geriatric Elective

4th Year Elective

Students will be exposed to multiple sites of care for the elderly under faculty supervision from the Division of General Internal Medicine and Family and Community Medicine. Students will see patients in several outpatient geriatric clinics. Under supervision of a geriatric nurse specialist they will perform functional

assessments and develop care plans for hospitalized elders who are transitioning to home or long term care setting. They will attend several geriatric consultative conferences emphasizing a multidisciplinary approach. They will attend geriatric grand rounds. A long term care experience is also provided. In this experience time will be spent with the medical director, the director of nursing and an attending physician seeing patients. A text is provided and there are several required readings from the literature. A short report on a geriatric topic and a course evaluation will be required.

Dr. Noel Ballentine : nballentine@hmcpsu.edu

Hershey Locations

1 Student

All Rotations

4 Weeks

Prerequisite: Must be a 4th yr. medical student, Completion of Third Year Core Clerkships

MED 747 - Allergy and Immunology Elective**3rd / 4th Year Elective**

A student rotating on the Allergy service will experience an active and up-to-date Allergy and Immunology clinical service. The student will be expected to see patients during clinic hours on their own. Off clinic hours the student is expected to read, study and hopefully develop a research project or write a manuscript that could be submitted to a journal. The areas that will be covered include: asthma, rhinitis, sinusitis, allergic skin rashes, immunodeficiencies, chronic fatigue syndrome, bee anaphylaxis, drug adverse events, food allergy, vaccines and preventive care.

Course Objectives:

Main topics and concepts covered during the electives are:

1. Understanding of the diseases that Allergy and Immunology service treats.
2. To become proficient in the care of the most common allergic diseases.
3. To develop history and physical exam skills including developing a logical assessment and plan of care
4. To read the allergy literature that will be necessary for boards and future career.

Additional Information:

Course Specific Requirements: Students will be encouraged to, but not required, to present a short lecture during the elective.

Program Director: Dr. Timothy Craig

Course Coordinator: Ms. Renee Morton (rmorton@hmc.psu.edu)

Hershey Medical Center

All Rotations

2 Students

4 Weeks

Prerequisite: Third Year Medicine Clerkship

MED 747 - Allergy and Immunology Elective**3rd / 4th Year Elective**

A student rotating on the Allergy service will experience an active and up-to-date Allergy and Immunology clinical service. The student will be expected to see patients during clinic hours on their own. Off clinic hours the student is expected to read, study and hopefully develop a research project or write a manuscript that could be submitted to a journal. The areas that will be covered include: asthma, rhinitis, sinusitis, allergic skin rashes, immunodeficiencies, chronic fatigue syndrome, bee anaphylaxis, drug adverse events, food allergy, vaccines and preventive care.

Course Objectives:

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3. To develop history and physical exam skills including developing a logical assessment and plan of care
4. To read the allergy literature that will be necessary for boards and future career.

Additional Information:

Course Specific Requirements: Students will be encouraged to, but not required, to present a short lecture during the elective.

Program Director: Dr. Timothy Craig

Course Coordinator: Ms. Renee Morton (rmorton@hmc.psu.edu)

Hershey – 2 students

All Rotations

4 weeks

Prerequisite: Third Year Medicine Clerkship

MED 748 - Rheumatology Elective

3rd / 4th Year Elective

Students will participate in inpatient and outpatient clinical services and in didactic sessions. The students will be actively involved in the initial evaluation and ongoing care and management of outpatient consultation and follow-up patients and inpatient consultations. Students will participate in outpatient clinic and daily consultation rounds. Weekly didactic sessions include case conference, journal club, bone and joint radiology, and small group sessions. Required reading includes assigned section in the Arthritis Foundation's Primer on the Rheumatic Diseases, which is provided to the student. Opportunities for interested students to participate in pediatric rheumatology clinics are available.

Course Objectives:

Instructional focus on the development of the musculoskeletal joint examination, understanding pathophysiology of rheumatic diseases, the differential diagnosis of rheumatic diseases, and the use of laboratory and radiology diagnostic tools in evaluation of the rheumatic disease patients. Diseases studied include: rheumatoid arthritis, systemic lupus erythematosus, spondyloarthropathies, gout, osteoarthritis, polymyositis, infectious arthritis, and outpatient orthopedic problems.

Program Director: Dr. Sharon Banks

Course Coordinator: Ms. Marilyn Hoke (mhoke@hmc.psu.edu)

Reading: Robin Salyards, salyardsr@readinghospital.org

Hershey, Harrisburg, Reading - prior approval, York - prior approval

1 Student

All rotations

4 Weeks

Prerequisite: Third Year Medicine Clerkships

MED 796 - Medicine Individual Studies

3rd / 4th Year Elective

Medicine Individual Studies Elective

Medicine Faculty Member

Penn State College of Medicine Medical Students Only

All Rotations

MED 797 - Medicine Special Topics

3rd / 4th Year Elective

Penn State College of Medicine Medical Students Only

MEDTR 743 - Triage and Resuscitation Elective

4th Year Elective

This course is designed to introduce fourth-year medical students to the principles of recognition and initial management of the patient with a potentially life-threatening illness or injury. It consists of several discrete components:

a. Students will spend half a day Monday through Friday in several clinical venues, each one for a week, which will include the emergency department and its triage area, Emergency Medical Services (EMS), and various ICU settings. Students will select which four of these venues in which they wish to rotate.

b. Students will also attend daily FCCS classes, typically at noon.

c. Students will attend an afternoon educational session. These sessions will include ACLS training, ATLS training, case-based simulation modules incorporating basic science concepts relating to the clinical topics, and student case presentations. There will be core elements of the course common to all students (ACLS, ATLS, and FCCS), as well as student-chosen elements (the clinical sites and the simulation case topics).

Drs. L. Kass, K. Scholfield, E. Sinz, Dr. Scholfield

Course Coordinator: Lureye Myers

Hershey Medical Center Minimum of 6 students, maximum of 8 students

Sept., Oct., Feb., Mar.

4 Weeks

Penn State College of Medicine Medical Students Only

Prerequisites: Successful completion of the core third-year medicine and surgery clerkships.

NEURO 796 - Neurology Individual Studies

3rd / 4th Year Elective

Neurology Individual Studies Elective

Neurology Faculty Member

Penn State College of Medicine Medical Students Only

All Rotations

NEURO 797 - Neurology Special Topics

3rd / 4th Year Elective

Penn State College of Medicine Medical Students Only

NSURG 750A - Neurosurgery for Third Year

3rd Year Elective

This course demonstrates basic concepts of neurosurgical treatment, develops skills in neurological diagnosis and improves interpretation of neuroradiological studies.

Dr. Robert Harbaugh

Hershey

1 Student

2 Weeks

All Rotations

6:15 a.m. / H4151 Reporting to Chief for rounds

Any third year core clerkship that requires direct patient care

NSURG 796 - Neurosurgery Individual Studies**3rd / 4th Year Elective**

Neurosurgery Individual Studies Elective
Neurosurgery Faculty Member
Penn State College of Medicine Medical Students Only
All Rotations

NSURG 797 - Neurosurgery Special Topics Elective**3rd / 4th Year Elective**

Penn State College of Medicine Medical Students Only

OBGYN 720 - Clinical Outpatient Gynecology(Ambulatory & Adolescent) Elective 4th Year Elective

This course involves active participation in a community outpatient obstetrics and gynecology practice. The student will participate in outpatient evaluation and management of common and complex gynecologic problems, with a heavy concentration on primary care and preventative medicine. They will be exposed to the relationship with physician extenders, specifically certified nurse practitioners. Considerable individualization of course directives to meet student interests is possible, particularly involving pediatric/adolescent gynecology, vulvodynia, outpatient surgery, and hospital obstetrics. Program Director: Dr. Carie D'Agata , cdagata@hmc.psu.edu 531-5994

Course Coordinator: Torie Roe

Penn State Hershey Medical Group Nyes Road Specialties - 121 Nyes Road, Suite A, Harrisburg

1 Student

September through April

Prerequisite: Third Year Core Clerkships

OBGYN 721 - Clinical Reproductive Endocrinology and Infertility 4th Year Elective

Clinical Reproductive Endocrinology and Infertility

This course will involve active participation in our outpatient practice of Reproductive Endocrinology and Infertility. It will introduce the student to the evaluation of infertility as well as modern treatment modalities. The student will participate in outpatient surgical procedures such as hysteroscopy and laparoscopy, as well as experience advanced reproductive technologies. The student will be expected to participate in a month long project to broaden his/her knowledge of reproductive endocrinology and infertility.

