Student Electives

Medical Education

Ball
Thank you for your interest in Medical Education at IU Health Ball Memorial Hospital. Our institution offers a variety of electives in various disciplines. Each elective allows students to experience real-world practice in a unique private community setting. We are able to achieve this through a three-part collaboration of a community hospital, medical school, and strong community physicians.

First, IU Health Ball Memorial Hospital is a center for academic excellence in graduate medical education. Our residency programs include Family Medicine, Internal Medicine, and Transitional Year. Second, our community is the site for the Indiana University School of Medicine-Muncie, founded through a relationship between the Indiana University School of Medicine and Ball State University. Finally, there is our unique relationship with the primary care and specialty physicians within the community.

During your elective rotation, full room and board are provided; exercise facilities are available at the fitness center; and meals are provided free of charge at the hospital cafeteria and Subway.

For further information or to register for an elective, please contact:
800.279.1666
medstudent@iuhealth.org
Ward Medicine

(18MI711)

Description:
This elective is designed to give the student experience normally gained in the internship year. The student will have diagnostic and patient care responsibilities supervised by the Ward Resident and Staff Physicians assigned to the ward. These responsibilities include history and physical examination, order writing, daily progress notes and observation and performance of a broad spectrum of diagnostic and therapeutic medical procedures. Daily didactic conferences and ample time for reading complement the above.

Learning Objectives:
Students will demonstrate competence in the following areas:
1) Develop appropriate assessments and plans of care for patient acute care episodes (PC3)
2) Perform histories and physical exams and interpret basic diagnostics (PC1)
3) Effectively direct the use of healthcare resources to help care for patients admitted to the hospital (SBP5)
4) Demonstrate the skills necessary to transition a patient safely to the next level of care (PO6)

Course Director:
Dr. R. Johnston

Other Faculty:
Dr. B. Dickey
Dr. J. Org
Dr. J. Miller
Dr. A. Singson

Availability:
All year

Number of Units:
1-2 Full Time

Maximum Students/Unit:
1

Prerequisites:
4th year status

Course Components:
90% Clinical
10% Lecture

Competency Offered:
I: Effective Communication
VIII: Problem Solving

Family Medicine

(18YF701)

Description:
The course objectives are designed to expose medical students to the full spectrum of Family Medicine taught in a caring environment by dedicated, passionate faculty. We educate students in all aspects of primary care and assist students in career decisions. First contact with patients, development of differential diagnosis, and expansion of treatment plans will be stressed.

- Each senior student will participate in our family practice center under the supervision of our program directors actively seeing and staffing patients.
- Further experiences can be custom tailored to the student's needs with opportunities in obstetrics, pediatrics, medicine, procedures, private family practitioner offices, or time in the FPC with our residents.
- All aspects of family practice will be emphasized, with the following experiences being available:
  - Obstetrics (up to 10 - 15 deliveries/month are average for a senior student)
  - Outpatient procedures (ultrasound, colonoscopy, colposcopy, dermatologic procedures, and more),
  - Inpatient and outpatient adult medicine and pediatrics experiences
- Evidence based medicine is utilized wherever possible with literature and database searching capabilities just outside of each exam room allowing information to affect treatment decisions.
- Evaluation: The student's final grade will be based on performances as evaluated by attending and resident physicians. Also included will be attendance at the didactic sessions and a written H&P on one of the patients that the student admits while on the rotation.

Learning Objectives:
1) Demonstrate a working knowledge of common outpatient medical problems and those for which patients are commonly admitted to a family medicine service (PC1)
2) Formulate an appropriate differential diagnosis in patient care (PC2)
3) Demonstrate effective and succinct oral presentation in patient care (ISC5)
4) Create an effective and succinct admission History and Physical (PC1)
5) Follow and have primary responsibility for the care of the patients they admit (from admission through discharge) (PC1)
6) Work with hospital healthcare team to transition patient safely back to outpatient setting (PO6)
7) Perform procedures when indicated on their patients (under the direct supervision of attending/resident) (PC5)
8) Assess the psychosocial aspects of a patient's history and the effects they might have on the health of that patient (SBP2)

