

# **Internal Medicine Residency**

## **Philadelphia College of Osteopathic Medicine**

### Overview, Rules and Regulations

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Philadelphia College of Osteopathic Medicine  
Philadelphia, Pennsylvania

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# **Section 1**

## **Faculty and Residents**

## Administration

### **Philadelphia College of Osteopathic Medicine**

Jay S. Feldstein DO  
President and Chief Executive Officer

Kenneth Veit DO, FACFP  
Provost, Senior Vice President

David Kuo DO, FACOFP  
Assistant Dean for Graduate Medical Education

Daniel J. Parenti DO, FACOI, FCCP  
Professor and Chair  
Associate Program Director,  
Internal Medicine Residency  
Department of Internal Medicine

Michael A. Venditto DO, FACOI, FCCP  
Professor and Chair  
Division of Pulmonary and Critical Care Medicine  
Program Director  
Internal Medicine Residency

Kimberly M. Jones  
Internal Medicine Residency Coordinator

## **Roxborough Memorial Hospital**

Peter J. Adamo  
Chief Executive Officer

Gregory Lenchner MD, FACIM, FCCP  
Chairman, Department of Internal Medicine

Pat A. Lannutti DO, MSc  
Director of Medical Education (on-site)

Brian Penza DO, FACOI  
Associate Director of Medical Education

## **Chestnut Hill Hospital**

Chief Executive Officer

Simeon Bardin MD, FACIM  
Director of Medical Education (on-site)

## Hospitals and Faculty

### **Roxborough Memorial Hospital**

Roxborough Memorial Hospital (originally, St. Timothy's Hospital) is a 120 bed community hospital. It has been in existence for over 100 years. It services a very active and diverse area of Philadelphia. It has a busy emergency room and all the amenities contributing to a high quality of care.

RMH has a full complement of sub-specialties and a recently upgraded intensive care unit and PCU. There are 3 teaching general internal medicine services which consist of medical students, interns, residents as well as a clearly identified service director/supervisor. The patient population is protean. There is a wide variety of disease processes from the more common to the most obscure. The hospital is in an ongoing growth mode and is committed to Osteopathic Medical Education.

### **Roxborough Memorial Hospital Faculty**

#### **Anesthesiology**

Lawrence Levit MD

\* - indicates Board Certified

#### **Cardiology**

Wayne Arnold DO

Michael Deangelis MD\*

Eva Placentra-Sesso DO

Erin O'Malley MD

Bruce Kornberg DO\*

Veronica Covelesky \*MD

#### **Dermatology**

Harold Milstein MD

**ENT**

\* - indicates Board Certified

William Henry MD  
Todd Morehouse DO  
Staci Levick DO  
Lawrence Cramer DO  
Brian Broker MD  
Alan Berger MD

**Endocrinology**

Joan Lit MD  
Steven Nagelberg MD  
Neil Streisfeld MD

**Gastroenterology**

Nancy Graboyes-Leopold MD  
Larry Borowsky MD  
Jennifer Lehrer MD

**General Internal Medicine**

Pat Lannutti DO  
Brian Penza DO\*  
Cindy Henry DO\*  
Eric Soifferman DO\*  
Scott Peerenboom DO\*  
Erik Polan DO\*  
Diana Tyler Rocks DO\*

**Geriatrics**

Todd Aaron MD  
Paula Patton MD  
Lawrence Kessel MD  
Katherine Galluzzi DO\*

**Gynecology**

John Misannelli DO  
Helene Koch DO  
David Goldberg DO

\* - indicated Board Certified

**Hematology**

Sally Lane MD  
Jean Kane DO

**Infectious Disease**

Mark Ingerman MD  
Lawrence Livornese MD  
Brett Gilbert DO

**Nephrology**

John Firpo MD  
Michael Levin DO\*  
Kenneth Knowles DO\*  
Theodora Bernadini DO\*  
Nicola Stepanian DO

**Neurology**

Joseph Lubeck DO\*  
Ravik Sapra MD

**Ophthalmology**

Abraham Cohen MD  
Lawrence Bloom MD  
Anthony Antonello MD

**Osteopathic Manipulative Medicine**

Alex Nicholas DO\*  
Evan Nicholas DO\*  
Donald Allison DO

**Pathology**

Pradepp Bhagat MD

\* - indicates Board Certified

**Physiatry**

Manzoor Mohiuddin MD

Aisa Lopez MD

**Pulmonary /Critical Care**

Gregory Lenchner MD\*

John Simelaro DO\*

Michael Venditto DO\*

Daniel Parenti DO\*

**Rheumatology**

Melanie Chatterji MD

Richard Pascucci DO\*

**Urology**

Patrick Lenahan MD

## **Chestnut Hill Hospital**

Chestnut Hill Hospital is a community-based, university-affiliated, teaching hospital committed to excellent patient centered care. The 164 bed hospital offers a range of inpatient and outpatient, diagnostic and treatment services for our neighbors in northwest Philadelphia and eastern Montgomery County.

More than 300 board-certified physicians comprise the medical staff and support medical specialties including minimally invasive laparoscopic and robotic-assisted surgery, cardiology, gynecology, oncology, orthopedics and more. their comprehensive services also include primary care practices, two Women's Centers and an off-site physical therapy center. Accredited by The Joint Commission, CHH is affiliated with university hospitals in Philadelphia for heart, stroke and cancer care, as are the hospitalist and residency programs.

## **Chestnut Hill Hospital Faculty**

### **Cardiology**

\* - indicates Board Certified

Andrew Woldow MD\*

Kelly Anne Spratt DO\*

David Chinn MD\*

Thomas Diaz MD\*

### **Endocrinology**

Claresa Levetan MD\*

Bertram Channick MD\*

### **Gastroenterology**

Gerald Bertiger MD\*

James Taterks MD\*

**General Internal Medicine**

Simeon Bardin MD\*  
Eric Soifferman DO\*  
Kenneth Hoellein MD\*  
Jarrod Eddy DO\*  
Cindy Henry DO\*  
Scott Peerenboom DO\*  
Lawrence Kessel MD  
Diana Tyler Rocks DO\*

\* - indicates Board Certified

**Infectious Disease**

Brett Gilbert DO\*  
Mark Ingerman MD\*  
Lawrence Livornese MD\*  
Bevin Dolan MD\*

**Nephrology**

Edward Jones MD\*  
Thomas Delgiorno MD\*  
William McElhaugh DO\*

**Neurology**

Vidhu Gupta MD\*  
Rodney Bell MD\*  
David Cohen MD\*  
Sonya Knight DO\*

**Pulmonary/Critical Care**

Scott Rosenberg MD\*  
Aaron Crookshank MD\*  
Richard Depuis MD\*  
Nicole Scivoletti DO\*

**Rheumatology**

Robert Kimelheim DO\*  
Mohan Gurubhagavatula DO

## Residents

### **OGME-1**

James Barrett  
Paul Cowan  
Kyle Davis  
Dominic DeAngelo  
Marie-Claudia Durkin  
Conor O'Sullivan  
Sarah Salama  
Maria Lynn Shiptoski

### **OGME-2**

Marissa Babnew  
David Hanna  
Paul Li  
Rachel Masel  
Khoa (Richard) Ngo  
Douglas Rheam  
Barbara Schechter  
Alex Snyder  
Ashad Syed

### **OGME-3**

Mina Ghobrial  
Joshua Menefee  
Alexander Morse  
Adrian Pearson  
Elizabeth Thomas  
Andrea Varraux  
Christopher Webb

## **Section 2**

# **Philosophy, Goals, and Objectives**

## **Philosophy**

The internal medicine residency at the Philadelphia College of Osteopathic Medicine is a comprehensive 3 year program with intensive training in all facets of internal medicine. It stresses the importance of osteopathic philosophy both in the diagnosis and treatment of patients. The program allows the residents to develop into excellent healthcare providers and prepares them to take the certification examination in internal medicine.

This will be accomplished by only providing services where teaching and supervision is a premium.

To provide diversification of patient experience and teaching attendings, all residents will rotate at both Roxborough Memorial Hospital and Chestnut Hill Hospital.

## **Goals and Objectives For All Residents**

All residents are to develop the following competencies:

- A solid foundation of basic science and clinical knowledge of internal medicine.
- The ability to provide compassionate and effective care to all patients.
- The exercise of clinical judgment to critically select the appropriate course of action in the management of patients.
- The capacity to communicate effectively with all healthcare personnel and with patients.
- The ability to analyze practice experience and perform practice-based improvement activities using a systematic methodology.
- Apply knowledge of study designs and statistical methodology to the appraisal of clinical studies and information regarding diagnostic and therapeutic effectiveness.
- A demonstrated commitment to carrying out professional and administrative duties, adherence to ethical principles and sensitivity of diverse patient population.
- The constant pursuit of improvement in patient care practices by systematic evaluation of current practices in relation to outcome and to new scientific knowledge.
- An awareness of and responsiveness to the underpinnings of the health care system, and the dilemmas of practicing healthcare that is of optimal value, and cost effective.

## **Goals and Objectives for OGME-1**

### **Patient Care**

- Perform a thorough history and physical examination with complete, accurate and timely documentation.
- Understand indications for and interpret lab and imaging studies.
- Learn to counsel patients appropriately for obtaining informed consent.
- Perform a minimum of 5 supervised central lines in the subclavian, internal jugular and femoral positions.
- Become proficient in endotracheal intubation.
- Become proficient in obtaining an arterial blood gas.
- Learn to provide exemplary patient care using a team approach.

### **Medical Knowledge**

- Successfully complete rotations in ICU, Emergency room, anesthesia, ambulatory women's health issues, ambulatory medicine, and the required 6 additional rotations in internal medicine.
- Pass Complex step 3 by the end of OGME-2 year.
- Establish an effective self-study reading program including textbooks and literature.
- Take the in service exam as a self assessment barometer.
- Develop a foundation for clinical problem solving and decision making.
- Demonstrate a solid foundation of knowledge of anatomy, physiology and pharmacology.

### **Professionalism**

- Demonstrate professional behavior at all times including appearance, promptness, and interactions with patients, family, staff, and healthcare providers.
- Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.
- Demonstrate integrity and a commitment to patients that supercedes self interest.

### **Communication and Interpersonal Skills**

- Provide compassionate patient care as determined by patients, families, colleagues, and ancillary members of the health care team.
- Work effectively as a member of the health care team.
- Show a sense of camaraderie and cooperation with fellow house staff officers.

**Systems-based Practice**

- Advocate for quality patient care and assist patients in dealing with healthcare system complexities.
- Understand the practice of medicine in both a community and a tertiary care center.
- Practice cost-effective health care and resource allocation through evidence-based medical practice that does not compromise quality of care.
- Maintain records of office patients seen and procedures performed.

**Practice-based Learning**

- Learn information technology skills to access available patient care and educational resources.
- Demonstrate an ongoing ability to learn from errors.
- Begin to locate, appraise, and assimilate evidence from scientific studies related to clinical medical practice and research.

**Osteopathic Knowledge and Skills**

- Complete a thorough and accurate osteopathic examination.
- Begin to understand how alteration of structure can help in the diagnosis of the patient.
- Incorporate OMM into the treatment plan of the patient.
- Understand when OMM consultation is appropriate.

## **Goals and Objectives for OGME-2**

### **Patient Care**

- Perform a thorough history and physical with complete, accurate and timely documentation
- Further the understanding of the indication for and the interpretation of lab and imaging studies.
- Learn to counsel patients appropriately for obtaining informed consent for all procedures.
- Generate patient care plans under the direction of chief residents and faculty.
- Expand knowledge base for indication and interpretation of procedures used in the subspecialties of internal medicine.
- Expand the ability to care for the internal medicine issues in the perioperative period.

### **Medical Knowledge**

- Pass Complex 3 by the end of this year.
- Establish an effective self-study reading program including textbooks and journal literature.
- Demonstrate a solid foundation of knowledge of anatomy, physiology, and pharmacology related to the care of the patient.
- Take the in service exam as a self assessment barometer.
- Continue to develop problem solving skills.

### **Professionalism**

- Demonstrate professional behavior at all times including appearance, promptness and interactions with patients, family, staff, and healthcare providers.
- Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.
- Demonstrate integrity and a commitment to patients that supersedes self interest.

### **Communication and Interpersonal Skills**

- Provide compassionate patient care as determined by patients, families, colleagues, and ancillary members of the health care team.
- Works effectively as a member of a health care team.
- Shows patience while supervising junior house staff and students.
- Participate in programs involving the first and second year medical students as requested by the chief resident.