Program Director: Dr. William Dodson, wdodson@hmc.psu.edu 531-8478

Course Coordinator: Torie Roe

Hershey Medical Center

1 student

All Rotations

4 Weeks

Prerequisite: Third year core clerkships

OBGYN 721A - Reproductive Endocrinology and Infertility 3rd Year Elective

This course is designed to introduce third year medical students to the basic evaluation of human infertility, and expose them to current technologies for addressing the problem. Additionally, students will be introduced to clinical reproductive endocrinology in women, including the underlying

biochemical and hormonal basis of normal function, and the recognition and management of common disorders. This will include exposure to genetic and clinical research, and the interplay between what are seen as reproductive endocrine disorders and broader human endocrinology. Experiences will include participation in infertility clinics, endocrinology clinics, vaginal ultrasound sessions, and egg retrieval and embryo transfer procedures.

Program Director: Dr. William Dodson

Hershey

1 Student

All Rotations

2 Weeks

Completion of OB/GYN core clerkship

OBGYN 722 - Clinical Perinatal Medicine Elective

4th Year Elective

Clinical Perinatal Medicine Elective

The student will be involved in the evaluation of high risk pregnancies in antepartum, intrapartum, and postpartum settings. The student will become familiar with many of the medical complications of pregnancies and their management. The student will also be exposed to pre- and post-conception genetic counseling and obstetrical ultrasonography.

Program Director: Dr. Serdar Ural, sural@hmc.psu.edu 531-6210

Course Coordinator: Torie Roe

Hershey

1 student

All Rotations

4 weeks

Prerequisite: Third year core clerkships

OBGYN 722A - Clinical Perinatal Medicine

3rd Year elective

This course is designed to introduce third year medical students to the basic concepts of high risk obstetrics, and expose them to current technologies for monitoring fetuses and diagnosing prenatal disorders. They will review the human physiologic adaptations of pregnancy, and understand the relevance to everyday clinical situations. They will be exposed to genetic counseling, screening, and diagnosis, including the ethical impact of current knowledge and technologies. Finally, they will be exposed to the impact of pregnancy on systemic disorders, such as hypertension, and the impact of those disorders on the health and development of the fetus.

Program Director: Dr. Serdar Ural

1 Student

All Rotations

2 Weeks

Prerequisite: Completion of OB/GYN core clerkship

OBGYN 796 - OBGYN Individual Studies (Research)
Obstetrics and Gynecology Individual Studies Elective
Obstetrics and Gynecology Faculty Member
Penn State College of Medicine Medical Students Only
All Rotations

3rd / 4th Year Elective

OBGYN 797 - OBGYN Special Topics Elective
Penn State College of Medicine Medical Students Only

3rd / 4th Year Elective

OPHTH 760 - Ophthalmology Elective
Ophthalmology Elective

3rd / 4th Year Elective

This course is designed to provide a broad experience in ophthalmology for any students, regardless of their future career goals. Students will spend time with all faculty members, as well as some residents. The course goal is for students to understand the diagnosis, pathogenesis, and management of a variety of ophthalmic disorders, as well as become proficient in the use of a direct ophthalmoscope. Depending on the students' goals, the rotation schedule can be modified to accommodate particular interests, e.g., more neuro-ophthalmology for students planning a career in neurology or neurosurgery. Students are invited and encouraged to participate in all teaching activities of the Department, including resident lectures, fluorescein angiography conferences, Grand Rounds, etc. Students considering a career in Ophthalmology should request a rotation in July-October due to the early Ophthalmology match.

Program Director: Dr. William A. Cantore

Course Coordinator: D. Michelle Davis

Hershey

4 students; Preferably 2 - 3rd yrs & 2 - 4th yrs

All Rotations

4 Weeks

Prerequisite: 1st two years of medical school

OPHTH-OPHTH 796 - Individual Studies
Ophthalmology Individual Studies Elective
Ophthalmology Faculty Member
Penn State College of Medicine Medical Students Only

3rd / 4th Year Elective

OPHTH 797 - Ophthalmology Special Topics
Penn State College of Medicine Medical Students Only

3rd / 4th Year Elective

ORTHO 710 - Adult Orthopaedics for Third Year Students

3rd Year Elective

Adult Orthopaedic for Third Year Students

Program Director: Dr. Ed Fox

Coordinator: Janice Woodley

1 Student

Hershey

1 Student

All Rotations

4 Weeks

Prerequisite: Completion of the first two years of medical school.

ORTHO 711 - Pediatric Orthopaedic Surgery for Third Year Students

3rd Year Elective

Pediatric Orthopaedic Surgery for Third Year Students

A preceptorial elective with Drs Armstrong, Fortuna, and Hennrikus. This elective offers a broad exposure to the entire spectrum of pediatric orthopaedics with outpatient clinics in General Pediatric Orthopaedics, Pediatric Sports Medicine and Fracture Clinic, Spina Bifida, Cerebral Palsy, Scoliosis, Muscular Dystrophy, and Limb Deficiency and Limb Length Discrepancy. The student functions as a junior house officer under faculty supervision. Those interested in a surgical career will wish more operating room exposure. Those seeking residencies in pediatrics or family medicine may wish to concentrate on the outpatient clinics.

Program Directors: William Hennrikus, MD & Ed Fox, MD
Hershey

All Rotations

1 Student

4 Weeks

Prerequisite: Completion of your first two years of medical school.

ORTHO 741 - York-Orthopedics and Sports Medicine Elective
PRIOR APPROVAL WITH YORK

4th Year Elective

Students on this elective will serve as an integral part of the Orthopaedic and Sports Medicine team, personally evaluating and discussing management of patients seen in consultation, and in the outpatient Orthopaedic and Sports Medicine setting. Game coverage and on field experience is optional but encouraged during the rotation. Didactic experiences will include daily, one-on-one discussions with the attending physician(s) on the service. Students will be expected to demonstrate evidence of independent reading on Orthopaedic and Sports Medicine related topics and to attend scheduled Sports Medicine and selected Orthopaedic conferences.

The overall goal of this elective is to allow students to attain the basic skills and knowledge necessary for initial evaluation of common sports related conditions and injuries encountered in the primary care and orthopaedic specialty practice settings. Focus will be placed on review of anatomy and physical examination skills as it pertains to patient care. Students will also be encouraged to hone their skills in obtaining an orthopaedic history and performing orthopaedic physical exam.

Evaluation methods will include a pre-test and post test as well as subjective evaluation of students' funds of knowledge and patient care skills by the attending orthopaedic surgery faculty. This course will be offered throughout the entire academic year.

Course Outline:

Brief outline

This course will introduce third or fourth year medical students to basic concepts in the evaluation and management of sports related injuries.

Learning opportunities will include:

- a. Evaluation and discussion of adult and pediatric patients cared for by the WellSpan Orthopedics focused primarily in the outpatient clinic and ambulatory surgery center.
- b. Student preparation of case presentations and/or subject presentations on major Sports Medicine team topics (see below.)
- c. Attendance at Sports Medicine and WellSpan Orthopaedics conferences, including Grand Rounds, Journal Club, Rehabilitation Conference, and Arthroscopy Imaging Correlation Conference.
- d. Completion and discussion of a pre-test and post-test.

e. Emphasis will be placed on common Orthopaedic Sports Medicine diagnoses.

Topics which will be covered include:

- a. Sports related injuries of the upper and lower extremity.
- b. Sports related medical issues.
- c. Tendinopathy.
- d. Rehabilitation of musculoskeletal injuries.
- e. Pre-participation and return to play evaluations.
- f. Musculoskeletal imaging.

Time spent on individual topics will be dependent on the mix of patients evaluated in the clinic; however all of the above topics will be consistently covered regardless of patient mix.