Course Director:
Dr. L. Ernstberger

Other Faculty:
Dr. C. Shue
Dr. M. Schreiner
Dr. J. Wilson
Dr. R. Brown
Dr. L. Ernstberger

Availability:
All year

Number of Units:
1-4 Full Time

Maximum Students/Unit:
2

Prerequisites:
3rd or 4th year status

Course Components:
90% Clinical
10% Lecture

Competency Offered:
IV: Lifelong Learning
Internal Medicine-Emphasis on Hematology & Oncology
(18MH701)

Description:
The objective of this elective is to provide the student with an opportunity to evaluate a wide diversity of diagnostic and therapeutic problems in the areas of hematology-oncology. Direct patient contact will be emphasized. The student will participate in the evaluation and management of patients with multiple problems in the above areas. Emphasis will be placed upon the multi-disciplinary approach to the diagnosis and treatment of malignant diseases and the extern will have the opportunity to observe the functioning of the hematology/oncology outpatient clinic and the Ball Memorial Hospital Oncology Unit. The student will spend a significant period of time participating in the IU Health Ball Memorial Hospital intern-resident teaching program as well.

Learning Objectives:
1) Participate in the multidisciplinary clinical care of the Hematology-Oncology patient (SBP1)
2) Describe the primary treatment options for the common oncologic conditions (MK5)
3) Demonstrate a basic understanding of the diagnostic approach to the patient with a new diagnosis of cancer (PC3)
4) Recognize characteristic side effects of chemotherapy (MK4)
5) Analyze benign hematologic abnormalities common to the primary care setting (MK1)
6) List the benefits of psychosocial and supportive care in management of the oncology patient (SBP2)
7) Apply the concept of ‘total care’ to the advanced oncology patient (SBP1)
8) Describe the integrated roles that health care team members play in the management of our patients (SBP1)

Course Director:
Dr. D. Morrical

Other Faculty:
Medicine Staff

Availability:
All months except June, July

Number of Units:
1 Full Time

Maximum Students/Unit:
1

Prerequisites:
4th year status

Course Components:
75% Clinical
15% Lecture
10% Library

Competency Offered:
VIII: Problem Solving

Critical Care
(18MI731)

Description:
This rotation is based at a community teaching hospital and private practice office and will provide exposure to a broad range of patients and problems in pulmonary and critical care. Teaching will take place through daily work rounds in the hospital and office. Consultations will be provided for critically ill patients in the intensive and coronary care units in addition to patients on the wards. Commonly encountered syndromes include respiratory failure, shock, sepsis, organ failure, pleural effusions, pneumonia, and various chronic and acute lung diseases. Emphasis is placed on bedside imaging with focused critical care ultrasound to extend physical exam and allow better understanding of pathophysiology. Students will be given the opportunity to image pleural effusions, atelectasis, normal lung sliding, basic focused cardiac ultrasound including assessment of volume status, and studies for DVT and hydroceles.

Learning Objectives:
1) Explain some basic physics of critical care ultrasound (PC5)
2) Distinguish pleural effusion from consolidation by ultrasound (PC3)
3) Explain the significance of absent lung sliding on thoracic ultrasound (PC3)
4) Correlate findings from chest imaging (e.g., chest x-ray, CT scan) with patient history and physical exam (PC1)
5) Distinguish obstructive from restrictive patterns on pulmonary function testing (PC3)
6) Develop an appropriate initial treatment strategy for acute respiratory failure and hypotension (MK4)

Course Director:
Dr. M. Williamson

Other Faculty:
Dr. W. Fisher
Dr. S. Ibrahim
Dr. J. Spahr
Dr. M. Williamson

Availability:
All months

Number of Units:
1-3 Full Time

Maximum Students/Unit:
1

Prerequisites:
4th year status

Course Components:
85% Clinical
15% Lecture

Competency Offered:
None
**Private Service Adult Hospitalist Medicine**  
(18M751)