### **Systems-based Practice**

- Understand their role in both the hospital and office setting, including interactions with other health care organizations, and how these elements of healthcare affect the practice of medicine.
- Advocate for quality patient care and assist patients in dealing with healthcare system complexities.
- Practice cost-effect health care and resource allocation through evidence-based medical practice that does not compromise quality of care.
- Continue to maintain logs on office patients seen and procedures done.

### **Practice-based Learning**

- Learn information technology skills to access available patient care and educational resources.
- Demonstrate an ongoing ability to learn from errors.
- Continue to locate, appraise, and assimilate evidence from scientific studies related to clinical internal medicine.

### **Osteopathic Knowledge and Skills**

- Complete a thorough and accurate osteopathic examination.
- Continue to develop an understanding of how alteration of structure can help in the diagnosis of the patient.
- Incorporate OMM into the treatment plan of the patient.
- Understand when OMM consultation is appropriate.
- Participate in the OMM seminars.

## **Goals and Objective for OGME-3**

### **Patient Care**

- Perform a thorough history and physical with complete, accurate and timely documentation.
- Understand the indications for and the interpretation of studies.
- Counsel patients appropriately for obtaining informed consent for procedures.
- Counsel patients on end of life issues.
- Generate and implement patient care plans under the guidance of the attending faculty.
- Provide exemplary patient care as part of the internal medicine team.

### **Medical Knowledge**

- Continue an effective self-study reading program including textbooks and journals.
- Demonstrate advanced knowledge of anatomy, physiology, and pharmacology related to the care of the internal medicine patient.
- Demonstrate complex and appropriate problem solving and decision making in all the internal medicine subspecialties.
- Know when appropriate subspecialty consultation is needed and how to incorporate their recommendations into the medical plan for the patient.

### **Communication and Interpersonal Skills**

- Provide compassionate patient care s determined by patients, families, colleagues, and ancillary members of the health care team.
- Works effectively as a member of a health care team including teaching medical students, residents and ancillary healthcare providers.
- Participate in programs involving the first and second year medical students as requested by the chief residents.

### **Systems-based Practice**

- Understand their role in both the hospital and office setting, including interactions with other health care organizations, and how these elements of healthcare affect the practice of medicine.
- Advocate for quality patient care and assist patients in dealing with healthcare system complexities.
- Practice cost-effect health care and resource allocation through evidence-based medical practice that does not compromise quality of care.

--Continue to maintain logs on office patients seen and procedures done.

### **Practice-based Learning**

--Demonstrate advanced information technology skills to access available patient care and educational resources.

--Demonstrate an ongoing ability to learn from errors.

--Locate, appraise, and assimilate evidence from scientific studies related to an internal medicine practice.

### **Osteopathic Knowledge and Skills**

--Complete a thorough and accurate osteopathic examination.

--Develop a profound understanding of how alteration of structure can help in the diagnosis of the patient.

--Incorporate OMM into the treatment plan of the patient.

--Understand when OMM consultation is appropriate.

--Participate in the OMM seminars and the OMM modules available on line.

## Goals and Objectives for the Office

### **OGME-1**

- Learning to develop a rapport with the patient that the resident should continue to see in the office.
- Be able to easily ascertain what is the chief complaint and then to be able to expand this in the HPI.
- Develop a differential diagnosis and begin to establish a plan of care for the patient.
- Begin to master some of the office procedures such as EKG, spirometry, pulse oximetry and bimanual pelvic exam.
- Learn procedures for getting labs and radiology studies done.
- Learn the indications for manipulative therapy. Learn new techniques as appropriate.
- Understand the cost-effectiveness of pharmaceuticals.
- Learn EMR.
- Begin to understand billing codes.
- Learn how to return patients' phone calls and deal with some appropriate issues over the phone.

### **OGME-2**

- Continue to develop a more extensive differential diagnosis.
- Be able to educate the patient on health maintenance.
- Refine techniques for office procedures--EKG, spirometry, etc.
- Refine the ability to use EMR and e-prescribing.
- Begin to understand office management such as registration, and precertification of tests and procedures.
- Develop an understanding of the appropriate use of consultations.
- Further develop the understanding of billing codes.
- Learn how to use ancillary services such as hospice, social services, genetic counseling, family planning and addiction services.
- Teach the students and OGME-1's.
- Learn when care is no longer outpatient appropriate.

**OGME-3**

- Be able to narrow the differential diagnosis in a cost-effective way.
- Teach students and junior residents.
- Develop an expertise in issues of emotional and/or social stress.
- Have an understanding of the functioning of an office including personnel responsibilities, equipment need and maintenance and space allocation.
- Become more efficient in both seeing patients and returning phone calls to patients.
- Refine manipulative skills.

# **Rotational Goals and Objectives**

## Goals and Objectives

### Endocrinology Rotation

#### **Educational Purpose**

Maintaining normal endocrine function is crucial for optimal health. Both primary and secondary endocrine processes cause disease states. During the one-month endocrinology and metabolism rotation, the PGY2 or 3 resident will learn about normal endocrine function as well as common and uncommon endocrine disorders and their evaluation and management. The major objective of this rotation is to train residents to apply the principles of endocrinology to the management of common physiologic derangements.

Residents will be exposed to a broad spectrum of endocrinologic disorders demonstrating the clinical relevance understanding metabolic and physiologic derangements. The socioeconomic and health benefits of optimal control of diabetes are emphasized.

Occupational behavioral factors often affect the chronic management of many endocrinologic conditions

#### **Disease Mix**

The following topics are emphasized during the endocrinology/metabolism rotation.

- A. The performance and interpretation of thyroid function tests and immunoassay techniques.
- B. The essentials of diabetic care including intensive insulin management of Type 1 diabetes, recommended guidelines to avoid chronic complications such as nephropathy, retinopathy, and neuropathy.
- C. Optimal management of the patient with Type 2 diabetes.
- D. Evaluation and management of diabetic ketoacidosis.
- E. Evaluation and management of hyperosmolar nonketotic states.
- F. Diagnosis and management of thyrotoxicosis, hypothyroidism including myxedema crisis, Graves disease, management of the thyroid nodule, and differentiated thyroid cancer.
- G. Evaluation and management of hypercalcemia including hyperparathyroidism.
- H. Metabolic bone disease including osteoporosis and osteomalacia.
- I. Pituitary disorders including prolactinoma, acromegaly, and non-secreting tumors.
- J. Management of Cushing syndrome, Cushing's disease and ectopic steroid production.
- K. Multiple endocrine neoplasia syndromes.
- L. Multiple endocrine autoimmune failure syndromes.
- M. Addison's disease and acute adrenal crisis.
- N. Hypopituitarism.
- O. Evaluation for pheochromocytoma, carcinoid syndrome, and mastocytosis.

- P. Evaluation of galactorrhea and gynecomastia.
- Q. Congenital disorders presenting as adult diseases such as Turners syndrome, Klinefelters syndrome, congenital adrenal hyperplasia.
- R. Feminizing disorders.
- S. Diabetes insipidus.

### **Patient Characteristics**

In contrast to most resident rotations, the endocrinology/metabolism rotation primarily involves outpatients and, generally, those in stable conditions. Residents will have the opportunity to experience management of stable diabetic patients and learn about the disabilities exacerbated by poor control. The patients seen on the rotation will reflect a wide socioeconomic base including patients from the endocrinologist's private practice as well as in the resident clinic and the hospital consultation service.

### **Types of Clinical Encounters**

Patient evaluated on this rotation will primarily be outpatient in the office of the faculty endocrinologist as well as in the resident endocrinology clinic. Residents will be supervised at all times by on-site faculty members and will have the opportunity to discover the importance of allied nursing personnel in the optimal management of diabetes. The importance of diabetic nurse educators is emphasized daily.

### **Procedures and Services**

Residents will have the opportunity to occasionally observe thyroid biopsies as well as participate in various stimulation and collection procedures to identify syndromes of excess or insufficient hormonal production.

### **Pathological Material**

Residents will be encouraged to review biopsies obtained during this rotation as well as the pathological material from those patients undergoing surgical procedures to diagnose or treat endocrinologic conditions. Occupational and environmental issues concerning radiation contamination and disposal of low level radioactive waste from the treatment of thyroid disorders will be discussed.

## Educational Objectives

1. Diabetes mellitus. Differences between Type 1 and Type 2 diabetes. Natural course of diabetes and its complications. Appropriate monitoring methodologies to include home glucose monitoring, glycated proteins and urine protein excretion. Dietary management and pharmacological therapy to include intensive insulin programs, non-insulin injectables, oral hypoglycemic medications,. Patient recommendations for "sick days" and treatment of hypoglycemia. Management of commonly associated disorders (hyperlipidemia and hypertension) and their interaction with diabetes management. Appropriate and timely referrals to ophthalmology, podiatry, dietary and the diabetes education program.
2. Thyroid disease. Diagnostic evaluation and management of the functional thyroid disorders (hypothyroidism and hyperthyroidism). Treatment options for hypothyroidism and hyperthyroidism. Evaluation of anatomic thyroid abnormalities (simple goiter, multinodular goiter and solitary thyroid nodule) to include use of nuclear medicine procedures, ultrasound studies and fine needle aspiration. Evaluation of thyroid function tests in the intensive care setting.
3. Lipid disorders. NCEP guidelines. Secondary hyperlipidemia, dietary and pharmacologic management of dyslipidemias.
4. Metabolic bone diseases. Diagnostic evaluation and treatment options of osteoporosis and osteopenia. Risk factors for osteoporosis. The use of bone densitometry. Osteomalacia, Paget's disease.
5. Calcium disorders. Diagnosis and management of hypercalcemia and hypocalcemia. Management of hyperparathyroidism (medical vs. surgical). Management of critical hypocalcemia and hypercalcemia. Diagnosis and management of vitamin D deficiency.
6. Adrenal disease. Diagnosis and management of Cushing's syndromes, adrenal failure and pheochromocytoma. Diagnosis and management of adrenal emergencies (adrenal or pheochromocytoma crisis). Evaluations of the incidental adrenal mass.

7. Pituitary disease. Diagnostic evaluation of pituitary tumors to include the incidental pituitary mass. The role of surgery, radiation therapy and medical management. Diagnosis and management of pituitary apoplexy. Empty sella syndrome. Diagnosis and evaluation of posterior pituitary dysfunction such as central DI and SIADH
8. Gonadal Dysfunction. Diagnostic evaluation of gynecomastia, hirsutism, amenorrhea and impotence. Androgen and estrogen replacement therapy.

### **Method of Evaluation of Resident Performance**

Residents will be evaluated in the following manner:

- A. Discussion of assigned topics and required reading by the faculty member and resident.
- B. Assessment of resident skills in evaluating patients presenting with endocrinologic complaints.
- C. Completion of any required reading list.
- D. Completion of any required clinical teaching sessions.
- E. Attending end-of-month written evaluation

## **Goals and Objectives**

### **Gastroenterology Rotation**

#### **Educational Purpose**

Gastrointestinal and hepatic disorders frequently cause patients to seek medical attention. Abdominal pain, diarrhea, weight loss and other abdominal complaints are common presenting complaints. Hepatitis affects occupational choices and is a particular risk to health care workers, such as physicians. Alcohol abuse and its complications affect all socioeconomic groups. An internist must acquire sufficient skill and knowledge to evaluate and manage common as well as uncommon gastrointestinal and hepatic disorders.

During the gastroenterology/hepatology (GI) rotation, emphasis will include the following:

- A. Normal and disordered hepatic and GI tract function.
- B. Evaluation and management of common gastrointestinal diseases, both inpatient and outpatient.
- C. Exposure to patients with complications affecting the GI tract.
- D. Exposure to patients with multi- system diseases, affecting the GI tract.
- E. Exposure to common GI procedures including endoscopic, biopsy and aspiration procedures during which time the resident will develop knowledge of indications, contraindications and complications of these procedures.
- F. If requested, individual opportunity to perform flexible sigmoidoscopy.

#### **Teaching Methods**

The principal teaching methods on the GI rotation include the following:

- A. Self-directed readings, as well as preparation for presentations.
- B. Evaluation of inpatients and outpatients followed by presentation and discussion with the attending gastroenterologist.
- C. Exposure to and performance of gastroenterologic procedures including discussions of their indications and complications..
- D. Teaching rounds with discussion of specific topics using a didactic format.
- E. Discussion of assigned and required readings.