ORTHO 741A - York-Orthopedic Sports Medicine Elective (3rd Year)

3rd Year Elective

Students on this elective will serve as an integral part of the Orthopaedic and Sports Medicine team, personally evaluating and discussing management of patients seen in consultation, and in the outpatient Orthopaedic and Sports Medicine setting. Game coverage and on field experience is optional but encouraged during the rotation. Didactic experiences will include daily, one-on-one discussions with the attending physician(s) on the service. Students will be expected to demonstrate evidence of independent reading on Orthopaedic and Sports Medicine related topics and to attend scheduled Sports Medicine and selected Orthopaedic conferences.

The overall goal of this elective is to allow students to attain the basic skills and knowledge necessary for initial evaluation of common sports related conditions and injuries encountered in the primary care and orthopaedic specialty practice settings. Focus will be placed on review of anatomy and physical examination skills as it pertains to patient care. Students will also be encouraged to hone their skills in obtaining an orthopaedic history and performing orthopaedic physical exam.

Evaluation methods will include a pre-test and post test as well as subjective evaluation of students' funds of knowledge and patient care skills by the attending orthopaedic surgery faculty. This course will be offered throughout the entire academic year.

Brief outline

This course will introduce third year medical students to basic concepts in the evaluation and management of sports related injuries.

Learning opportunities will include:

- a. Evaluation and discussion of adult and pediatric patients cared for by the WellSpan Orthopaedics focused primarily in the outpatient clinic and ambulatory surgery center.

b. Student preparation of case presentations and/or subject presentations on major Sports Medicine team topics
c. Attendance at Sports Medicine and WellSpan Orthopaedics conferences, including Grand Rounds, Journal Club, Rehabilitation Conference, and Arthroscopy Imaging Correlation Conference.

d. Completion and discussion of a pre-test and post-test.

e. Emphasis will be placed on common Orthopaedic Sports Medicine diagnoses.

f.

Topics which will be covered include:

a. Sports related injuries of the upper and lower extremity.

b. Sports related medical issues.

c. Tendinopathy.

d. Rehabilitation of musculoskeletal injuries.

e. Pre-participation and return to play evaluations.

f. Musculoskeletal imaging.

Time spent on individual topics will be dependent on the mix of patients evaluated in the clinic; however all of the above topics will be consistently covered regardless of patient mix.

Program Director(s): John R. Deitch, M.D., Director of Sports Medicine, WellSpan Orthopaedics

Coordinator: Alex Zeigler, azeigler3@yorkhospital.edu

Scott Lynch, M.D., Penn State College of Medicine course director

York - with prior approval

All Rotations with prior approval

2 weeks

Prerequisite: Successful completion of all the pre-clinical courses within Years I & II.

ORTHO 796 - Ortho Individual Studies

3rd / 4th Year Elective

Orthopaedic Individual Studies Elective

Orthopaedic Faculty Member

Penn State College of Medicine Medical Students Only

ORTHO 797 - Orthopaedics Special Topics

3rd / 4th Year Elective

Penn State College of Medicine Medical Students Only

PATH 770 - Anatomic Pathology Elective

3rd / 4th Year Elective

Medical students electing the anatomic pathology rotation will participate in the diagnostic evaluation and clinical correlation of tissues sent to surgical pathology and cytology including frozen section diagnosis. Students will review this material with the Anatomic Pathology faculty and participate in surgical pathology conferences. More detailed information can be obtained from the Pathology website at <http://www.pennstatehershey.org/web/pathology/education/students/electives> .

Course Director: Elizabeth Frauenhoffer, M.D. efrauenhoffer@hmc.psu.edu 717-531-1673

Course Coordinator: Jeanne Faust (jfaust@hmc.psu.edu)

Hershey

All rotations; 3 students except for July-only 2 students

4 Weeks

Prerequisite: First Two Years of Medical School

PATH 796 – Pathology Individual Studies**3rd / 4th Year Elective**

Pathology Individual Studies
Pathology Faculty Member
Penn State College of Medicine Medical Students Only

PATH 797 - Pathology Special Topics**3rd / 4th Year Elective**

Penn State College of Medicine Medical Students Only

PED 720 - Pediatric Endocrinology Elective**3rd / 4th Year Elective**

Pathophysiology, diagnosis and treatment of endocrine disorders, including diabetes.

Dr. Ying Chang, ychang@hmc.psu.edu 531-4751

Course Coordinator: Ms Lydia Hibshman hibshman@hmc.psu.edu

Hershey

1 Student

All Rotations

4 Weeks

Prerequisite: Third year core clerkship in Pediatrics

PED 726 - Clinical Genetics Elective**4th Year Elective**

Student is exposed to the broad knowledge base in human and medical genetics; skills are developed in the diagnosis of a wide range of genetic disorders, in the ability to record and interpret individual and family histories, in the integration of clinical and genetic information to provide genetic risk assessments and appropriate genetic counseling.

Course Director: Dr. Roger Ladda, rladda@hmc.psu.edu

531-8414

Course Coordinator: Ms. Joan Wengert wengert@hmc.psu.edu

Hershey

1 Student

All Rotations

4 Weeks

Prerequisite: Third Year Core Clerkships

PED 728 - Milton Hershey School**4th Year Elective**

This rotation takes place at a residential boarding school. You will experience an outpatient pediatric practice that serves the medical needs of children from Kindergarten through 12th grade. Office visits will include both acute and chronic issues as well as health maintenance visits. There is an emphasis on adolescent medicine during this rotation. You will be required to use the electronic medical record system for charting and documentation.

Program Director: Dr. Jennifer Wallace

Course Coordinator: Ms. Heather Adams - 520-2379

Milton Hershey School

4 Weeks

Rotations from end of August - end of May

Prerequisite: Third year core clerkships

PED 739 - Ped. Card. Elective w/Global Health Experience**4th Year Elective**

WHEN: November (Block 5).

WHAT: Start Pediatric Cardiology Elective in Hershey and finish with 2 weeks during open heart surgery mission at Children's Hospital in Guayaquil Ecuador with outpatient clinics and exposure to post-operative patients on the hospital floor at local partner hospital.

WHO: 4 students, fourth year only

COST: \$800 for air plane ticket, lodging and board are free (breakfast, hot lunch, snacks)

HOW TO APPLY: fill out global health questionnaire First, submit to Registrar's office with signatures, then first come-first served.

Program Director: Dr. Linda Paulikis

Only November Block

4 Weeks

Prerequisite: Must be a fourth year student

PED 740 - Pediatric Cardiology Elective**3rd / 4th Year Elective**

A broad experience in the diagnosis, assessment, and management of infants, children, and adolescents with congenital and acquired heart disease. The rotation includes basic conferences, rounds, and clinics. Experience in echocardiography, exercise physiology, electrocardiography, cardiac catheterization, and other diagnostic procedures is available, as well as significant outpatient clinic experience.

Program Directors: Dr. Linda Pauliks

2 Students

NO Students in 10/21-11/15/13, but all other Rotations 2 Students

Hershey --8:30 a.m.; Children's Heart Group, 121 N. Nyes Road, Suite D, Harrisburg, PA

4 Weeks

Prerequisite: Third year core clerkship in Pediatrics

PED 741 - Pediatric Pulmonology Elective**3rd / 4th Year Elective**

This course will reinforce to third and fourth year medical students basic concepts in the diagnosis and management of children with respiratory conditions and sleep neuro-behavioral abnormalities.

Objectives

- a. To provide instruction in pulmonary physiology and neurobiology and its correlation with pediatric pulmonary and sleep clinical conditions.
- b. To develop the basic clinical skills required for the evaluation and management of children with common respiratory and sleep disorders.
- c. To provide opportunities for learning effective verbal and written interpersonal communication skills with respect to referring physicians, children, their families, and health care team members.

PROGRAM DIRECTOR: Dr. Roopa Siddaiah

LOCATION: Hershey Medical Center, Department of Pediatrics

MAXIMUM NUMBER OF STUDENTS: 1

WHEN OFFERED: All Rotations

LENGTH OF ELECTIVE: 1 Month

REPORT TO: Susan Hemperly, Department of Pediatric Pulmonology

Prerequisite: Third year core clerkship in Pediatrics.