**Description:**  
This course is designed to give 4th year students a unique experience in the practice of adult Hospitalist Medicine at a community hospital. Attendings are drawn from the hospitalist group at IU Health Ball Memorial Hospital in Muncie. Students will work on one on one with a member of the group and will learn to evaluate patients efficiently and formulate an appropriate evidence based treatment plan for a broad range of medical problems. Students will expand their communication skills by interacting with patients and their families, consulting appropriate sub-specialty services, and by participating in multi-professional rounding with pharmacists, case managers, dieticians and therapists. Participation in weekly teaching conferences such as Chest Conference, Tumor Board and Hospitalist Case Presentation and attendance at ground rounds will be expected. Students will work Monday through Friday with the option to work with a nocturnist on Friday evening shifts. During this night time rotation the student’s responsibilities include new admissions and communicating effectively with family and medical staff - nurses, pharmacists, respiratory therapists, consulting physicians. At the completion of the rotation students will have developed the necessary skills to effectively manage a variety of medical conditions encountered in hospitalized adult patients.

**Learning Objectives:**

1. Appropriately diagnose and manage commonly encountered diseases in adult inpatient medicine (PC2)
2. Properly consult sub-specialty services (ISC1)
3. Develop a treatment plan and utilize proper documentation (PC3)
4. Effectively communicate with patients and their families as well as other physicians (ISC1)
5. Develop and utilize an individual patient management style supported by best evidence for patient care (PC3)
6. Display a strong appreciation and understanding of a ‘system based’ medical management environment (SBP1)
7. Display sensitivity, care and respect to patients, families and colleagues in the hospital setting (ISC2)
8. Develop skills in the evaluation and management of common inpatient diagnoses such as heart failure, COPD, acute myocardial infarction, pneumonia, etc. (PC2)
9. Develop differential diagnoses for common presentations such as fever, shortness of breath, chest pain, abdominal pain (PC2)
10. Participate in inter-disciplinary rounding and develop presentation and communication skills required for team based, collaborative care (ISC1)

**Course Director:**  
Dr. C. Gamble

**Other Faculty:**  
Dr. N. Gheyara  
Dr. R. Johnston  
Dr. D. G. Hazlett  
Dr. L. Jones-McClure  
Dr. A. Behery  
Dr. A. Cheema  
Dr. V. Muppidi  
Dr. S. Vasireddy

**Availability:**  
All months except December

**Number of Units:**  
1-3 Full Time

**Maximum Students/Unit:**  
1

**Prerequisites:**  
4th year status

**Course Components:**  
95% Clinical  
15% Lecture

**Competency Offered:**  
None

**Sports Medicine**  
(18S711)

**Description:**  
The sports medicine elective is designed to concentrate on the primary care aspects of sports medicine as well as exposing the student to a multi disciplinary approach to sports medicine practice. During the clerkship the student will be involved in contact with between 300 and 400 acute and chronic sports injuries and illnesses mostly of junior high, high school, and college level athletes as well as a large number of recreational and senior athletes. Patient contacts will come from the Sports Medicine Clinic at Central Indiana Sports Medicine. In addition, training room sessions are available that will allow experience in dealing with acute injuries in Division I and high school athletes.

The medical student will have the opportunity to deal with acute injuries first hand and will gain experience in training of the athlete, emergency care and transportation of the athlete, and finally, definitive diagnostic procedures to be used. Experience will include office care of the athlete, coverage of various sporting events on the campus of Ball State University, and informal teaching sessions with the athletic training staff, physical therapists, and various consultants in sports medicine. The student will gain knowledge not only in the clinical aspects of sports medicine, but also in the philosophy of primary care sports medicine, rehabilitation techniques, and the important aspects of prevention in sports medicine.

Each student will be required to select an area of sports medicine to investigate during their period of rotation. A thorough review of the literature and a short lecture presentation at the end of the elective is required.