## Disease Mix and Learning Topics

- A. History and physical exam techniques for evaluation of gastrointestinal complaints.
- B. Developing expertise in selecting appropriate laboratory, radiographic and endoscopic studies for evaluation of gastrointestinal disorders and diseases.
- C. Developing procedural skills including paracentesis, NG intubation, and possibly flexible sigmoidoscopy.
- D. Developing a knowledge base for the use/interpretation of the following tests.
  1. Fecal leukocytes, blood, OVA and parasites, fat (qualitative and quantitative).
  2. Esophageal motility studies, extended pH monitoring, Bernstein test and barium studies.
  3. 3. Endoscopy with biopsy
  4. Helicobacter pylori testing.
  5. Serology of hepatitis.
  6. CT, abdominal MRI studies, ultrasound of abdomen, abdominal angiography.
  7. Stool studies for evaluation of secretory and osmotic diarrhea.
  8. Stool studies for evaluation of surreptitious diarrhea and laxative abuse (electrolytes, osmolality, etc.)
  9. Tests for evaluating malabsorption and maldigestion.
  10. Tests for evaluating the biliary tract, pancreas and gall bladder.
  11. Selected GI hormonal studies.
  12. Hepatic function studies.
- E. The following GI problems will be reviewed during the rotation
  1. Evaluation of dysphagia.
  2. Non-cardiac chest pain.
  3. Gastroesophageal reflux disease.
  4. Esophageal motility disorders.
  5. Acid peptic disease (H. pylori, gastric irritant use, etc.).
  6. Biliary tract diseases - stone disease, cholecystitis.
  7. Cholestatic syndromes.
  8. Motility disorders primary and secondary (Irritable bowel syndrome, chronic pain, constipation, etc.)
  9. Inflammatory bowel diseases
  10. Viral Hepatitis-classification, serology, management (including both acute and chronic forms).
  11. Acute and chronic diarrhea.
  12. Upper and lower gastrointestinal bleeding (including both acute and occult).
  13. Evaluation and management of ascites (including spontaneous bacterial peritonitis).
  14. Evaluation and management of the complications of cirrhosis.
  15. Evaluation and management of both acute and chronic pancreatitis.
  16. Malabsorption and maldigestion work-up and syndromes.
  17. Diverticular disease, management and complications.
  18. Constipation.

19. Fecal incontinence.

### **Patient Characteristics**

Patients evaluated by residents on the GI rotation include both inpatients and outpatients. Patients may be stable and only mildly symptomatic or critically ill intensive care patients. The resident may be asked to participate in the private office of the attending gastroenterologist to evaluate and treat patients. Residents will assist with selected procedures in the GI lab and will develop an appreciation of the skills of ancillary clinic personnel who routinely assist in the evaluation and management of patients with GI disorders. Residents will be supervised by the attending when performing procedures. The evaluation and management recommendations of private office patients, inpatient consultations and follow-up care will be under the supervision of the attending gastroenterologist.

### **Procedures and Services**

Procedures performed by the resident on the GI rotation can include paracentesis, nasogastric intubation, and flexible sigmoidoscopy.

### **Pathological Material**

Residents are encouraged to review the results of biopsies and surgical pathology specimens obtained on patients for whom they have provided consultative or management assistance.

### **Method of Evaluation**

Residents will be evaluated by the attending gastroenterologist in the following manner:

- A. End of month rotation evaluation.
- B. Completion of assigned and required reading lists.
- C. Attendance at all assigned clinic activities.
- D. The attending gastroenterologist will review the history and physical exam capabilities of all resident consults with feedback provided to the resident.

### **To complete the Gastroenterology rotation, the resident must:**

- A. Receive satisfactory end of rotation evaluation by the supervising faculty member.
- B. Complete assigned readings.
- C. Attend all clinical activities (excluding scheduled time away, required clinics and

emergencies).

D. Complete any required case report abstracts and/or posters assigned by the supervising faculty member.

E. Demonstrate understanding of initial management of a patient with acute GI bleeding.

F. Demonstrate understanding of currently recommended screening for colon cancer.

## **PATIENT CARE**

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Residents are expected to:

- \_ communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families
- \_ gather essential and accurate information about their patients
- \_ make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment
- \_ develop and carry out patient management plans
- \_ counsel and educate patients and their families
- \_ use information technology to support patient care decisions and patient education
- \_ perform competently all medical and invasive procedures considered essential for the area of practice
- \_ provide health care services aimed at preventing health problems or maintaining health
- \_ work with health care professionals, including those from other disciplines, to provide patient-focused care

## **MEDICAL KNOWLEDGE**

Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:

- \_ demonstrate an investigatory and analytic thinking approach to clinical situations
- \_ know and apply the basic and clinically supportive sciences which are appropriate to their discipline

## **PRACTICE-BASED LEARNING AND IMPROVEMENT**

Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

- \_ analyze practice experience and perform practice-based improvement activities

using a systematic methodology

- \_ locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems
- \_ obtain and use information about their own population of patients and the larger population from which their patients are drawn
- \_ apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness
- \_ use information technology to manage information, access on-line medical information; and support their own education
- \_ facilitate the learning of students and other health care professionals

### **INTERPERSONAL AND COMMUNICATION SKILLS**

Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:

- \_ create and sustain a therapeutic and ethically sound relationship with patients
- \_ use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills
- \_ work effectively with others as a member or leader of a health care team or other professional group

### **PROFESSIONALISM**

Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

- \_ demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development
- \_ demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices
- \_ demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities

## **SYSTEMS-BASED PRACTICE**

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

- \_ understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice
- \_ know how types of medical practice and delivery systems differ from one another, including methods of controlling health care costs and allocating resources
- \_ practice cost-effective health care and resource allocation that does not compromise quality of care
- \_ advocate for quality patient care and assist patients in dealing with system complexities
- \_ know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

## **Goals and Objective**

### **Hematology/Oncology Rotation**

#### **Educational Purpose**

Hematologic problems are extremely common in hospitalized patients and patients with chronic illnesses in the outpatient setting. These diseases may be primarily hematologic or may be secondary to other illnesses or conditions. It is important for the internist to appreciate these abnormalities and know the appropriate work-up and therapies available. Internists may use these hematologic abnormalities to uncover primary disease elsewhere in the body. Thus, it is incumbent upon the internist to have a working knowledge of typical hematologic conditions.

End of life issues, aggressiveness of care issues in patients with incurable malignancies, use of Hospice programs and discussion of pain control are regularly encountered and discussed during this rotation. Universal precautions include the handling of blood products; the complications of blood transfusions, including antibody reactions and infectious complications such as HIV and Hepatitis C are reviewed. Occupational and environmental exposures to hydrocarbons and benzene containing compounds are reviewed when patients present with leukemias.

#### **Teaching Methods**

The resident will be assigned to the hematology attending and maintain a complement of hospitalized patients and outpatients. The resident is expected to evaluate new hematologic admissions as well as consults. The resident is expected to read basic information on disease entities and to present the patients to the attending. Attending rounds will be conducted on a daily basis Monday through Friday. During these rounds the attending will review the differential diagnosis, problem list and plan for appropriate diagnostic and treatment regimens with the resident. The resident is expected to attend Tumor Clinic if available.

The resident may be given daily reading assignments and will participate in the discussion with the hematology attending. The resident also has the option to gain exposure to a broad spectrum of hematologic patients by spending one to two afternoons a week seeing patients in the office of the hematology attending.

The teaching methods include self-directed reading and study, especially on cases seen in the hospital; daily didactic teaching sessions between the resident and hematology attending, and attendance at conferences focusing on hematologic conditions.

The residents will gain most of the information during the rotation by seeing patients and reading about these abnormalities during the diagnostic work-up and treatment.

Through participating in the hematology rotation, the resident will be able to appreciate diagnosis, treatment, prevention, and investigation of disorders of the hematopoietic, hemostatic, and lymphatic systems.

## **Educational Content and Disease Mix**

Topics covered include:

### A. Stem Cell disorders

1. Hypoproliferative
2. Hyperproliferative
3. Bone marrow transplant

### B. Leukocyte disorders

### C. Erythrocyte disorders

1. Production problems
2. Hemolytic problems

### D. Platelet disorders

### E. Bleeding disorders

1. Inherited and acquired
2. Disseminated intravascular coagulation

### F. Thrombotic disorders

1. Antiphospholipid antibody syndrome
2. Thrombotic microangiopathic anemia syndrome
3. Thrombophilia (inherited and acquired)
4. Antithrombotic and prophylactic therapy

### G. Transfusion medicine

### H. Malignant disorders

1. Molecular biology
2. Lymphoproliferative disorders
3. Plasma cell disorders
4. Leukemic disorders

## **Patient Characteristics and Types of Clinical Encounters**

A substantial diversity of patients and types of problems will be encountered. The resident will participate in urgent consultations of hospitalized patients with life-threatening hematologic

syndromes, outpatient management of chronic disorders and outpatient consultations to diagnose hematologic conditions. All patient encounters are supervised by the attending hematologist. Residents learn to appreciate the importance of the hemopathologist in the diagnostic process as well as clinical lab and blood bank personnel. The resident is expected to perform a complete physical examination. Components that will be stressed will include the ability to palpate adenopathy and appreciate splenomegaly. A cutaneous survey is necessary to look for purpura and petechiae.

### **Procedures**

Bone marrow aspiration and biopsy can be done by the resident, if desired.

### **Pathological Material**

Peripheral blood and bone marrow studies are reviewed on a daily basis depending on the subject matter of the day .

### **Evaluation Methods**

The resident will be evaluated formally at mid-month and at the end of the month by the attending physician. The attending will fill out the formal evaluation form.

### **Requirements for completion of hematology rotation are as follows:**

- A. Attendance at all scheduled didactic and clinical sessions
- B. Completion of any required reading assignments
- C. Completed hematology presentation at resident morning conference if requested
- D. Completion of case report for poster presentation, if assigned.
- E. Understands how to evaluate macrocytic, normocytic, and microcytic anemias.
- F. Understands the indications for and complications of the following transfusions: red cell, platelet, clotting factor and WBC.
- G. Understands how and when to evaluate a patient for hypercoagulability.
- H. Understands how to evaluate patients for possible paraprotein disorders.

### **PATIENT CARE**

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Residents are expected to:  
\_ communicate effectively and demonstrate caring and respectful behaviors when

interacting with patients and their families

- \_ gather essential and accurate information about their patients
- \_ make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment
- \_ develop and carry out patient management plans
- \_ counsel and educate patients and their families
- \_ use information technology to support patient care decisions and patient education
- \_ perform competently all medical and invasive procedures considered essential for the area of practice
- \_ provide health care services aimed at preventing health problems or maintaining health
- \_ work with health care professionals, including those from other disciplines, to provide patient-focused care

### **MEDICAL KNOWLEDGE**

Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:

- \_ demonstrate an investigatory and analytic thinking approach to clinical situations
- \_ know and apply the basic and clinically supportive sciences which are appropriate to their discipline

### **PRACTICE-BASED LEARNING AND IMPROVEMENT**

Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

- \_ analyze practice experience and perform practice-based improvement activities using a systematic methodology
- \_ locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems
- \_ obtain and use information about their own population of patients and the larger population from which their patients are drawn
- \_ apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness
- \_ use information technology to manage information, access on-line medical information; and support their own education
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## **INTERPERSONAL AND COMMUNICATION SKILLS**

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- \_ work effectively with others as a member or leader of a health care team or other professional group

## **PROFESSIONALISM**

Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

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- \_ demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices
- \_ demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities

## **SYSTEMS-BASED PRACTICE**

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

- \_ understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice
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- \_ know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system

## **Goals and Objectives**

### **Infectious Disease Rotation**

#### **Educational Purpose**

The infectious disease rotation is a required rotation primarily available for PGY, 2 and 3 residents. Although a primarily consultative rotation, infectious disease specialists now provide continuing care for many patients with HIV disease. Because the practice of internal medicine requires a broad knowledge base of infectious disease, acquiring fundamental skills in evaluating and managing patients in the causes of fever are critical. Developing expertise in evaluating patients with primary infections, such as pneumonia and urinary tract infections; secondary infectious processes, such as catheter related infections and ventilator associated pneumonia, etc; and immunocompromised patients is stressed. The prevention of infectious diseases by the use of appropriate vaccinations is emphasized to the residents. Clinical ethics become more complicated for the infectious disease practitioner as HIV has become more common. Many infectious diseases can be transmitted through occupational exposures and prevented by appropriate environmental precautions.

#### **Teaching Methods**

One-on-one didactic sessions with the attending, bedside rounds on all new consults and hospital follow-ups, assigned readings and reviewing articles on the reading list will provide substantial learning opportunities for each resident. During these discussions, physiology, pathogenesis, clinical presentations and natural history of infectious disorders is regularly reviewed. The importance of a careful history and physical exam is crucial for appropriate diagnosis of infectious disorders as well by the use of medical information as illustrated by those with sexually transmitted diseases and HIV.