PED 742 - Pediatric Developmental & Behavioral Elective

3rd / 4th Year Elective

Drs. Tierney & Ramer

PED 747 - Pediatric Allergy, Asthma & Immunology Elective

4th Year Elective

This course is designed to introduce 4th year medical students to the basics of evaluation and management of pediatric patients with allergic and immunologic diseases such as asthma, allergic rhinitis and conjunctivitis, atopic dermatitis, urticaria, drug allergy, and food allergy, and the evaluation and management of respiratory and cutaneous abnormalities. They will also become familiar with the common medications used to treat these conditions, and understand potential side effects and drug interactions. They will also learn non-pharmacologic therapy, such as environmental control measures and food allergen avoidance, and its role in the treatment of allergic disease.

This course will prepare the students to solidify their skills in assessment and management of cough, wheeze, dyspnea, rhinitis, rash, and recurrent infections. They also will learn those procedures and tests, such as allergy skin testing, pulmonary function testing, immunotherapy, oral food challenges, drug desensitization, and laboratory studies that are commonly used to help establish a correct diagnosis and treatment plan. Students on this elective will be an integral part of the Allergy and Immunology Team and will personally evaluate and discuss management of patients on the inpatient ward and/or in the outpatient clinic on a daily basis. Didactic experience during the elective will include a weekly conference which includes case conferences, journal club, lectures from guest speakers, and presentations by the allergy immunology attending physicians, fellows, and rotating residents. Students will be expected to demonstrate evidence of independent reading on allergy and immunology topics, and to attend scheduled conferences each week.

The overall goal of this elective is to allow students to gain the basic skills and knowledge necessary for initial evaluation and management of common allergic and immunologic problems encountered in primary care and outpatient or inpatient settings. Focus will be placed on review of common allergic problems including asthma, allergic rhinitis and conjunctivitis, and atopic dermatitis.

Students will also be encouraged to hone their skills in obtaining a history and performing a physical examination, with special attention paid to HEENT, pulmonary, and skin exams.

Evaluation methods will include subjective evaluation by the attending faculty of the student's fund of knowledge and patient care skills and evaluation, using a rubric, by the attending faculty of a case conference given by the student during the weekly conference. This course will be offered throughout the entire academic year.

Learning opportunities will include:

- A. Evaluation and discussion of allergic and immunologic patients on the consultation service and in the outpatient clinic.
- B. Student preparation of case presentations and /or subject presentations on topics discussed.
- C. Attendance at a weekly three hour conference, which includes case conferences, journal club, lectures from guest speakers, and presentations by the allergy immunology attending physicians, fellows, and rotating residents.
- D. Emphasis will be placed on common allergic and immunologic diagnoses and problems.

Topics which will be covered include:

- a. Allergic rhinitis
- b. Allergic conjunctivitis
- c. Atopic dermatitis
- d. Asthma
- e. COPD

- f. Cough
- g. Urticaria/angioedema
- h. Hereditary angioedema
- i. Chronic urticaria
- j. Food allergy
- k. Eosinophilic esophagitis
- l. Drug Allergy
- m. Stinging insect allergy
- n. Latex allergy
- o. Sinusitis and recurrent otitis media
- p. Immunodeficiency (congenital and acquired) with compatible symptoms
- q. Anaphylaxis

Time spend on individual topics will be dependent on the mix of patients on the service and in the clinic. However, all of the above topics will be covered regardless of patient mix.

1. Instructional, Educational and Course Objectives

This course is designed to introduce 4th year medical students to the basic concepts in the evaluation of individuals with allergic and immunologic diseases and respiratory and cutaneous abnormalities. The overall goal of this elective is to allow students to explore and gain skills in the recognition of common allergic and immunologic diseases.

2. Evaluation methods

Students will be graded on the 5 point scale common to all College of Medicine year III and IV courses (Fail, Low Pass, Pass, High Pass, Honors). Evaluation methods will include subjective evaluation by the attending faculty of the student's fund of knowledge and patient care skills and evaluation, using a rubric, by the attending faculty of a formal case conference given by student during the weekly conference.

3. Relationship/Linkage of Course to Other Courses

This course builds directly on knowledge gained in Year 1 (Cellular and Molecular Basis of Medical Practice I and II, Biological Basis of Disease), Year 2 (Pulmonary Medicine, Clinical Learning and Competencies) courses as well as the 3rd Year Clerkship in Pediatrics. This course allows the student to further develop clinical and patient care skills needed to care for patients with allergic and immunologic diseases. Basic patient care skills gained during the 3rd year clerkships are a necessary pre-requisite for this course which focuses on the more specialized knowledge and diagnostic skills covered in this course.

4. Relationship to Major, Option, Minor or General Education

Goals for electives in the 4th year in the College of Medicine include providing the students the opportunity to explore fields outside of the usual schedule of required clerkships, within a curriculum appropriate to the 4th year of medical school. This allows students to hone skills and knowledge obtained in the standard 3rd year clerkships and allows students to develop a relationship with a mentor in a possible career field within either internal medicine or pediatrics. Completion of elective courses, including the Allergy and Immunology elective, is in accordance with these goals.

5. Consultation With Appropriate Departments and Academic Support Units

This is a combined elective with both Internal Medicine and Pediatrics. As this course is restricted to undergraduate medical students, no other colleges or units of the University will be affected.

6. This course will be offered only at the College of Medicine.

7. No special facilities other than the outpatient and inpatient facilities already available to the internal medicine and pediatric services are necessary for this course.

8. No additional technology needs are anticipated for this course.
A visiting student can be accommodated only if no PSU COM student signs up for PED 747 or MED 747, as this is a joint elective.

PROGRAM DIRECTOR: Dr. Tracy Fausnight

REPORT TO: Dr. Tracy Fausnight or Dr. Alexandra Horwitz

TIME AND LOCATION: 08:30, UPC 1100, Conference Room B

All Rotations

4 Weeks

1 Student

PREREQUISITE: Third year core clerkship in Pediatrics.

PED 750 - Pediatric Nephrology & Hypertension Elective

4th Year Elective

1. Brief outline

This course will reinforce to fourth year medical students? basic concepts in the diagnosis and management of children with kidney disease, fluid and electrolyte abnormalities, and hypertension.

Learning opportunities will include:

- a. Evaluation, daily progress notes and discussion of pediatric nephrology patients on the inpatient service, consultation service and in the outpatient clinic and dialysis unit.
 - b. Students are expected to write admission notes as well as daily progress notes on all patients they follow.
 - c. Student preparation of case presentations and/or subject presentations on major pediatric nephrology topics (see below.)
 - d. Attendance at Pediatric Nephrology and Pediatric Nephrology conferences, including Chronic Renal Failure Conference, Renal Biopsy Conference, Pediatrics Grand Rounds, and Pediatric Residents Noon Conferences.
 - e. Completion and discussion of a pre-test and post-test.
 - f. Emphasis will be placed on common pediatric nephrology diagnoses.
2. Topics which will be covered include:
- a. Review of renal physiology from a patient care perspective.
 - b. Acute and chronic renal failure, including modes of renal replacement therapy
 - c. Urinary tract infection
 - e. Congenital kidney disease
 - f. Hematuria and proteinuria, nephrotic syndrome and glomerulonephritis
 - g. Dehydration
 - h. Common electrolyte abnormalities
 - i. Hypertension

Time spent on individual topics will be dependent on the mix of patients on the Pediatric Nephrology Service; however all of the above topics will be consistently covered regardless of patient mix.

3. Course Description

This course is designed to introduce fourth year medical students to the basics of evaluation and management of children with kidney disease or hypertension, and to solidify skills gained in fluid and electrolyte management during third year core clerkships including Pediatrics, and in the year II Renal block. Students on this elective will serve as an integral part of the Pediatrics Nephrology team, personally evaluating and discussing management of patients on the inpatient, consult, and outpatient Pediatric Nephrology services. Didactic experiences will include daily, one-on-one discussions with the attending physician(s) on the Pediatric Nephrology service. Students will be expected to demonstrate

evidence of independent reading in Pediatric Nephrology topics, and to attend scheduled Pediatric Nephrology and selected Pediatrics conferences.

The overall goal of this elective is to allow students to attain the basic skills and knowledge necessary for evaluation and initial management of common Pediatric Nephrology problems encountered in primary care and in-patient pediatrics settings. Specific learning objectives include development of basic evaluation and patient management skills necessary for the care of patients with the conditions listed in section 2 (above), as well as providing review and patient care correlates for renal physiology topics initially covered in year I.