**Learning Objectives:**

1. Demonstrate competence in conducting musculoskeletal exams (PC1)
2. Employ appropriate methods in completing common joint & tendon injections (PC5)
3. Understand indications for cost effective imaging of musculoskeletal problems (PC3)

**Course Director:**  
Dr. J. J. Hunt

**Availability:**  
All months except July

**Number of Units:**  
1 Full Time

**Maximum Students/Unit:**  
1

**Prerequisites:**  
4th year status

**Course Components:**  
80% Clinical  
20% Lecture

**Competency Offered:**  
None
Clinical Infectious Disease (18MD701)

Description:
The objective of this course is to give the advanced student experience in diagnosis and clinical management of patients with commonly encountered infectious disease disorders. Motivated student will be exposed to a busy clinical ID practice with community ID specialists.

The primary setting will be approximately 30% outpatient practice with 70% hospital consultative duties.

Student will take histories and conduct physical examinations in the outpatient and inpatient setting. Students will be exposed to the role of diagnosis and management of common infections, antibiotic management and selection, and clinical epidemiology. The student shall participate with the internal medicine residency program and attend clinical conferences, grand rounds.

Students will be measured regarding their ability to communicate and their ability to demonstrate knowledge about ID and the above metrics.

Learning Objectives:
1) Describe the diagnostic criteria and management for commonly encountered infectious disease conditions (e.g., cellulitis, pneumonia, meningitis, urinary tract infections, etc. (MK4)
2) Explain basic principles of antibiotic pharmacology with respect to side effect monitoring, dosage alteration (e.g., in patients with renal insufficiency), and drug selection based on “best practice” guidelines (MK4)
3) Take an appropriate medical history (PC1)
4) Perform an appropriate physical examination (PC1)
5) Create (with the assistance of written and online resources) an appropriate initial management plan for patients with common ID diseases (PC3)

Competency Offered:
I: Effective Communication

Clinical Endocrinology (18ME711)

Description:
The objective of this course is to give the advanced student experience in diagnosis and clinical management of patients with endocrine disorders. A motivated student will be exposed to a busy clinical endocrinology practice with community endocrinologists.

The primary setting will be outpatient practice with occasional hospital consultative duties.

A student will take histories and conduct physical examinations in the outpatient and inpatient setting. Students are exposed to the role of diabetes management, thyroid, adrenal, pituitary and other endocrine disorders, and common endocrine disorders seen in the hospital consultative service. The student shall participate with the internal medicine residency program and attend clinical conferences, grand rounds, and morning report.

Learning Objectives:
1) Describe the diagnostic criteria for diabetes mellitus (PC2)
2) Discuss the basic management of diabetes in the outpatient setting and hospital (MK4)
3) Describe the diagnosis and management of common endocrine disorders relating to the thyroid, pituitary, parathyroid, gonadal, and adrenal systems (MK4)
4) Take an appropriate medical history (PC1)
5) Perform an appropriate physical examination (PC1)
6) Create (with the assistance of written and online resources) an appropriate initial management plan for patients with common endocrine diseases (PC3)

Spirituality in Medicine (18ZI701)

Description:
The student will gain an exposure to the principles of an integrative approach to spirituality and pastoral care in the medical setting by working with hospital chaplains, the interdisciplinary palliative care team, social workers, ethics committee, and clergy from the community. The student will distinguish spirituality from religion and receive an introduction to dealing with patients of all faiths and backgrounds.

The student will spend the majority of time with hospital chaplains. This will include: developing an integrative approach to spirituality and medicine with the chaplain, rounding with the chaplain in both inpatient and outpatient clinical areas, shadowing chaplains in patient and family spiritual care visits, shadowing family meetings arranged by the palliative care team, and engaging in regular interdisciplinary meetings of the palliative care team. The student is encouraged to identify one or more topics within spirituality for specific focus.