#### **Disease Mix**

The resident will evaluate primary infectious disease processes such as pneumonia, urinary tract infections, endocarditis, and HIV. The resident will also evaluate secondary infectious disease processes such as catheter-related infections and ventilator associated pneumonia and immunocompromised patients with neutropenia, transplantation, connective tissues diseases and immunomodulating medications. Residents will also evaluate diseases that mimic infections, such as connective tissues diseases, allergic reactions. Residents will be confronted with patients with primary as well as secondary infectious processes. The major topics emphasized during this rotation include but are not limited to the following:

A. Interpretation of culture and sensitivity data on: sputum, urine, blood, wound and

quantitative burn cultures.

B. Interpretation of serology studies: viral diseases (HIV, hepatitis, EBV, CMV, others), syphilis, Lyme disease, etc.

C. Preparation and interpretation of gram stains and AFB smears.

D. The spectrum, pharmacokinetics, side effects and toxicities along with the dosing of the major classes of antibiotics and antiviral.

Key clinical syndromes:

A. Pneumonias: community acquired and nosocomial.

B. Urinary tract infections.

C. Complicated and uncomplicated intraabdominal infections.

D. Skin/soft tissue infections: diagnosis, treatment and complications.

E. Sinusitis/otitis: diagnosis, treatment and complications.

F. Tuberculosis: epidemiology, presentation, diagnosis, and treatment.

G. Meningitis, encephalitis and other central nervous system infections.

H. Endocarditis: diagnosis, treatment and prophylaxis.

J. Bacteremia: staph species, enterococcus species, others.

K. HIV infection: asymptomatic patient work up, antiretroviral therapy.

L. Opportunistic infections: treatment and prophylaxis

Primary Diseases Encountered: Similar to topics covered plus:

A. Sepsis/sepsis syndrome.

B. Surgical wound.

C. Fungemia.

D. Catheter related infections.

E. Osteomyelitis.

F. Infections in trauma patients.

G. Infections in transplant patients.

H. Fever.

### **Patient Characteristics**

Patients ranging in age from adolescents to the elderly are routinely encountered. Disease processes from the subtle to the catastrophic and the initial to terminal stages are evaluated.

### **Types of Clinical Encounters**

Most clinical encounters seen at the consultative infectious disease practice are primarily inpatient. However, outpatient management of HIV and tuberculosis under the supervision of the attending infectious disease specialist are provided. Residents participate in the TB clinic at the Hamilton County Health Department and are introduced to the principles of community wide surveillance, the role of non-physician personnel in the appropriate management of TB and other communicable diseases.

## **Procedures and Services**

During the infectious disease rotation, needle aspiration as well as incision and drainage of superficial abscesses may be performed. Other procedures may include lumbar puncture, arthrocentesis, preparation of gram stains for review, and review of acid fast stains.

## **Pathological Material**

Residents are encouraged to review the results of biopsies, gram stains and AFB stains with patients they have encountered.

## **Method of Resident Evaluation**

The resident will be expected to:

- A. Attend all assigned clinic sessions, inpatient and outpatient
- B. Complete all assigned required reading.
- C. Perform a complete history and physical examination for the patient presenting with a febrile illness.
- D. Read the infectious disease section of the MKSAP to include answering the questions and reviewing the reference materials provided for further information.
- E. Demonstrate understanding of current recommendations for adult immunizations
- F. Understand the appropriate antibiotic selection for the following situations:
  1. Community acquired pneumonia in a healthy adult
  2. Community acquired pneumonia in an immunocompromised patient
  3. Nosocomial pneumonia
  4. Bacterial Endocarditis
  5. Sepsis
  6. Diabetic soft tissue infections
  7. Simple and complicated urinary tract infections
- G. Demonstrate satisfactory skills in obtaining patient history and perform a complete physical examination for the patient presenting with a febrile illness.

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## **Goals and Objective**

### **Nephrology Rotation**

Welcome to the Nephrology rotation. There is a wealth of renal medicine and general internal medicine to be learned during your time on service. If you have any questions please do not hesitate to ask.

#### **Educational Purpose**

Renal disorders are commonly evaluated by general internists. Disorders may be primarily renal in origin or systemic diseases that have profound secondary effects on the kidney, such as diabetes, vasculitides and atherosclerosis. General internists must be able to recognize, evaluate and initiate treatment for common renal disorders as well as understand the relationship between systemic processes and the kidney. Prevention of renal disease assumes paramount importance in decreasing the burden of chronic kidney disease. Occupational exposures in the dialysis unit to blood borne pathogens such as Hepatitis B and C and HIV are discussed. Caring for chronic renal patients involves occupational risks to the practitioner. The socioeconomic aspect of chronic kidney disease on overall health care spending is important for the resident to understand.

Environmental, nosocomial iatrogenic causes of renal disease are considered including the use of contrast dye, drug induced renal disease and medication induced changes in initiating renal hemodynamics and drug disposition. The difficult ethical issues of withholding renal replacement therapy and discontinuing renal replacement therapy are encountered.

#### **Teaching Methods**

Bedside rounds are conducted on all new admissions, consultations and hospital follow-ups on a daily basis. Independent reading is encouraged as well as assigned by the faculty attending. Didactic sessions are regularly during which articles will be reviewed or topics discussed.

#### **Disease Mix**

During the one-month nephrology rotation, important topics and disorders reviewed and encountered include:

- A. Glomerulonephritis
- B. Interstitial nephritis
- C. Hereditary and congenital renal diseases-systemic diseases
- D. Systemic diseases such as diabetes, lupus, and vasculitides and their effect on the

kidney

E. Preventive renal dysfunction by optimal treatment of systemic disorders

F. Acute renal failure

G. Chronic kidney disease

H. Kidney stones

I. Renal transplantation

J. Electrolyte and body fluid disorders

K. Acid base disorders

L. Hypertension and associated renal complications including their prevention

M. Hematuria

N. Proteinuria and the nephrotic syndrome

### **Types of Clinical Encounters**

The resident will evaluate inpatients admitted to the renal service as well as those seen in consultation having both acute and chronic disorders, many of which are emergent and part of catastrophic, life threatening illnesses. Patients are also seen in the outpatient setting in the renal clinic as well as in the private nephrologists' office. Residents are supervised in all locations, both in the hospital and office setting, by faculty nephrologists. The critical role of collaboration by other members of the health care teams such as dietitians, dialytic technicians, and nursing is emphasized. In the outpatient setting, residents have the opportunity to evaluate and participate in the management of patients ranging from those with early stages of renal dysfunction to those with advanced renal insufficiency. The treatment strategies proven to slow the progression of and decrease the complications from chronic kidney disease are emphasized.

### **Patient Characteristics**

Renal disorders are evaluated in a wide range of clinical severity as well as stages of illness. Renal disease can affect patients at all ages of life, although the incidence increases as the patient ages.

### **Procedures and Services**

The resident may assist and/or observe placement of vascular access for dialysis or kidney biopsy. Residents will also receive instruction regarding hemodialysis, peritoneal dialysis and continuous renal replacement therapy.

## **Pathological Material**

Residents will be expected to review the pathology of those biopsies obtained for patients for whom they have consulted or participated in management.

## **Method of Evaluation of Resident Performance**

Because of the close working relationship between the nephrologist and the resident, the faculty physician constantly reviews the performance of the resident. Residents are required to complete the required readings, and attend all assigned clinic sessions. The attending will complete a written evaluation at the conclusion of the rotation, which is reviewed with the resident and entered in the resident's file.

### **To complete the nephrology rotation, the resident must:**

- A. Receive satisfactory end of rotation evaluation by the supervising faculty member.
- B. Complete assigned readings.
- C. Attend all outpatient clinical activities (excluding scheduled times away, required clinics and emergencies).

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## **Goals and Objectives**

### **Rheumatology Rotation**

#### **Educational Purpose**

A significant proportion (10-20%) of primary care encounters involves patients presenting to their primary care provider with musculoskeletal complaints. The primary goal of the rheumatology rotation will be to become familiar with the most common causes of arthritis and the connective tissue disorders. Differentiating one disease from the other, discussion of their pathophysiological mechanism and planning appropriate treatment strategies will be highlighted. The resident will be taught an algorithmic approach to the patient presenting with joint pain, non-articular rheumatism, back pain and/or abnormal serologic testing. Residents should spend at least one month in the Rheumatology Service. Seeing patients with the attending rheumatologist in their office and doing consults in the hospital with discussion of diagnoses and clinical management problems will be the primary method utilized.

#### **Principal Teaching Methods**

PGY-2 and PGY-3 residents will see office patients with the attending rheumatologist if so requested. They will also see consultations in the hospital with the attending rheumatologist. Residents will review their patient evaluations, diagnostic and management recommendations with the attending rheumatologist who will critique and suggest refinements. Assigned readings are reviewed together to ensure understanding.

#### **Educational Content and Disease Mix**

##### **A. General Goals:**

1. To distinguish the major rheumatic syndromes by signs, symptoms and American College of Rheumatology (ACR) criteria.
2. Training in the history and physical examination of the musculoskeletal system.
3. Understand the uses, specificity and sensitivity of the variety of serologic and diagnostic tests used in rheumatology, such as RF, ANA, ANCA, ESR, CRP, etc.

##### **B. Clinical Experiences:**

1. Learn the basics of diagnosis and treatment of a wide variety of rheumatic diseases to include metabolic bone disease, rheumatoid arthritis, osteoarthritis, crystalline-induced arthritis, connective tissue diseases, vasculitis, spondyloarthropathies, and soft-tissue rheumatism.

**C. Specific Goals:**

1. Discuss the differential diagnosis of polyarthritis, pauci-articular arthritis, and monoarthritis.
2. Distinguish between articular (arthritis) and non-articular (bursitis/tendonitis) pain.
3. Distinguish between inflammatory and non-inflammatory arthritis.
4. Distinguish between inflammatory (sacroiliitis/spondylitis) and non-inflammatory (DDD, mechanical) back pain.
5. Diagnosis and treatment of spondyloarthropathy.
6. Diagnosis and treatment of crystalline arthritis.
7. Diagnosis and treatment of fibromyalgia.
8. Diagnosis and treatment of septic arthritis.
9. Diagnosis and treatment of vasculitis.
10. Diagnosis and treatment of osteoporosis.
11. Diagnosis and treatment of rheumatoid arthritis.
12. Diagnosis and treatment of inflammatory muscle disease.
13. Diagnosis and treatment of connective tissue diseases, to include SLE, Sjogren's and scleroderma.
14. Differential diagnosis, evaluation and treatment of abnormal serologic testing to include abnormal/elevated ESR (erythrocyte sedimentation rate), RF (rheumatoid factor), ANA Antinuclear antibodies, ANCA (anti-neutrophil cytoplasmic antibodies), hypocomplementemia, and specific autoantibodies such as anti-dsDNA, anti-Smith (Sm), anti-RNP, Sjogren's antibodies (SS-A and SS-B), etc.

### **Patient Characteristics and Types of Clinical Encounters**

Various musculoskeletal and rheumatological disorders are evaluated during this rotation from subtle onset to severe involvement and disability. The majority of patient encounters are outpatient with occasional inpatient consults. Residents are supervised at all times by on-site faculty rheumatologists. The importance of occupational and physical therapists in minimizing disability from arthritis is constantly emphasized.

### **Procedures**

House staff will have the opportunity to participate in joint aspiration and injection, soft-tissue injection (bursitis/tendonitis), and trigger point injection. Basics of synovial fluid analysis for diagnosis of inflammatory versus non-inflammatory arthritis, septic versus non-septic arthritis, and crystalline arthritis-gout versus pseudogout will be discussed.

## **Pathological Material**

The resident is encouraged to review all biopsied materials with the pathologist. Appropriate selection of the different clinical tests available is demonstrated.

## **Evaluation Methods**

The resident will be evaluated primarily by observance of the attending rheumatologist. An end of month evaluation will be completed. The resident will be expected to demonstrate a basic understanding of the musculoskeletal examination of patients presenting with articular disorders.

### **To complete the rheumatology rotation, the resident will be required to:**

- A. Receive satisfactory end of rotation evaluation by the supervising faculty member.
- B. Complete assigned readings.
- C. Attend all outpatient clinic activities (excluding scheduled time away, required clinics and emergencies).
- D. Complete required case report abstracts and/or posters assigned by the supervising faculty member.
- E. Demonstrate appropriate skill in performing the musculoskeletal examination of a patient presenting with articular complaints.
- F. Demonstrate understanding of proper selection of serologic studies.