Evaluation methods will include a pre-test and post-test as well as subjective evaluation of students' funds of knowledge and patient care skills by the attending pediatric nephrology faculty. Students will be expected to prepare and present a topic weekly during the course of the rotation. This course will be offered throughout the entire academic year.

Dr. Steven Wassner swassner@hmc.psu.edu 531-5707

Course Coordinator: Ms. Veronica Clark vclark@hmc.psu.edu

Hershey -- Time: 8 AM; Room H7512

1 Student

All Rotations

4 Weeks

Prerequisite: Third year core clerkships in Medicine and Pediatrics.

PED 750A - Pediatric Nephrology Elective for Third Year Medical Students **3rd Year Elective**

Description:

PEDIATRIC NEPHROLOGY ELECTIVE (3rd year, 2 weeks)

1. Brief outline

This course will introduce third year medical students to basic concepts in the evaluation of children with kidney disease, and evaluation and management fluid and electrolyte abnormalities.

Learning opportunities will include:

- a. Evaluation, daily progress notes and discussion of pediatric nephrology patients on the inpatient service, consultation service and in the outpatient clinic and dialysis unit.
- b. Students are expected to write admission notes as well as daily progress notes on all patients they follow.
- c. Student preparation of case presentations and/or subject presentations on major pediatric nephrology topics (see below.)
- d. Attendance at Pediatric Nephrology and Pediatric Nephrology conferences, including Chronic Renal Failure Conference, Renal Biopsy Conference, Pediatrics Grand Rounds, and Pediatric Residents Noon Conferences.
- e. Completion and discussion of a pre-test and post-test.
- f. Emphasis will be placed on common pediatric nephrology diagnoses.

2. Topics which will be covered include:

- a. Review of renal physiology from a patient care perspective.
- b. Acute and chronic renal failure
- c. Urinary tract infection
- e. Congenital kidney disease
- f. Hematuria and proteinuria, nephrotic syndrome and glomerulonephritis
- g. Dehydration and associated electrolyte abnormalities

Time spent on individual topics will be dependent on the mix of patients on the Pediatric Nephrology Service; however all of the above topics will be consistently covered regardless of patient mix.

3. Course Description

This course is designed to introduce third year medical students to the basics of evaluation and management of children with kidney disease or hypertension, and to specifically to solidify skills gained in fluid and electrolyte management during third year core clerkships including Pediatrics or Medicine, and in the year II Renal block. Students on this elective will serve as an integral part of the Pediatrics Nephrology team, personally evaluating and discussing management of patients on the inpatient, consult, and outpatient Pediatric Nephrology services. Didactic experiences will include daily, one-on-one discussions with the attending physician(s) on the Pediatric Nephrology service. Students will be expected to demonstrate evidence of independent reading in Pediatric Nephrology topics, and to attend scheduled Pediatric Nephrology and selected Pediatrics conferences.

The overall goal of this elective is to allow students to attain the basic skills and knowledge necessary for initial evaluation of common Pediatric Nephrology problems encountered in primary care and in-patient pediatrics settings. Focus will be placed on review of renal physiology as it pertains to patient care, and to fluid and electrolyte management. Students will also be encouraged to hone their skills in obtaining a pediatric history and performing a pediatric physical exam.

Evaluation methods will include a pre-test and post-test as well as subjective evaluation of students' funds of knowledge and patient care skills by the attending pediatric nephrology faculty. This course will be offered throughout the entire academic year.

Program Director: Dr. Debbi Kees-Folts dkees-folts@hmc.psu.edu

Hershey Medical Center

Only 1 Student (only on Roster combined for PED 750 & PED 750A)

All Rotations

Hershey 8:00 a.m.; Room H7512

Prerequisite: Any third year core clerkship that requires direct patient care

PED 765 - Pediatric Neurology Elective

4th Year Elective

Intensive exposure to neurological problems of childhood, including epilepsy, neurodevelopmental disorders, metabolic and neurodegenerative disorders, central nervous system malignancies, and neuromuscular disease. One-on-one instruction is complemented by conferences in neurology, neuroscience, neurophysiology, and developmental pediatrics. The students will be responsible for inpatient consultations as well as new consultations in the pediatric neurology outpatient clinics.

Program Director: William Trescher, M.D. wtrescher@hmc.psu.edu, 531-8790

Course Coordinator: Ms. Deb Null (dnull@hmc.psu.edu)

Hershey

All Rotations

4 Weeks

TIME AND LOCATION: 8:15 a.m.; Room C7524

Prerequisite: Third year core clerkships in Medicine and Pediatrics.

PED 796 - Pediatric Individual Studies

3rd / 4th Year Elective

Pediatric Individual Studies Elective

Pediatric Faculty Member

Penn State College of Medicine Medical Students Only

PED 797 – Pediatric Special Topics

3rd / 4th Year Elective

Penn State College of Medicine Medical Students Only

PMR 730 - Physical Medicine and Rehabilitation Elective

3rd / 4th Year Elective

Time & Location: 1135 Old West Chocolate Avenue, Suite 101, Hummelstown, PA

Description/Goals & Objectives:

Rehabilitation Medicine Elective

An in-depth experience in rehabilitation medicine. The student works under faculty supervision and will work with rehabilitation physicians and with the allied health professionals in the rehabilitation program in both the inpatient and outpatient settings. This elective is intended to acquaint students with the role of rehabilitation within the spectrum of healthcare and to provide an introduction to the medical specialty of physical medicine and rehabilitation.

Program Director: Stacy Stark, D.O.

Course Coordinator: Wilma Spickler

Hershey

1 student (possibly up to 2 students)

All Rotations

4 Weeks

Prerequisite: Completion of Second Year of medical school

PCMED 741 - Medical Director/Practice Management

4th Year Elective

Medical Director/Practice Management

This four-week elective is designed to expose the student to the fundamentals of running a practice, encompassing knowledge about managed care, disease state management, patient education, best clinical practices, quality assurance, patient access, team delivery of medicine, human resources, budgeting, public relations, and negotiating techniques. The student will then incorporate these skills when seeing patients in a clinical primary care setting.

The rotation will consist of didactic interaction, clinical observation and active participation. Students will gain familiarity with the processes involved in running a primary care practice and the clinical decisions which are affected by managing a practice.

Dr. Linda Chambers, Dr. Patricia Gordon

Prior Approval-Hershey and other sites

Student number varies

November, December, February, March

4 Weeks

Penn State College of Medicine Medical Students Only

Prerequisite: Completion of the First, Second & Third Year of Medical School

PCMED 742 - PCMED Longitudinal Advanced Elective

4th Year Elective

PCMED Longitudinal Advanced Elective

DURATION:

6 months

1/2 day session each week during this 6 month block spent with the preceptor in the office, on hospital rounds, or in the planning and implementation of the required project with 8 additional sessions for orientation, projects, and debriefing.

Dr. Kanzleiter; Dr. Linda Chambers; Dr. Patricia Gordon; Faculty Members in Pediatrics, Family Medicine & Internal Medicine

Prior Approval-Hershey sites

Students Number varies with approval

July through end of December; November through April
6 months

1/2 day session each week during this 6 month block

Penn State College of Medicine Medical Students Only

Prerequisite: Completion of Third Year Core Clerkships

PCMED 743 - Pennsylvania Gen. Ped., Fam. Med., Gen. Int. Med

4th Year Elective

Pennsylvania Gen. Ped., Fam. Med., Gen. Int. Med

There are many community-based primary care physicians in Pennsylvania who enthusiastically offer educational experiences to our medical students. Many of the sites are in rural, small-town, and/or medically-underserved areas in the state. These communities possess a special, unique spirit and culture. Each has its own history, beauty, natural resources, recreation and economic base.

The Pennsylvania Area Health Education Center (PA AHEC) regional offices and Center for Primary Care are your points-of-contact if you are interested in a rotation in Pennsylvania. There are many pre-approved sites that offer free housing. Some sites offer meals at a discount and other incentives for students to spend a month in their community.