Course Objective:
1. Communicate students’ conceptualization of the patient as person to include dimensions of spiritual beliefs and needs. (SBP2)
2. Describe how patients’ spiritual belief systems impact their health. (SBP2)
3. Recognize how the student’s spiritual beliefs impact his or her practice of medicine. (SBP2)
4. Describe the value of the chaplain as a member of the interdisciplinary team. (SBP1)
Introduction to Clinical Research

Description:
This elective is intended to promote research and evidence-based medicine education to medical students. The program provides online didactics, assigned readings and tests to ensure that the students gain an understanding of basic clinical research principles, research ethics, and evidence-based medicine. In addition to lecture and reading requirements, students will assist the research coordinators at IUH BMH to recruit and enroll patients into clinical research studies. It represents a unique opportunity to allow medical students to directly participate in the performance of clinical research, while also providing them with an education on basic research methodology and research ethics.

The goal of the Research Rotation is also to improve student education, promote quality of patient care, and stimulate students to become lifelong active learners and scientific participants by enhancing their participation in clinical or basic science investigation and scholarly activities. During this elective, students are provided with protected time and a supportive environment for scientific investigation education and scholarship under the supervision of a chosen mentor.

The setting will be primarily didactic sessions and independent work on a project of the student's choosing (with input from faculty mentor).

Goals of this elective:
- To provide the student with a "hands-on" experience in performing clinical research by actually participating in the conduct of that research
- To educate medical students on the basic concept and methodologies of clinical research studies
- To promote the students' basic knowledge of clinical research ethics
- To introduce and/or reinforce the basic principles of evidence-based medicine

Learning Objectives:
Describe and intelligently articulate (in the form of exercises, discussions, and projects):
1) Basic concepts and methodologies of clinical research studies, including research study design (MK5)
2) Basic principles of legal issues involved in human subjects research (P3)
3) Basic knowledge of clinical research ethics as it applies to human subjects research, citing examples (P3)
4) Basic principles of evidence-based medicine, including real-world applications (MK5)
5) How to summarize the key points of an original research journal article, with emphasis on application to clinical science (ISCS)
6) Basic principles of biostatistics, including linear/logistic regression, confidence intervals, predictive value, sensitivity/specificity, Bayes' theorem, and hypothesis testing (MK5)
7) Basic principles of writing and effective presentations, giving examples of each and creating projects as required by faculty (ISCS)
8) Basic principles of public health epidemiology (MK6)

Course Director:
Dr. J. Matthew Neal

Availability:
June, July, October, November, January, February, April, May

Number of Units:
1

Maximum Students/Unit:
1

Prerequisites:
4th year status

Course Components:
10% clinical
40% library research
50% lecture/seminar

Competency Offered:
Lifelong Learning (IV)

Leadership in Medicine

Description:
The Leadership in Medicine clerkship is designed to outline the leadership competencies physicians need to become more actively involved in the planning, delivery, and transformation of health services through their day-to-day practice. This includes developing the personal qualities required to be an active team member; supporting others who are in leadership roles; and taking an active role in leadership when appropriate.

Learning Objectives:
Describe and intelligently articulate (in the form of exercises, discussions, and projects):
1) Basic principles of quality management as it is applied to healthcare systems (SBP4)
2) LEAN methodology and the basics of process improvement, including Rapid Improvement Events (RIEs) (SBP4)
3) Basic principles of healthcare operations & finance (SBP3)
4) Importance of negotiation (e.g., contracts, acquisitions) (SBP3)
5) Common issues in Organizational Politics (social and hierarchical structure of an organization which governs many aspects of daily functioning) (P3)
6) Principles of conflict resolution (P3)
7) Importance of running an efficient meeting and problems/pitfalls in doing so (P2)
8) Importance of health information technology to proper health system operation (SBP1)
9) Developing interviewing skills (as both interviewer and interviewee) (ISCS)
10) Key traits of effective leaders and basic leadership skills

Course Director:
Dr. J. Matthew Neal

Other Faculty:
Jeff Bird, MD
Charles Routh, MD
Ryan Johnston, MD
Claire Lee, RN

Availability:
All year EXCEPT July and August

Number of Units:
1 Full Time

Maximum Students/Unit:
1

Prerequisites:
4th year status

Course Components:
30% library/research
70% lecture/seminar

Competency Offered:
Professionalism & Role Recognition (IX)
The Best Care, Designed for You

Family Medicine Residency
Internal Medicine Residency
Transitional Year Residency