## **PATIENT CARE**

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Residents are expected to:

- \_ communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families
- \_ gather essential and accurate information about their patients
- \_ make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment
- \_ develop and carry out patient management plans
- \_ counsel and educate patients and their families
- \_ use information technology to support patient care decisions and patient education
- \_ perform competently all medical and invasive procedures considered essential for the area of practice
- \_ provide health care services aimed at preventing health problems or maintaining health
- \_ work with health care professionals, including those from other disciplines, to provide patient-focused care

## **MEDICAL KNOWLEDGE**

Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognate (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:

- \_ demonstrate an investigatory and analytic thinking approach to clinical situations
- \_ know and apply the basic and clinically supportive sciences which are appropriate to their discipline

## **PRACTICE-BASED LEARNING AND IMPROVEMENT**

Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

- \_ analyze practice experience and perform practice-based improvement activities using a systematic methodology
- \_ locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems
- \_ obtain and use information about their own population of patients and the larger population from which their patients are drawn
- \_ apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness
- \_ use information technology to manage information, access on-line medical information; and support their own education
- \_ facilitate the learning of students and other health care professionals

## **INTERPERSONAL AND COMMUNICATION SKILLS**

Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families and professional associates. Residents are expected to:

- \_ create and sustain a therapeutic and ethically sound relationship with patients
- \_ use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills
- \_ work effectively with others as a member or leader of a health care team or other professional group

## **PROFESSIONALISM**

Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

- \_ demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supercedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development
- \_ demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices
- \_ demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities

## **SYSTEMS-BASED PRACTICE**

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

- \_ understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice
- \_ know how types of medical practice and delivery systems differ from one another, including methods of controlling health care costs and allocating resources
- \_ practice cost-effective health care and resource allocation that does not compromise quality of care
- \_ advocate for quality patient care and assist patients in dealing with system complexities
- \_ know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system

## **Goals and Objectives**

### **Cardiology Rotation**

#### **1. Objectives:**

- a. To provide the resident clinical experience in cardiology both inpatient and outpatient care
- b. To provide the resident with a basic cardiology knowledge base
- c. To introduce the residents to current cardiac clinical guidelines and appropriate use criteria for diagnostic testing and interventions

#### **2. Eligibility**

- a. PGY 1,2 & 3 Internal Medicine residents
- b. Transitional residents

#### **3. Learning Opportunities**

- a. Inpatient cardiac clinical experience
- b. Outpatient cardiac clinic and device clinic
- c. Supervised cardiac consultations
- d. Basic EKG and arrhythmia problems
- e. Basic echocardiography
- f. Exercise stress testing
- g. Exercise and chemical stress imaging – echo and nuclear
- h. Familiarization with current ACC/AHA Clinical Guidelines and ACCF Appropriate Use Criteria

#### **4. Disease Mix**

- a. Acute coronary syndromes
- b. Chronic stable angina
- c. Congest heart failure
- d. Arrhythmias and conduction disorders
- e. Valvular heart disease
- f. Syncope
- g. Preventive cardiology
- h. Pre-op evaluations for non cardiac surgery
- i. Cardiomyopathies

## **5. Patient Mix**

- a. Self pay and 3rd party payer patients
- b. Diversity in age, sex, race and lifestyles
- c. Urgent and emergent inpatients
- d. Stable outpatients

## **6. Procedures**

- a. Stress testing
- b. Bedside echocardiography

## **8. Reading Resources**

- a. Goldberger's Clinical Electrocardiography: 8th Edition; 2013
- b. Otto – Textbook of Clinical Echocardiography: 4th Edition; 2009
- c. Braunwald's Heart Disease: 9th Edition; 2012
- d. ACC/AHA Clinical Guidelines

## **9. Clinical Research**

Research projects are encouraged and proposals can be discussed with the faculty who will be available for proctoring.

## **10. Evaluation of Residents Performance**

Residents receive a verbal and online evaluation at mid-month and at the end of the month by the attending cardiologist.

## **11. Supervision**

Residents will be assigned cases by the attending cardiologist. After performing a diagnostic work-up including history and physical and review of laboratory studies, the case will be presented and discussed with the attending cardiologist who will then supervise the resident's care of the patient and make daily rounds with the residents. Both the resident and attending cardiologists will supervise the medical student assigned to the case.

## 12. Teaching Rounds and Conferences

- a. Daily rounds by the attending cardiologist
- b. Daily noon conferences
- c. Didactic session with faculty 3 days a week
- d. General cardiology clinic as directed by the attending physician.

## 13. Requirements for Completion of Cardiology Rotation

- a. Attendance at all scheduled inpatient rounds and clinic sessions
- b. Demonstration of clinical skills
- c. Satisfactory end of rotation evaluation

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- \_ develop and carry out patient management plans
- \_ counsel and educate patients and their families
- \_ use information technology to support patient care decisions and patient education
- \_ perform competently all medical and invasive procedures considered essential for the area of practice
- \_ provide health care services aimed at preventing health problems or maintaining health
- \_ work with health care professionals, including those from other disciplines, to provide patient-focused care

## MEDICAL KNOWLEDGE

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## **PRACTICE-BASED LEARNING AND IMPROVEMENT**

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- \_ apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness
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## **Goals and Objective**

### **General Internal Medicine Rotation**

The internal medicine inpatient rotation represents internal medicine in its most classic sense. Under the supervision of faculty internists, interns and residents admit patients and manage their care during hospitalization. The internal medicine trainee is required to complete 4 months of inpatient medicine in the OGME-1 year. During the OGME-2 and OGME-3 years, the resident should complete no fewer than 8 months of general internal medicine and no more than 16 months. The inpatient medicine experience provides one of the essential foundations for the general internist and medical subspecialist.

Bioethical issues abound during the service months and range from end of life issues to domestic violence. Other issues include access to health care, utilization of precious resources, patient and physician responsibilities. The work environment and exposure to substances in the environment often cause disease processes. Residents are encouraged to take a thorough exposure history to ascertain whether an exposure is important in the patient's presentation. Many patients have significant exposures to tobacco, alcohol, or illicit drugs which may cause or contribute to their illnesses. These histories are obtained on all patients.

#### **Educational Purpose**

During the inpatient medicine months, interns and residents gain a broad understanding of the various medical problems presented by inpatients. The learning process during the month emphasizes patient evaluation and management. Residents learn how to formulate and confirm diagnoses by ordering appropriate laboratory, radiological and interventional studies. The resident will become familiar with current diagnostic and therapeutic recommendations. Acquiring optimal communication skill with patients and other professionals is constantly emphasized. Residents often encounter the tragedies caused by a lack of affordable, accessible health care as well as the effects of inappropriate lifestyle choices. Residents face difficult ethical decisions such as whether and when to limit aggressive care. Discussions concerning appropriate end-of-life care occur frequently.

A. At the end of the first service month interns should be able to:

1. Write admission orders appropriately.
2. Complete hospital discharge summaries accurately.
3. Order tests appropriately.
4. Request consults appropriately.
5. Seek help from the resident and attending when needed.
6. Initiate treatment for a variety of medical conditions.
7. Perform some medical procedures under supervision.

B. At the end of subsequent service months the intern should be able to:

1. Do all of the above with increasing skill.
2. Demonstrate competence in history taking and physical examination.
3. Complete most required medical procedures.

C. During the service months the resident should:

1. Show appropriate skill as team leader
2. Take full responsibility for patient care and team management under the attending physician's supervision.
3. Supervise and instruct interns and students in their clinical work.
4. Instruct and supervise the intern's learning of correct procedural techniques.
5. Teach evidence-based medicine and demonstrate how to obtain appropriate medical information.
6. Prepare the team for attending physician teaching rounds

### **Principal Teaching Methods**

Teaching occurs constantly during this rotation. Senior residents teach interns and medical students by allowing graded responsibility with careful oversight. Interns participate in medical student teaching and oversight. The principles of efficient, safe hospital care are taught through direct observation and direction. The attending physician conducts daily patient rounds during which patient care is reviewed and teaching provided. Sufficient didactic instruction is provided to meet the Residency Review Committee requirements. In addition both residents and interns are required to attend morning report and noon conference.

### **Disease Mix and Patient Characteristics**

Pulmonary, cardiac, and neurologic disorders requiring hospitalization comprise the majority of clinical situations encountered by the housestaff. Patients are evaluated in the Emergency Department, Intensive Care Unit, and non-critical hospital units. Interns and residents evaluate and manage the care of newly hospitalized patients as well as those continuing in the hospital. Housestaff, under supervision, also provide general medical consultations for other clinical specialties.

## **Procedures**

Multiple AOBIM required procedures are available during the inpatient medicine month and include: arterial puncture, placement of a central venous line, nasogastric intubations, and endotracheal intubations. Many residents complete their required procedures during their inpatient medicine months. Opportunities may occur for other procedures such as bone marrow aspiration and biopsy, pulmonary artery catheterizations, flexible sigmoidoscopy, endotracheal intubation, and cardiopulmonary resuscitation.

## **Pathological Material**

Residents are encouraged to review with a pathologist his biopsy specimens, surgical path specimens, and attend autopsies performed on their patients. Residents are also required to attend Morbidity and Mortality conferences once monthly to discuss service teams and unexpected outcomes.

## **Required Reading**

Housestaff are required to identify and review appropriate references concerning the clinical situations they encounter during the inpatient medicine experience. Residents often utilize the UpToDate, ACP Medicine Online and MDConsult, on-line resources as well as general medicine textbooks (Cecils, Harrison, Current Diagnosis, etc). UpToDate is available at the Erlanger Medical Library. Computer workstations are also available in the resident continuity clinic.

## **Required Presentation**

Housestaff present inpatient cases to their peers and faculty during the daily Internal Medicine Morning Report. Each inpatient medicine team intern presents at least one case (usually two or more cases) during the month for discussion

## **Evaluation Methods**

The upper level resident provides continuous feedback to the interns and students throughout the month. The attending provides an on line end of month evaluation to team members. Housestaff complete peer and attending physician evaluations. Team members are encouraged to give immediate feedback to each other so that concerns and suggestions can be promptly discussed. Specific competencies expected and activities to be completed during the month are listed in the section Competencies and Expectations.

## Supervision

A central objective in our training program is graduated responsibility consistent with the developing skills of each member. Senior residents personally and generally oversee interns. The attending physician evaluates patients regularly and supervises the overall team functioning. All newly admitted patients are evaluated by the attending physician within 24 hours of admission.

## Competencies and Expectations

A. Intern, first service month:

1. Complete a complete history and physical supervised by the resident and or attending physician.
2. Write orders for admission to the hospital, signed off by the resident.
3. Discuss discharge summaries with the attending, signed off by the attending physician.
4. Demonstrate skill in initial test selection and treatment plans.
5. Successfully complete the rotation by demonstrating appropriate skill in the six core competencies.

B. Resident:

1. Lead the team effectively. Problems are to be dealt with early before patient care is compromised.
2. Directly supervise and provide feedback on procedures until interns have completed required numbers for independence.
3. Supervise and provide feedback on all aspects of patient care, sign each intern note to agree/disagree or modify the assessment and plan.
4. Directly supervise and provide feedback on at least one complete history and physical performed by the student on the team when applicable.
5. Directly supervise and provide feedback on at least one complete history and physical during the interns first service month when applicable.
6. Conduct work rounds as directed by the attending physician.
7. Formally and informally teach team members.
8. Discuss new cases and any clinical or team problems with the attending physician within an appropriate time interval.
9. Provide performance feedback to the interns and students throughout the month.

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--practice cost-effective health care and resource allocation that does not compromise quality of care

--advocate for quality patient care and assist patients in dealing with system complexities

--know how to partner with health care manager and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

### **Specific OGME -1 Goals and Objective**

The PGY1 resident will be assigned to a House Team to provide education in the care of patients in an acute inpatient setting. The scope of practice is that of internal medicine with emphasis on the subspecialty of hospital medicine. The PGY1 resident will admit, care for and discharge patients from the ED and outpatient clinic. In addition to the PGY1 resident, the team will include an attending supervisor, senior resident and medical student.