Coordinator: Darlene Getz C1626, dgetz@hmc.psu.edu

Sites in PA

Prior Approval

Student Number Varies

4 Weeks

Penn State College of Medicine Medical Students Only

Prerequisite: Completion of Third Year Core Clerkships

PCMED 744 - Continental U.S. Community-Based Sites

4th Year Elective

Continental U.S. Community-Based Sites

There are many community based primary care physicians in the United States who enthusiastically offer educational experiences for medical students. Many sites are in rural, small town, and/or medically underserved areas of the United States. These communities each possess a special, unique spirit, and culture. Each has its own history, beauty, natural resources, recreation, and economic base.

The following sites are representative of those that previous fourth year medical students have arranged. The committee is open to other sites if the student can identify an experience that fulfills the criteria of the primary care elective.

Coordinator: Darlene Getz C1626, dgetz@hmc.psu.edu

Sites vary

Prior Approval

Student Number Varies

4 Weeks

Penn State College of Medicine Medical Students Only

Prerequisite: Completion of Third Year Core Clerkships

PCMED 745 - Indian Health Service

4th Year Elective

The following list represents primary care electives that are expected to be a bit more challenging to arrange, yet potentially more rewarding, than others in community-based sites. For many medical students, doing an elective far away from the relative "safety" of a medical center or a well-known practice site carries with it the risk of the unknown. However, it is only in taking some risk that true rewards are often realized, and so medical students are encouraged to pursue a possible elective at a site other than in the traditional places!

The sites listed are only suggestions - the committee is open to other sites if a student can identify an experience that fulfills the criteria of the Primary Care Elective.

Contact Darlene Getz 717-531-3774

Prior Approval

Various sites; Varies with Prior Approval

Website: <http://www.pennstatehershey.org/web/educationalaffairs/home/registrar/4thyearscheduling>

Number of students vary

4 Weeks

Penn State College of Medicine Medical Students Only

Prerequisite: Completion of Third Year Core Clerkships

PCMED 746 - International Sites

4th Year Elective

Please See Darlene Getz C1626

www.meditravel.org;

Bolivia, Ecuador, India, Mexico, www.cfhi.org;

S. Africa, Mexico www.IASECO.org;

Belize, Costa Rica, Ecuador, Guatemala, Jamaica, Nigeria, US Virgin Islands www.som.tulane.edu;

Belize www.hillsidebelize.net;

Uganda www.fokh.org.uk;

Honduras www.ihcai.org;

Ecuador www.interhealthsouthamerica.net;

Honduras, Peru, Romania www.certinternational.org;

Location vary according to the need -S. America, C. America;

Uganda www.emmf.com/ugandasitevisit.htm;

Prior Approval

Number of Students Varies

4 Weeks

Penn State College of Medicine Medical Students Only

Prerequisite: Completion of Third Year Core Clerkships

PCMED 747 - Leadership in Community Medicine

4th Year Elective

Penn State Hershey Medical Center / Good Samaritan Hospital;

Fam. & Comm. Med. Residency Program Lebanon

Janette H. Kurie, M.Ed.

Please Contact Coordinator: Darlene Getz C1626

2 Students per month

All Rotations

4 Weeks

Penn State College of Medicine Medical Students Only

Prerequisite: Completion of Third Year Core Clerkships

PCMED 748 - Penn State Orthopaedics & Sports Medicine (State College) 4th Year Elective

This four week elective is designed to expose the student to the comprehensive care provided to the student athlete population at Penn State University, State College.

Dr. Phil Bosha

Comly, Kerri, kcomly@hmc.psu.edu, Coordinator in state College

Course Coordinator: Darlene Getz

Prior Approval

All Rotations

4 weeks

Penn State College of Medicine Medical Students Only

Prerequisite: Completion of Third Year Core Clerkships

PCMED 749 - Primary Care Sports Medicine, Hershey (4th year) 4th Year Elective

This course provides exposure to concepts utilized in the evaluation and initial treatment of common sports medicine conditions.

This course will introduce the fourth year medical student to the basic concepts in the evaluation and initial treatment of common sports medicine conditions. Students will care for both pediatric and adult sports medicine patients. The learning environment will include a variety of clinical arenas including: primary care sports medicine, orthopedic sports medicine, musculoskeletal radiology, and sports physical therapy. Students will be evaluated through direct observation of skills including examinations of the shoulder, knee, and ankle and the proper technique of two common sports medicine procedures. Students will also be evaluated by their participation in assigned weekly sports medicine topic reviews. Students will be assessed on their fund of knowledge, patient care skills, professionalism, and interpersonal skills as noted during their clinical interactions.

- 1.) Initial evaluation, diagnosis, and treatment of common sports related shoulder, knee, and ankle injuries and their expected outcomes.
- 2.) The proper technique of intra-articular knee injection, subacromial bursa injection, on-the-field cervical spine stabilization, short arm/leg splinting, and/or short arm/leg casting.
- 3.) Evaluation, diagnosis, and treatment of sports medicine conditions such as concussion, environmental illness (heat illness, cold injury), and sudden cardiac death.
- 4.) Currently debated aspects of the pre-participation physical examination.
- 5.) Sports supplements.
- 6.) Sports physical therapy and the different modalities offered to injured athletes.
- 7.) Various imaging studies utilized in sports medicine including radiography, ultrasound, bone scan, computed tomography, magnetic resonance imaging, and magnetic resonance arthrography.

This course is designed to introduce the fourth year medical student to the basic concepts in the evaluation and initial treatment of common sports medicine conditions. Many individuals of all ages participate in sporting activities. Sports-related musculoskeletal complaints are very common in primary care and are treated by a variety of medical specialties. Mastery of the basics in musculoskeletal medicine is therefore quite important for many, if not all, medical students.

This outpatient elective builds directly upon musculoskeletal knowledge gained in Year I (Foundations of Clinical Medicine, ?Upper and Lower Extremity Evaluation?), Year II (Musculoskeletal Block), Year II/III (Island I Musculoskeletal Section), and Year III (Primary Care and Orthopedic Subspecialty Clerkships). The learning environment will include a variety of clinical arenas including: primary care sports medicine, orthopedic sports medicine, musculoskeletal radiology, and sports physical therapy, caring for both pediatric and adult sports medicine patients.

The focus of this elective will be clinical time spent in primary care and orthopedic sports medicine where the students will be expected to achieve an understanding of the initial evaluation, diagnosis, and treatment of common sports related shoulder, knee, and ankle injuries as demonstrated by their patient presentations in sports clinic. Active engagement will be promoted throughout the rotation consistent with the goals of a fourth year clinical elective. Students will be expected to practice their musculoskeletal examination skills under supervision in order to become competent by the end of the four week elective. Students will be expected to learn the proper technique of two common sports medicine procedural skills under direct supervision (intra-articular knee injection, subacromial bursa injection, on-the-field cervical spine stabilization, short arm/leg splinting, or short arm/leg casting). Students will also be expected to complete assigned readings and worksheets on sports medicine topics (concussion, environmental illness, sudden cardiac death, and sports supplements) to prepare for weekly standardized educational sessions with the course director. Throughout the rotation, students will develop an understanding of the multiple disciplines of the sports medicine team and how their collaboration benefits care of the injured athlete.

Evaluation methods will include: performance of standardized shoulder, knee, and ankle exams defined on a cheek sheet (developed by consensus amongst sports medicine faculty at Penn State Hershey) done at the beginning and end of the elective, clinical evaluations by at least two attending sports medicine faculty based on student's fund of knowledge, patient care skills, professionalism, and interpersonal skills (delineated on elective evaluation form), and weekly preparation and participation in educational sessions with course director.

Current, evidence-based, peer reviewed literature on the following topics will be required: concussion, environmental illness, sudden cardiac death, and sports supplements.

Matthew Silvis, M.D.

Jeanne Laicha, Course Coordinator

Hershey

2 Students

October- March

4 Weeks

Penn State College of Medicine Medical Students Only

Prerequisite: Completion of Third Year Core Clerkships

PBL 743 - Problem Based Learning Facilitation

4th Year Elective

No course failures. A HP or H grade in 1 course and 1 clerkship. No noted unprofessional behaviors in PBL. A first-time pass in all NBME subject exams and USMLE Step I. A recommendation letter. A course director signature.