### **Content Goals and Objectives:**

1. Initiate basal bolus insulin therapy and manage blood glucose over time
2. Manage elevated blood pressure
3. Diagnose cause of loss of consciousness and differentiate syncope from other causes
4. Initiate appropriate antibiotics for pneumonia
5. Initiate appropriate antibiotics for skin and soft tissue infections
6. Choose appropriate VTE prophylaxis
7. Apply proper diagnostic test for VTE
8. Recognize and manage exacerbations of obstructive lung disease
9. Initiate appropriate treatment protocol in patients at risk for EtOH withdrawal
10. Management derangements in potassium
11. Recognize delirium and identify potential causes
12. Initiate cost-effective workup for anemia
13. Initiate proper workup and therapy for diabetic foot ulcer
14. Assess and treat pain as part of daily plan
15. Initiate fall precaution orders in patients at risk for falls
16. Initiate workup and management of fever

### **Process-Based Goals and Objectives:**

1. Acquire accurate and relevant history
2. Perform an accurate physical exam

3. Develop prioritized differential diagnoses
4. Develop an evidence-based diagnostic and therapeutic plan
5. Demonstrate accurate medication reconciliation
6. Provide accurate, complete and timely documentation
7. Identify the appropriate clinical question for consultative services
8. identify clinical questions as they emerge in patient care activities and access medical information resources
9. Perform bedside presentations that engage the patient and focus discussion around the patient's central concerns
10. Demonstrate shared decision-making with the patient
11. Communicate with primary care physicians
12. Recognize the scope of his/her abilities and ask for supervision and assistance appropriately
13. Minimize unnecessary care including tests
14. Use feedback to improve performance
15. demonstrate empathy, compassion and a commitment to relieve pain and suffering

**Evaluation:** Competency based assessment during and after the rotation via "e-value" web-based system by the supervising attending or surrogate

### **Specific OGME-2,-3 Goals and Objectives**

The PGY2/3 resident will be assigned to a House Team to provide education in the care of patients in an acute inpatient setting. The scope of practice is that of internal medicine with emphasis on the subspecialty of hospital medicine. The PGY2/3 resident will admit, care for and discharge patients from the ED and outpatient clinic. The resident will increase their level of independence and practice based on the assessment of the supervising faculty. The PGY2/3 will be part of a team which includes an attending supervisor, junior resident and medical student.

Please note: The PGY2/3 will have mastered both the content and process based Goals and Objectives of the PGY1 as outlined in the PGY1 General Internal Medicine rotation outline.

### **Content Goals and Objectives:**

1. Recognize and manage diabetic ketoacidosis
2. Manage extremes of blood pressure
3. Demonstrate a cost effective workup of loss of consciousness
4. Adjust type, dose and duration of therapy for pneumonia based on clinical course
5. Recognize deep-seated soft tissue infections
6. Manage anticoagulation in suspected or known VTE
7. Manage and escalate care in a patient with sepsis
8. Recognize and manage impending respiratory failure

9. Manage benzodiazepines in a patient with EtOH withdrawal
10. Manage derangements of sodium
11. Utilize both pharmacological and non-pharmacological methods in treating delirium
12. Demonstrate appropriate use of blood products
13. Use an opioid conversion table to titrate pain management

**Process-Based Goals and Objectives:**

1. Manage the interdisciplinary team
2. Role model effective communication skills
3. Demonstrate shared decision-making with patient
4. Guide and support bedside presentations that engage the patient
5. Gather subtle, sensitive and complicated information that may not be volunteered by the patient
6. Recognize the scope of his/her abilities and ask for supervision and assistance appropriately
7. Modify the differential diagnosis and care plan based on clinical course and data as appropriate
8. Choose the appropriate consultative services for a given clinical condition
9. Minimize unnecessary care including tests
10. Integrate clinical evidence into decision making
11. Teach physical findings to junior members of the team
12. Use feedback to improve performance
13. Stabilize patients with urgent or emergent medical conditions and transfer to a higher level of care when necessary
14. Demonstrate empathy, compassion and a commitment to relieve pain and suffering.

**Evaluation:** Competency based assessment during and after the rotation via “e-value” web-based system by the supervising attending or surrogate.

## **Goals and Objective** **Neurology Rotation**

### **Educational Purpose**

Internist commonly encounter patients with various neurological disorders including those related to changes in strength, sensation, and movement. The basis of diagnosing neurological disorders is a careful, comprehensive history and physical exam. Neurologic disorders commonly illustrate the deleterious effects of alcohol excess, trauma, and nutritional deficiencies. Various occupational and environmental toxic exposures can cause neurological disorders. Ethical issues involving continuation and intensity of care are routinely encountered in the care of the comatose patient. Residents complete a required one month rotation to learn the principles of neurologic evaluation and management.

### **Teaching Methods**

Residents interact daily with the attending during patient rounds. Residents also have regular didactic sessions with the supervising attending on assigned topics as well as those encountered during patient rounds. Self-directed reading is expected on those topics encountered by the residents. The attending neurologist will observe and critique the resident while undergoing history and exam during both inpatient and outpatient settings.

### **Disease Mix and Topics Emphasized**

- A. Mastering the neurologic examination
- B. Determining whether a neurologic problem is located in the neuroaxis or periphery.
- C. Distinguishing acute and subacute CNS conditions from chronic problems.
- D. Evaluation and management of cerebrovascular disease.
- E. Seizure disorders including status epilepticus, etiology and treatment.
- F. Evaluation and management of coma.
- G. Acute encephalopathy
- H. Central nervous system's infections including meningitis, encephalitis and abscess.
- I. Neurologic complication of cancer, both local and systemic.
- J. Guillian-Barre Syndrome
- K. Acute spinal cord syndromes including transverse myelitis and cord compression.
- L. Acute and subacute neuromuscular disorders.
- M. Syncope
- N. Headache, including migraine and chronic daily headache.
- O. Proper use of neurological imaging and other diagnostic modalities.
- P. Evaluation of dementia

- Q. Multiple Sclerosis
- R. Back and neck pain.
- S. Sleep disorders.

### **Patient Characteristics and Types of Clinical Encounters**

Patients evaluated on the neurology rotation range from adolescent to geriatric. Disorders may be subtle and slowly progressive, stable and inactive or acute and life threatening. Patients from all socioeconomic categories are encountered. Types of clinical encounters include inpatient and outpatient consultation as well as follow-up of chronic neurologic conditions. Residents are supervised by the faculty neurologist. The resident assists with the evaluation and management of patients in the hospital and possibly in the neurologist's private office. The crucial role of health care team members, particularly those involved in neurological imaging and diagnostic procedures is recognized daily.

### **Procedures and Services**

Residents will be exposed to the proper utilization of EEGs, electromyography and nerve conduction studies, muscle and nerve biopsy and interpretation of spinal fluid studies.

### **Pathological Material**

Residents are encouraged to review results of all biopsies performed on patients for whom they have consulted.

### **Evaluation of Resident Performance**

Residents will be expected to attend all assigned office sessions, complete assigned readings, demonstrate satisfactory competence by performing a detailed neurologic examination, and demonstrate acceptable skill in the appropriate selection of studies to evaluate neurologic conditions. Attending neurologist will complete an end of the month evaluation form on the resident.

### **To complete the neurology rotation, the resident must**

- A. Receive satisfactory end of the rotation evaluation by the supervising faculty member.
- B. Complete assigned readings
- C. Attend any outpatient office activities if requested
- D. Demonstrate satisfactory skill in the performance of a detailed neurologic examination.
- E. Demonstrate satisfactory skill in performing the neurologic examination of the comatose patient.

- F. Demonstrate understanding of primary and secondary prevention of stroke.
- G. Understand the early management of both ischemic and hemorrhagic strokes in adults.

### **Patient Care**

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### **Medical Knowledge**

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### **Practice-Based Learning and Improvement**

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- demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.

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- practice cost-effective health care and resource allocation that does not compromise quality of care
- advocate for quality patient care and assist patients in dealing with system complexities
- know how to partner with health care manager and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

## Goals and Objectives

### Pulmonary/Critical Care Rotation

#### **Educational Purpose**

Pulmonary diseases are very common. Acute respiratory disease are among the most common illnesses affecting humans and are responsible for more absences from work and school than most other types of illnesses. Chronic respiratory diseases, especially bronchitis, COPD, and emphysema, are exceeded only by cardiovascular diseases as causes of disability payments. Malignancies of the lung rank first among deadly neoplasms. Because of these high rates of pulmonary diseases, it is important for the internist to be able to identify clinical manifestation of pulmonary disease and to be aware of the diagnostic methods, therapeutic options and preventative strategies of these diseases. The impact of cigarette smoking as well as other environmental toxins will receive early emphasis. Learning how to increase cessation rates among cigarette smokers provides powerful prevention tool for pulmonary as well as many other disorders. End of life care discussion commonly occurs in patients with end stage lung diseases.

The pulmonary rotation is a month long rotation done while in the ICU in the PGY-1 year. It can be done in the PGY-2 and PGY-3 years either on Medicine 2 Service with Dr. Lenchner at Roxborough Hospital or in the ICU with Dr. Rosenberg at Chestnut Hill Hospital. During this rotation, the residents will admit patients to the pulmonary service, perform inpatient consults and assist in the longitudinal management of patients with common pulmonary problems.

During the rotation, the internal medicine resident will gain a broad knowledge base in the care of patients with pulmonary diseases. The resident will be expected to recognize, diagnose, evaluate and treat pulmonary disease commonly encountered by a practicing internist. The resident will be introduced to some of the major pulmonary ailments, discuss the major pathophysiologic mechanisms of disease and use these mechanisms to better understand therapeutic modalities.

#### **Teaching Methods**

The resident is expected to attend all required conferences including Morning Report, Grand Rounds and Noon Conference and the Core Sessions. The residents will be expected to do the initial evaluations on both admissions and consultation. This will allow critical thinking, time for independent reading and then bedside rounds with an attending physician. Sessions on the interpretation of pulmonary function studies will also be covered. Other expectations of the rotation include:

- A. Inpatient consultation followed by discussion with the attending pulmonologist
- B. Daily follow up of hospital inpatients and review with the attending pulmonologist
- C. Review of independently obtained pulmonary history and exam by other members of the health care team
- D. Directly observed resident procedure performance

## Procedures and Services

Residents will receive instruction and experience in performing the following procedures:

- A. Arterial blood gas sampling
- B. Monitory of oxygen saturation
- C. Appropriate performance and interpretation of skin tests for anergy and tuberculosis
- D. Interpretation of spirometry and peak flow assessments
- E. Thoracentesis (optional)

## Educational Content and Disease Mix

### A. Clinical entities emphasized

- 1. Workup and presentations of lung neoplasms
- 2. Evaluation of solitary pulmonary nodule
- 3. Evaluation and management of COPD
- 4. Asthma
- 5. Pneumonia
- 6. Thromboembolic disease
- 7. Restrictive lung disease
- 8. Pulmonary manifestation of systemic disease
- 9. Pleural effusions
- 10. Sleep disorders
- 11. Preoperative pulmonary evaluation for non-pulmonary surgery as well as for pulmonary resectional surgery
- 12. Occupational lung disease.

### B. The resident will also be expected to develop an understanding of the pathophysiologic basis and differential diagnosis and evaluation of the following:

- 1. Chest Pain as related to a pulmonary process
- 2. Cough
- 3. Dyspnea
- 4. Excessive daytime sleepiness
- 5. Fever with pulmonary infiltrates
- 6. Hemoptysis
- 7. Nodule or mass on chest x-ray
- 8. Pleural effusion or pleurisy
- 9. Wheezing

### C. Diagnostic Testing: In addition to performing procedures, the resident assigned to the pulmonary rotation will be expected to learn the appropriate rationale for ordering, interpreting, and limitations of the following tests:

- 1. Bronchoscopy, including lavage and biopsy
- 2. Cardiopulmonary exercise testing
- 3. Computed tomography of the thorax
- 4. CXR

5. Cytology and pathology of the lung and pleural biopsy specimens
6. Diagnostic studies for venous thrombosis and pulmonary embolism
7. Mediastinoscopy and mediastinotomy
8. Pleural fluid analysis
9. Sleep disorders/insomnia

D. Treatment Modalities: The resident will be expected to learn the indication for and adverse consequence of the following therapeutic modalities:

1. Bronchodilators
2. Supplemental oxygen
3. Steroids for pulmonary disease
4. Anticoagulants
5. Antibiotic prescribing for pulmonary disease.
6. Continuous positive airway pressure.

### **Patient Characteristics**

Residents will encounter a wide range of clinical problems in all stages of illness. By assisting in the evaluation and management of hospitalized patients, residents will encounter acute illnesses as well as chronic management, common diagnostic and treatment problems, as well as dilemmas, patients illustrating poor health choices and socioeconomic influences as well as employed patients typical of a pulmonologist's practice.

### **Pathological Material Utilized**

- A. Lung biopsy specimens
- B. Pleural biopsy specimens
- C. Percutaneous node aspiration
- D. Sputum cytology
- E. Bronchoscopic aspiration and biopsy specimens

### **Method of Evaluation of Competence**

- A. Faculty member direct observation of resident obtaining a pulmonary history and exam
- B. Chest X-ray interpretation skills
- C. Pleural fluid analysis interpretation skills
- D. Pulmonary Function test interpretation skills.