1. The potential facilitator must be in good academic standing and have completed the required 3rd year clerkships (medicine, surgery, ob/gyn, pediatrics, psychiatry, family medicine).
2. They must have performed well as a student in PBL sessions.
3. There must be a letter of recommendation from a faculty member who has worked closely with the student and who has knowledge of the student's abilities and skills that would be important for

someone serving as a facilitator (e.g. sense of responsibility, dependability, professionalism, good knowledge base, interest in inquiry).

4. Enrollment in the course will be limited, relative to the student's qualifications, the need for facilitators and availability of faculty facilitators.

This is a one-month elective course for MSIV students who are interested in being a facilitator in the PBL component of Penn State College of Medicine's preclinical curriculum. It may be of special interest to students who are planning to go into an academic medicine setting. The AAMC Project on the Clinical Education of Medical Students recommends that "teaching resident physicians to be teachers should begin in medical school", and that it is beneficial to "provide opportunities for senior students to learn teaching skills, and to gain teaching experience by having them tutor more junior students who are learning clinical skills or serve as co-facilitators for case-based learning exercises". Students who have recently gone through the interview process for residency matching have reported that they were often asked about their teaching experiences. In the past, we have had MSIV students facilitate in the PBL track that existed from 1992-1998, and at the beginning of the new curriculum. The "student facilitators" enjoyed the experience, and the students in their groups gave very positive evaluations of them.

Course Objectives:

At the end of this rotation, students should have;

1. A basic knowledge of educational theories that are used in the design of problem-based learning.
2. Developed a knowledge of basic skills in facilitating small, student-led groups.
3. Gained practical experience in facilitating PBL sessions.
4. Gained practical experience in assessing student performance in PBL sessions.

The LOR should come from a faculty member with whom you have worked, preferably in year 3 and not your PBL facilitators. It should address things like your suitability as a role model for younger students, responsibility, knowledge base, interest in learning, fairness in dealing with others, and whatever else they might want to say. It can be emailed to Dr. Whitfield, or sent in hard copy as they prefer.

Program Director: Carol Whitfield, Ph.D. cwhitfield@hmc.psu.edu

Hershey- Prior Approval

Prior Approval by Dr. Whitfield- Number of Students will vary

The January Teaching Block is limited to 4 Students.

Every Month EXCEPT March, May, June, July & December

The January Teaching Block is limited to 4 Students.

4 Weeks

Penn State College of Medicine Medical Students Only

Prerequisite: No course failures. A HP or H grade in 1 course & 1 clerkship. No noted unprofessional behaviors in PBL. A first time pass in all NBME subject exams & USMLE Step I. A recommendation letter. Need Dr. Whitfield's signature on Elective Action Form.

PSCHT 775 - Consultation/Liaison Psychiatry Elective

3rd / 4th Year Elective

This four week elective on the Psychiatry consultation/liason service is designed to give the student experience in recognizing and treating emotional problems of patients on the medical and surgical services. The student will develop skills in interviewing and assessing patients with a broad range of psychopathology and skills in assessing the interrelationship of medical and psychiatric conditions. The student will also learn the basic principles of performing a therapeutic evaluation, of short-term psychotherapy, and the indications for prescribing psychotherapeutic agents. He or she will learn how to become an effective part of the medical team holistically caring for the patient.

This student experience is similar in many respects to that of a resident in Psychiatry. The student will evaluate medical/surgical patients where psychiatric consultation is requested. In this manner the student will gain experience in the diagnosis and management of patients with a wide variety of psychosomatic disorders and emotional reactions to physical illness. During this elective experience the student is closely supervised by the consultation/liaison psychiatrist and will participate in twice-weekly psychosomatic/consultation conference.

This elective is designed for students interested in primary care, the medical or surgical specialties, or Psychiatry. It is for those who want to develop skills in diagnosing and treating the psychiatric aspects of medical illness and who desire a better understanding of the biopsychosocial aspects of medicine. An attending psychiatrist supervises each student's work. One student may be accepted per four week period for this elective.

Course Director: Dr. Mark Rapp; Course Coordinator: Sarah Sirlin
Hershey (Prior Approval)

1 Student

All Rotations

4 Weeks

Penn State College of Medicine Medical Students Only

Prerequisite: Third Year Psychiatry Clerkship

PSCHT 783 - Research in Physiology and Pathology of Sleep

3rd / 4th Year Elective

Research in Physiology and Pathology of Sleep

This elective is designed to enable the student to gain direct research experience by participating in an ongoing research program. The specific project the student will be involved with will include the general area of the physiology and pathology of sleep. Studies are carried out in both normal and sleep-disordered patients and focus on the evaluation, diagnosis, and treatment of sleep disorders. Patients studied may have any of the following disorders; insomnia, sleep apnea, narcolepsy/cataplexy, sleep walking, night terrors, and nightmares. The student develops skills in critically reviewing the relevant literature and in designing a specific research project. The student also learns how to record and quantify sleep in human subjects. Specifically, the student learns how to prepare subjects for all-night recordings as well as how to monitor the recordings. The student gains direct experience in data collection, data reduction, and data analysis as it relates to the sleep laboratory environment. Finally, the student gains experience in writing up the results of his/her research experience in a publishable form.

The student works under the direct supervision of the faculty member responsible for the research project. In addition, the student receives individualized supervision from the Director of Psychiatric Research in identifying and understanding the broader principles that can be derived from the specific research experience. This project is designed for students interested in doing applied research in the sleep laboratory as well as for students who have an interest in psychiatry as a career choice.

Program Director: Dr. Alexandros Vgontzas

Course Coordinator: Ms. Carrie Criley (ccriley@hmc.psu.edu)

Hershey - Prior Approval from Dr. Vgontzas

All Rotations

4 Weeks

Penn State College of Medicine Medical Students Only

Prerequisite: First two years of medical school. Prior Approval from Dr. Vgontzas.

PSCHT 796 - Psychiatry Individual Studies (Research)
Psychiatry Faculty Member
Penn State College of Medicine Medical Students Only

3rd / 4th Year Elective

PSCHT 797 – Psychiatry Special Topics
Penn State College of Medicine Medical Students Only

3rd / 4th Year Elective

RAD 700 - Pediatric Radiology

4th Year Elective

Tutorial course emphasizing interpretation, clinical correlation, indications, and limitations of imaging studies used in the evaluation of infants and children.

Program Director: Dr. Sosamma Methratta

Course Coordinator: Bev Ressler

Hershey

2 Students

All rotations

4 weeks

Penn State College of Medicine Medical Students Only

Prerequisite: Third year core clerkships

RAD 771 - General Radiology Elective

3rd / 4th Year Elective

The elective exposes the student to all modalities currently used in diagnostic imaging and encourages learning by interaction with residents and faculty in an informal setting. A major objective of the elective is the understanding of the indications and contraindications for radiological studies and procedures as well as the cost-effective radiological work-up of various clinical conditions. Another major aim of the course is to teach issues of relevance for patient preparation for radiologic studies and procedures. For these reasons, the elective is of potential major benefit for any student, whatever his or her ultimate career objective may be.

Program Directors: Janet Neutze, MD & Christine Peterson, MD Hershey

Hershey; York (Dr. Brian Pollack)

6 Students for Hershey; Prior Approval for York (1 student -York)

All Rotations except July and August

4 Weeks

Penn State College of Medicine Medical Students Only

Prerequisite: Completion of first two years of medical school

RAD 772 - Radiology Advanced Elective

4th Year Elective

This acting internship is designed for students considering a career in radiology. During the four weeks, the student receives in depth education and experience in the interpretation of radiologic studies. The major area of focus is the assessment of chest and skeletal radiographs with additional areas of study

customized to individual student interests and objectives. The internship provides similar experience to that of a beginning first year radiology resident. A mild evening call responsibility for the student further adds to the diversity of the educational experience. This course is useful to prepare students for future radiology residencies through a "hands on" approach.

Program Director: Janet Neutze; Coordinator: Bev Ressler
Hershey

2 students PRIOR APPROVAL - SIGNED FORM

All Rotations

4 Weeks

Prerequisite: 1. Radiology course 771. 2. All third year core clerkships. 3. Permission/Approval from course director to be added to the schedule. Visiting Students must have prior Radiology experience.

RAD 774 - Radiation Oncology Elective

3rd / 4th Year Elective

The student will have the opportunity to see the full scope of clinical Radiation Oncology, working with an attending Radiation Oncologist(s) in a one-on-one fashion, and other members of the ancillary team including Physicists, Dosimetrists, Radiation Therapists, and Nurses.

Topics which will be covered include:

The total care of cancer patients of all ages, including

1. Diagnosis
2. Staging/Workup
3. Evaluating treatment options
4. Coordinating care with other specialists
5. Medical management of acute and late toxicities
6. Surveillance after the completion of active therapy
7. Medical management of cancer related symptoms
8. End-of-life care in the non-curative treatment of cancer

Learning opportunities will include:

1. Patient evaluation in the outpatient and inpatient settings, including consultations, follow-up visits, on-treatment visits, and tumor board meetings
2. Exposure to all aspects of radiation treatment planning, including simulations, target delineation using treatment planning software, beam configuration, plan evaluation, and plan quality assurance.
3. Exposure to all aspects of treatment delivery, including external beam radiotherapy, Gamma Knife Radiosurgery, and High Dose Rate Brachytherapy.

This course will be offered throughout the entire academic year.

Program Director: Heath Mackley, M.D.

Eugenia Bartolome: ebartolome@hmc.psu.edu

Hershey

2 students

All Rotations

4 Weeks

Prerequisite: Successful completion of the 2nd year of medical school.

RAD 774A - Radiation Oncology Elective**3rd Year Elective**

The student will have the opportunity to see the full scope of clinical Radiation Oncology, working with an attending Radiation Oncologist(s) in a one-on-one fashion, and other members of the ancillary team including Physicists, Dosimetrists, Radiation Therapists, and Nurses.

Program Director: Heath Mackley, M.D.

Eugenia Bartolome: ebartolome@hmc.psu.edu

Hershey

2 students

All Rotations

2 Weeks

Prerequisite: Successful completion of the 2nd year of medical school.

RAD 796 - Radiology Individual Studies Research**3rd / 4th Year Elective**

Radiology Faculty Member

Penn State College of Medicine Medical Students Only

RAD 796A - Individual Studies Research 2 Week**3rd Year Elective**

Radiology Faculty Member

Penn State College of Medicine Medical Students Only

RAD 797 – Radiology Special Topics**3rd / 4th Year Elective**

Penn State College of Medicine Medical Students Only

MEDTR 743 - Triage and Resuscitation Elective**4th Year Elective**

This course is designed to introduce fourth-year medical students to the principles of recognition and initial management of the patient with a potentially life-threatening illness or injury. It consists of several discrete components:

a. Students will spend half a day Monday through Friday in several clinical venues, each one for a week, which will include the emergency department and its triage area, Emergency Medical Services (EMS), and various ICU settings. Students will select which four of these venues in which they wish to rotate.

b. Students will also attend daily FCCS classes, typically at noon.

c. Students will attend an afternoon educational session. These sessions will include ACLS training, ATLS training, case-based simulation modules incorporating basic science concepts relating to the clinical topics, and student case presentations. There will be core elements of the course common to all students (ACLS, ATLS, and FCCS), as well as student-chosen elements (the clinical sites and the simulation case topics).

Drs. L. Kass, K. Scholfield, E. Sinz, Dr. Scholfield

Course Coordinator: Lureye Myers

Hershey Medical Center Minimum of 6 students, maximum of 8 students

Sept., Oct., Feb., Mar.

4 Weeks

Penn State College of Medicine Medical Students Only

Prerequisites: Successful completion of the core third-year medicine and surgery clerkships.

SURG 712 - Surgical Endocrinology Elective**4th Year Elective**

An indepth experience involving the medical and surgical management of endocrinological disorders. Special projects are encouraged.

Program Director: Dr. Brian Saunders; Coordinator: Lureye Myers

Hershey

1 Student

All Rotations

4 Weeks

Prerequisite: Third year core clerkships

SURG 745 - Pediatric Cardiothoracic Surgery Elective**4th Year Elective**

This course is intended as an advanced elective for fourth-year medical students who have a career interest in surgery or pediatrics. The course content will include:

a. Preoperative evaluation of congenital heart disease as part of the initial surgical consultation. This evaluation will include, when applicable, the review and interpretation of pertinent diagnostic studies, such as chest films, echocardiography, computed tomography, cardiac MRI, and cardiac angiography.

b. Preoperative decision-making regarding the indication and timing of surgical intervention for congenital heart disease. Students will attend and participate in our weekly pediatric cardiothoracic surgery conference, where cases are reviewed and treatment plans formulated in a consensus, multi-disciplinary fashion.

c. Participation in the preoperative counseling and informed consent process with the patient and parents.

d. Targeted reading for the specific upcoming operations. When possible, a lecture on the heart defect and the surgical repair will be given prior to the operation in order to increase the educational yield of the experience.

e. Daily operative experience as an assistant to open-heart surgery on infants and children. Students will be provided with an explanation of the operation as it progresses, and be able to see the anatomy and the operative repair from a close, first-hand perspective. Students will review real-time intraoperative transesophageal echocardiography, and correlate the images with live appearance of the beating heart.

Hershey

1 Student

All Rotations

4 Weeks

Prerequisite: Third year core clerkships

SURG 771 - Otolaryngology for Third Year Students**3rd Year Elective**

This course is designed to introduce third year medical students to the basics of evaluation and management of patients with ear, nose, throat and neck problems. Students on this elective will serve as an integral part of the Otolaryngology , Head & Neck Surgery team. This rotation should serve to enhance the head and neck history and examination skills of the student. Student will be expected to personally evaluate patients in the clinic, as well as possibly through the emergency room and inpatient consultation service. Management of these patients will be discussed with resident and attending faculty in formulating a treatment plan. Operative experience will be directed mostly towards routine

ear, nose, throat, and neck surgeries. More intense head and neck cases may be utilized as opportunities for head and neck anatomy experiences for all students. For those expressing an interest in otolaryngology, head & neck surgery as a potential career, operative experience can be tailored for the exposure necessary to demonstrate the breadth of otolaryngology & head & neck surgery. Daily conferences and lectures will serve as formal didactics, in addition to the teaching opportunities provided in outpatient clinics and inpatient rounds.

Course Outline:

This rotation will provide the student with a broad experience in clinical and academic aspects of Otolaryngology. The student will spend most of his/her rotation either in the clinic actively seeing patients with attendings or assisting in the operating room. The ENT clinic holds sessions five days a week. A variety of clinical problems are addressed from the most routine assessment of the pediatric and reconstructive challenges. The student will have the opportunity to take part in the initial assessment of these patients. They will gain experience in the head and neck exam as well as the use of specialized equipment including head mirror, laryngeal mirror, and the flexible laryngoscope. In the operating room, they will be exposed to a similar diversity of problems with a progressive involvement in the operative management. There will be a 2-3 hours of didactic conferences weekly directed at both resident and medical students. There will also be an organized presentation on head and neck exam.

Topics which will be covered include:

- a. Complete head and neck examination.
- b. Adenotonsillar disease in children.
- c. Sleep apnea in children and adults.
- e. Neck Masses
- f. Hearing Loss
- g. Vertigo
- h. Surgical thyroid and parathyroid disease
- i. Trauma

Course Objectives:

The student should be able to perform the following by the end of the two week rotation:

- 1. List the indications for adeno-tonsillectomy / tonsillectomy.
- 2. Discuss the pathogenesis of rhinosinusitis.
- 3. Identify risk factors for head and neck malignancies.
- 4. Correctly interpret an audiogram in regards to type of hearing losses.
- 5. Perform a detailed head and neck examination

Program Director: Johnathan McGinn

Coordinator: Beth Shultz

Hershey

1 Student

All Rotations

6:00 AM, first day of rotation, C4833. Please contact the chief resident via the hospital operator the day before the rotation starts (or the Friday before if Monday) to confirm a time and location to meet.

2 weeks

Prerequisite: Completion of first two years of medical school

SURG 796 - Surgery Individual Studies Research Elective

Surgery Faculty Member

Penn State College of Medicine Medical Students Only

3rd / 4th Year Elective

SURG 796A - Surgery 3rd Yr Individual Studies Research

Surgery Faculty Member

Penn State College of Medicine Medical Students Only

3rd Year Elective

SURG 797 - Surgery Special Topics

Surgery Faculty Member

Penn State College of Medicine Medical Students Only

3rd / 4th Year Elective