PGY- 1 Residents are responsible

--for gathering relevant patient data

--performing and interpreting physical examination findings

--perform basic procedures and interpret data

- interpret laboratory tests
  - interpret basic radiographic studies
- PGY-2 Residents will have improved competence and demonstrate
- improved data gathering and physical examination skills
  - improved knowledge
  - improved decision making
  - enhanced ability for counseling

PGY-3 residents will approach mastery and demonstrate the ability to function as a consultant.

### **Patient Care**

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Residents are expected to:

- \_ communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families
- \_ gather essential and accurate information about their patients
- \_ make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment
- \_ develop and carry out patient management plans
- \_ counsel and educate patients and their families
- \_ use information technology to support patient care decisions and patient education
- \_ perform competently all medical and invasive procedures considered essential for the area of practice
- \_ provide health care services aimed at preventing health problems or maintaining health
- \_ work with health care professionals, including those from other disciplines, to provide patient-focused care

### **Medical Knowledge**

Residents must demonstrate knowledge about established and evolving biomedical, clinical, and social (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care. Residents are expected to:

- demonstrate an investigatory and analytic thinking approach to clinical situations
- know and apply the basic and clinically supportive sciences which are appropriate to their discipline.

### **Practice-Based Learning and Improvement**

Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Residents are expected to:

- analyze practice experience and perform practice-based improvement activities using a systematic methodology
- locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems
- obtain and use information about their own population of patients and the larger population from which their patients are drawn
- apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
- use information technology to manage information, access on-line medical information; and support their own education
- facilitate the learning of students and other health care professionals.

### **INTERPERSONAL AND COMMUNICATION SKILLS**

Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates. Residents are expected to:

- create and sustain a therapeutic and ethically sound relationship with patients
- use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills
- work effectively with others as a member or leader of a health care team or other professional group

### **PROFESSIONALISM**

Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Residents are expected to:

- demonstrate respect, compassion and integrity; a responsiveness to the needs of patients and society that supersedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
- demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.
- demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.

### **SYSTEMS-BASED PRACTICE**

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value. Residents are expected to:

--understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice

--know how types of medical practice and delivery systems differ from one another, including methods of controlling health care costs and allocating resources

--practice cost-effective health care and resource allocation that does not compromise quality of care

--advocate for quality patient care and assist patients in dealing with system complexities

--know how to partner with health care managers and health care providers to assess, coordinate and improve health care and know how these activities can affect system performance.

## **Section 3**

# **Supervision, Rules and Responsibilities**

## Supervision Policy

1. Residency training is an educational experience designed to offer residents the opportunity to participate in the clinical evaluation and care of patients in a variety of patient care settings to include the general medicine wards, the medical intensive care unit (MICU), and the Cardiac Care Unit (CCU). While it is the goal of this training program to allow for progressive authority and graded responsibility for each resident according to their individual abilities as they progress through training, all aspects of patient care rendered by resident physicians must receive close supervision.
2. All facets of patient care are ultimately the responsibility of the supervising physician. Supervising physicians have the right to prohibit resident and medical student participation in the care of their patients without penalty, and when allowing care of their patients by residents do not relinquish their rights or responsibilities to: examine and interview; admit or discharge their patients; write orders, progress notes; and discharge summaries; obtain consultations; or to addend or amend the resident medical record entries.
3. When a resident is involved in the care of a patient it is their responsibility to communicate effectively with their supervising physician regarding the findings of their evaluation, physical examination, interpretation of diagnostic tests, and intended interventions.
4. The supervising physician is defined as that physician who has immediate oversight responsibility of all aspect of patient care rendered by the residents and may be a staff or fellow.
5. Supervision may be exercised through a variety of methods. Some activities require the physical presence of the supervising faculty member. For many aspects of patient care, the supervising physician may be a more advanced resident or fellow. Other types of care provided by the resident can be adequately supervised by the immediate availability of the supervising faculty member or resident physician, either in the institution, or by means of telephonic and/or electronic modalities. In some circumstances, supervision may include post-hoc review of resident-delivered care with feedback as to the appropriateness of that care.
6. Levels of Supervision
  - a. Direct Supervision – the supervising physician is physically present with the resident and patient.
  - b. Indirect Supervision:
    - i. With direct supervision immediately available – the supervising physician is physically within the hospital or other site of patient care, and is immediately available to provide Direct Supervision.

ii. With direct supervision available – the supervising physician is not physically present within the hospital or other site of patient care, but is immediately available by means of telephonic and/or electronic modalities, and is available to provide Direct Supervision.

c. Oversight – The supervising physician is available to provide review of procedures/encounters with feedback provided after care is delivered.

7. Each resident must know the limits of his/her scope of authority, and the circumstances under which he/she is permitted to act with conditional independence.

8. In particular, PGY1 residents should be supervised either directly or indirectly with direct supervision immediately available by a PGY2 or PGY3 resident, or staff physician.

#### 9. Procedures

a. Residents may perform procedures unsupervised if they are certified to perform the procedure independently. All other procedures must be directly supervised by the physical presence of a physician who is certified to perform the procedure independently.

b. Individuals may be certified to perform procedures unsupervised by the program director only after they have successfully completed the minimum number of required supervised procedures and when a supervising physician has documented that they are competent to perform the procedure. An electronic and hard copy record of the resident's procedure certification will be maintained on file in the Graduate Medical Education office.

c. Because individual residents attain certification of specific procedures at different points in their residency education, any concerns or questions regarding certification of a resident's competency in any procedure should be directed to the internal medicine program director (or supervising physician during non-duty hours).

d. All procedures except for venopuncture, peripheral intravenous line placement, nasogastric tube placement, or those procedures performed during an emergency, such as a code, require prior notification of the supervising physician.

e. Medical students (including MS4 or sub-interns) are not allowed to perform any procedures unsupervised.

f. Support staff confirmation of resident procedural competency:

i. A trainee will be considered qualified to perform an invasive procedure without direct supervision if, in the judgment of the supervising staff (and according to his/her specific training program guidelines), the trainee is competent to safely and effectively perform the procedure. Residents at certain year levels in a training program may be designated as competent to perform certain procedures under indirect supervision with or without direct supervision immediately

available based upon specific criteria defined by the program. Trainees may perform procedures that they are deemed competent to perform for standard indications under oversight, provided that the staff is notified in a timely fashion. The patient's attending of record will be ultimately responsible for all procedures performed on patients. See section VIII for performance of procedures in emergencies.

ii. When requested by hospital nurses or other personnel with need to know, attending staff physicians must verify whether residents can perform procedures without direct supervision. Attending staff can comply with this Medical Staff requirement because:

1. Residents will demonstrate professionalism by informing their attending physician and other hospital personnel when they are not approved to perform a procedure without direct supervision or not approved to supervise another resident perform a procedure.

2. The program director will inform attending physicians in the specialty how to access the resident-specific information to identify procedures each resident is approved to perform without direct supervision and/or supervise other residents' procedures.

iii. When necessary, hospital nurses and other personnel will telephone/page the attending staff physician (who is available 24/7) to confirm whether a resident is approved to perform a procedure without direct supervision.

#### 10. Internal Medicine Continuity Clinic and Ambulatory Rotations

a. Residents may perform history and physical examinations without the supervising physician being physically present.

b. PGY1 Residents – Upon completion of their evaluation the first year residents will give a complete presentation of the history, their physical examination findings, interpretation of diagnostic tests, and intended interventions to the supervisory staff which can be a PGY-2 or PGY-3 or the attending physician. The supervising physician will confirm any key portions of history and physical exam. The resident will annotate the name of the supervising staff in the patient care document and make it available to the supervisory staff for review and co-signature.

c. PGY2 Residents – Second year residents will give a brief presentation to the supervising physician. The supervising physician will interview and/or examine the patient at their discretion, the resident's request, or at the patient's request. The resident will annotate the name of the supervising staff in the patient care record and make it available to the supervising staff for their review and co-signature.

d. PGY3 Residents – Third year residents will give a brief presentation on all new patients to the supervising physician and on any follow-up patients requiring a significant change in the patient care plan. Follow-up patients who do not have significant changes in their care plan do not need to be presented but their patient care record must be made available to the supervisory staff for

review and co-signature. The supervising physician will interview and/or examine the patient at their discretion, the resident's request, or at the patient's request. The resident will annotate the name of the staff physician in the patient record and make it available to the supervising staff for their review and co-signature.

e. All documentation by residents and supervising physicians must be legible to those who use the medical record, including signatures.

f. Residents may write or enter orders on patients for whom they are participating in their care. These orders will be implemented without the co-signature of the supervising attending.

g. Medical Students – may perform history and physical examinations without the supervising physician being physically present but the supervising physician must repeat the interview and physical examination on every patient. Medical students may not write an official clinic note intended to be entered into the medical record. Medical students are not allowed to write or enter orders on patients without the co-signature of the supervising attending.

#### 11. Medicine Subspecialty Clinics

a. Resident supervision in regards to patient care and the medical record will be the same for all residents rotating in the medicine subspecialty clinics. The supervision of residents in regards to patient care and the medical record will not vary by PGY level in the medicine subspecialty clinics. Residents may perform history and physical examinations, and consultations without the supervising physician being physically present. It is the responsibility of the resident to discuss their findings with the supervising physician upon completion of their examination. The supervising physician will confirm any key portions of the history and physical exam. The supervising physician must make additions and corrections in the documented history and physical, and co-sign the residents' documentation.

b. All documentation by residents and supervising physicians must be legible to those who use the medical record, including the full printed name of any signature that is illegible.

c. After discussion with the attending staff, residents may write or enter orders on patients in whose care they are participating. These orders will be implemented without the co-signature of an attending or consulting physician.

d. Residents rotating in the medical subspecialty clinics will not be allowed to give independent verbal consultations at any time. Recommendations either need to be written and co-signed or delivered verbally by the supervising fellow or staff.

e. Medical students may perform history and physical examinations without the supervising physician being physically present but the supervising physician must repeat the interview and physical examination on every patient. Medical students may not write an official clinic note

intended to be entered into the medical record. Medical students are not allowed to write or enter orders on patients without the co-signature of the supervising attending.

## 12. Medicine General Medicine Wards, Night Float, Medical Intensive Care Unit (MICU) and Cardiac Care Unit (CCU)

### a. Admissions

i. Second and third year residents (PGY2 and PGY3) can admit patients to the general medicine wards and the intensive care units.

ii. The supervising faculty must be notified about all patients admitted to their team. This must be done within 12 hours of an admission or sooner if there are any questions regarding initial evaluation or treatment of a patient.

iii. Any admission to the ICUs must be briefly discussed with the attending physician at the time of initial evaluation. Residents on the ICU service must evaluate any ICU admission within 30 minutes of arrival. The resident must fully discuss the patient with an emphasis on the assessment and management plan with the supervising fellow or staff within 2 hours of an ICU admission.

iv. The supervising faculty must be notified immediately of any significant change in a patient's status, change in the goals of care (i.e. comfort care only), transfer to a higher level of care, or death.

v. The following criteria necessitate notification to the medical attending (during the day) or night float supervising physician (nocturnist) (during night float) within 2 hours after the initial assessment:

1. Nursing interventions required at least every 2 hours

2. Vital sign monitoring required at least hourly for up to 4 hours

3. Hemodynamic instability or lability

4. Cardiac dysrhythmias requiring drug suppression or cardioversion; any potentially fatal dysrhythmia

5. Unstable coronary syndrome, new ST-T changes, or elevated troponins

6. Oxygen saturation < 90% requiring FiO<sub>2</sub> > 50%, continuous CPAP or BiPAP, or hypercapnea with pH < 7.35

7. Hemodynamically unstable GI bleeding or GI bleeding requiring transfusion after initial stabilization

8. Any change in rapid response team (RRT) parameters

9. Encounters with ethical concerns or significant medico-legal implications

vi. It is recognized that the above list is not exhaustive. There are other instances and medical conditions for which common judicious practice dictates notification to the supervising physician. It is the resident's responsibility to communicate effectively with their supervising physician regarding the findings of their evaluation, physical examination, interpretation of diagnostic tests, and intended interventions when these situations arise.

vii. The supervising faculty must be notified before performing any procedure requiring informed consent.

viii. Residents providing consultation on patients admitted to other services must contact their supervising consult faculty within two hours after their initial evaluation and prior to making any final recommendations. The name of the supervising staff must be annotated in the record.

b. History and Physical Examinations

i. Residents may perform history and physical examinations and consultations without the supervising physician being physically present. It is the responsibility of the resident to discuss their findings with the supervising physician. The supervising physician must evaluate the patient, review the history and physical documented by the resident, and write or enter a separate note of concurrence with the admission treatment plan, history, and physical exam within 24 hours of admission. For admissions to critical care units, there must be documentation of notification of the admission and concurrence of the supervising physician with trainee health care plans within four hours of admission.

ii. Fourth year medical students (MS4) performing rotations in the capacity of a sub-intern may write and enter the official history and physical examination for their patients. In this role, the MS4 must adhere to the supervision requirements as noted in 12.b.1.

iii. Medical students may not write or enter the official history and physical for their patients. Medical students may write a separate "training history and physical examination," which does not become a permanent part of the medical record. The resident and supervising physician should review the training history and physical examination and provide feedback to the medical student.

c. Daily Progress Notes

i. Residents may write or enter daily progress notes. It is the responsibility of the resident to discuss their findings and treatment plans documented in their progress note with the supervising physician on a daily basis. Supervising ward and ICU physicians must write or enter a daily staff note, though this may be an addendum to the signed progress note.

ii. Fourth year medical students (MS4) performing rotations in the capacity of a sub-intern may write and enter daily progress notes for their patients. In this role, the MS4 must adhere to the supervision requirements as noted in 12.c.1.

iii. Medical students may not write or enter progress notes. Medical students may write a separate “training progress note,” which does not become a permanent part of the medical record. The resident and supervising physician should review the training progress notes and provide feedback to the medical student.

#### d. Orders

i. Residents may write or enter orders on patients in whose care they are participating. These orders will be implemented without the co-signature of an attending or consulting physician. Residents are encouraged to evaluate all patients for whom they are initiating orders. However if it is clinically appropriate, residents are allowed to place “verbal” orders over the phone. All phone orders must be signed, dated, and timed within 24 hours.

#### ii. Do Not Resuscitate (DNR) – BAMC MEMO 40-168

1. Only privileged physicians who are members of the medical staff may write DNR orders.

2. Licensed physicians in GME may transcribe a verbal DNR order from a privileged physician under the following conditions:

a. The resident has thoroughly evaluated the patient.

b. The resident notifies the attending physician of the need for a DNR order and receives the approval of the attending physician prior to transcribing the DNR order.

c. The DNR order written by a physician in GME will be cosigned (or rewritten) by the Attending Physician within 24 hours. The Attending Physician will also discuss the DNR status with the patient or surrogate and document the discussion in a resuscitation care plan within 24 hours.

d. The DNR order must be entered and saved in the orders section of the EMR system by the ordering physician. Telephonic initiation of DNR orders will not be accepted by a Registered Nurse. The physician who writes the DNR order should ensure that all others involved in the care of the patient, especially the nursing staff, clearly understand the order, its rationale, and its implications.

e. As an exception, in urgent situations, when an immediate DNR is required, an unlicensed physician in GME can transcribe a verbal DNR order from the attending physician.

### iii. Restraints

1. Any restraint order must be renewed every 24 hours and should be co-signed by the supervising physician.

iv. Fourth year medical students (MS4) performing rotations in the capacity of a sub-intern may write orders for their patients; however, each order must be verified and co-signed by the supervising physician in real time before being acted upon.

v. Medical students are not allowed to write or give verbal orders at any time.

### e. Discharge Summaries and Transfer Summaries

i. Residents may write or enter the discharge summary or transfer summary on patients in whose care they are participating. It is the responsibility of the resident to discuss discharge plans with the attending or consulting physician prior to discharging the patient. The resident will inform the supervising physician of all discharge plans before the patient is discharged or transferred to another provider, service, or facility. The resident will annotate the name of the supervising staff in the discharge summary and make it available to the supervising staff for their review and co-signature. Patients may be discharged prior to the supervising physician co-signature provided that proper notification has been given to the supervising physician as noted above.

ii. Fourth year medical students (MS4) performing rotations in the capacity of a sub-intern may write and enter transfer and discharge summaries for their patients. In this role, the MS4 must adhere to the supervision requirements as noted in 12.e.1.

iii. Medical students may not write or enter discharge summaries or transfer summaries.

### f. Transitions of Care

i. PCOM Internal Medicine is committed to limiting the number of patient handovers and clinical assignments will be designed with transitions of care in mind. When transitions of care are necessary given the clinical assignment, PCOM Internal Medicine promotes in person and one-on-one communication between transitioning health care teams.

iii. PCOM Internal Medicine current transition of care protocol is as follows:

1. Transitions of care occur in the morning and at the end of the duty day.

2. Patient handoffs for new admissions occur every morning and the accepting resident must be physically present for a face to face discussion of the patient. These patient handovers should include a written history and physical examination. In addition, for each patient, a succinct review must occur in enough detail that the accepting physician has a full understanding of the relevant diagnoses and treatment plan.

3. At the end of the duty day, a team member from each ward service must be available to provide a direct face to face handoff, which also includes a written summary highlighting key issues for each patient.
  4. Residents must utilize the approved template for patient handoffs and successfully fill out all sections of the template.
  5. Finally, the attending of record MUST be documented and available by pager for any additional concerns that arise or may not be addressed adequately enough on the handover template.
  6. In the event that the attending of record cannot be readily contacted, nocturnist or DME should be contacted for questions or concerns.
- iv. It is the responsibility of the supervising faculty to ensure that transitions of patient care and patient handovers occur in the manner documented above.

## Rules and Regulations

## **Program Director**

1. Must be certified in internal medicine or one its subspecialties by the AOA through the American Osteopathic Board of Internal Medicine.
2. Must be an active member of the ACOI.
3. Must have practiced in internal medicine or one of its subspecialties for a minimum of 3 years.
4. Must attend the annual ACOI Congress on Medical Education for Resident Trainers every year or send a designee.
5. Must notify the ACOI of a resident's entry into the training program and provide the ACOI with e-mail addresses and AOA numbers of all residents.
6. Must review the results of the annual in-service examination with each resident yearly.
7. Must chair the Educational Council which evaluates the residents semi-annually.
8. Must complete the end of the year ACOI annual reports on all residents. This must be completed by July 31st.
9. Must complete the yearly Core Competencies Evaluation forms provided by the GME office.
10. Must ensure that the semiannual office evaluations are being completed.
11. Must notify the GME office at PCOM if there are any changes in the block schedule.
12. Must review the "Core" schedule with the junior residents to confirm that there is a proper mix of didactic lecture, board review, and journal club sessions. He/she must also confirm that the suggested curriculum of the "Core" sessions is be followed.

13. Must respond to any notification from the e\*value on line system that there has been: a violation of the work hours rules, a poor evaluation of a resident, or a poor evaluation of a service/attending.

14. If after adequate notification of the attending physician, a monthly evaluation of a resident has not been completed, it will be the responsibility of the DME or the Program Director to then complete that monthly evaluation

## All Residents

### Schedule of Responsibilities

Review of Program Directors Annual Report.....	Annually by July 31
Residents On Line Review of Program .....	Annually by July 31
Annual ACOI In-Service Exam.....	Usually March of each year
Monthly Service Evaluation on e*value.....	Monthly
Clinical Competencies Report.....	Semi-annual
PGY-1 Committee Evaluations.....	Quarterly
PGY-2 and PGY-3 Committee Evaluation.....	Semi-annual
Record of all Procedures Done.....	On going
Record of office days and patients seen in office.....	On going
Scholarly Activity (Paper, Poster Presentation, PowerPoint Presentation)....	Yearly in OGME-1, -2, -3

## General Rules

1. Residents will, at all times, abide by the rules and regulations of the hospital where they are working. If at any time, such rules are felt to contradict the general rules and regulation of this internal medicine program, PCOM, or the ACOI, the resident must immediately bring this to the attention of the local DME and the Program Director. If a satisfactory resolution cannot be found, the resident then may seek advice from the Vice Dean of Post Graduate Education at PCOM.
2. At PCOM, we strictly follow the work hour rules policy as stated by the AOA. Please refer to the AOA site for specifics.

In brief, no resident will work more than 80 hours a week. OGME-1 residents should not work more than 16 consecutive hours. OGME-2 and -3 residents should also not work more than 24 consecutive hours but for special needs, such as an extensive sign out, or an on-going procedure or admission, an "extra" 4 hours is allowed. This should be documented along with the reason for the "extra" time. Forms are available for this in the on-site DME's office.
3. At Roxborough Memorial Hospital (RMH) and Chestnut Hill Hospital (CHH), the DME will be in charge of scheduling all didactic lectures and morning reports and grand rounds. Attendance will be documented by a sign in sheet which will be kept on file. Disciplinary action for failure to attend grand rounds and/or morning report is at the discretion of the local DME.
4. On Thursday afternoons, between the hours of 3-6 PM, there will be an ongoing series of educational programming. This period will include didactic lectures, journal club, board review (either MKSAP or MedStudy) and defined case presentations with discussion given by the residents. This session will be known as "Core" sessions.

The "Core" schedule will be done one year in advance. In doing this, both the presenter and the attendees know exactly what is on the schedule for each session. The "Core" schedule will be completed and the monitored by the junior chief residents.

Attendance at the "Core" sessions is mandatory unless the resident is post call, on an away rotation, or is the resident designated to "cover" the hospital. Unexcused absence or lateness to "Core" will result in an "extra" night call as determined by the Chief resident and the Program Director or his designee.

5. Moonlighting must never occur on assigned hospital time. If this occurs, the resident may be immediately terminated. Moonlighting on a residents' free time will be counted in the 80 hour week tabulation and the PCOM malpractice insurance plan will not cover you for such activity. The resident must secure his own malpractice insurance for such activity. The resident must also have his "OS" practice license from Pennsylvania. No one is permitted to moonlight on an "OT" (training license).

In addition, the resident's on-line logging of work hours must be current or permission for moonlighting will not be given. The appropriate "moonlighting" form must be completed by the residents and signed by the program director and the DME before the resident may moonlight. At times, there may be a need to provide extra coverage for one of the affiliate institutions. If this is sanctioned by PCOM, the PCOM medical malpractice policy will be in effect and will "cover" the resident. This time still counts in the tabulation of the total work hours for the week.

6. Each resident is entitled to two weeks vacation per academic year. There are vacation request forms that must be filled out prior to going on vacation. These will need to be signed by the attending scheduled to be supervising that month, the DME of that hospital and the Program Director.

There are certain times during the year where vacations should not be scheduled. These times include: The first week of the academic year, the first week in March (in service exam), ICU rotations, CCU rotations and the GIM rotations.

7. Social events such as Christmas parties and end of the year parties, though potentially good for morale, are not considered part of the residency. Therefore, if a resident wishes to attend, he or she must provide their own coverage.

8. The night call schedule is published on line at [www.pcommed.com](http://www.pcommed.com). There are no call free months during this residency. If the resident plans on taking an elective at a remote location, it is the resident's responsibility to "switch off" on the coverage schedule. Such changes to the call schedule are not the responsibility of the chief resident or program director.

9. All senior residents are to attend one ACOI sponsored academic meeting during the residency program. There recently have been 3 such conferences offered, so a third of the senior residents may attend each conference. PCOM will reimburse for conference registration, airfare, hotel accommodations, and \$50/day for food, the total not to exceed \$2,000.

10. All residents will be evaluated by their service attending on a monthly basis. Likewise, every resident must evaluate the service monthly. This is completed online through the "e\*value" system. If there is an issue with the conduct, attendance or performance of a resident on rotation, the

attending physician should bring this to the attention of the local DME. Appropriate remediation should be decided on by the local DME. Consultation with the Program Director is advisable.

In addition to this, all OGME-1 residents will be evaluated quarterly by the Educational Council. All OGME-2 and OGME-3 residents will be evaluated semi-annually by the Clinical Competency Committee. This committee will also complete the Milestones Evaluation and forward their findings to the program director. Finally, all residents will have a yearly evaluation done on-line at the ACOI site. This evaluation will be completed by the program director and must be e-signed by the resident by July 31 of each year.

11. During the OGME-2 and the OGME-3 training years, the resident must complete no fewer than 8 months and no more than 16 months of general internal medicine.

12. In addition, during the OGME-2 and OGME-3 months, each resident must complete one month of training in the following subspecialties:

- pulmonary
- endocrinology
- gastroenterology
- hematology/oncology
- infectious disease
- nephrology
- rheumatology
- neurology

13. All residents will participate in the annual "in-service" exam usually offered the first Friday in March.

14. In the OGME-1, OGME-2 and the OGME-3 year, each resident will participate in two critiqued evidenced based power point presentations. In lieu of this, a scholarly project submitted for publication or presented at a scientific assembly will suffice.

15. All residents will maintain ACLS certification.

16. In an effort to maximize the learning experience for all, and to guarantee adequate supervision, there will be a limit as to how many patients an OGME-1 may follow and also a limit on the number of patients an OGME-2, -3 may see. That "cap" number is set at 10 for an OGME-1 and 20 for an OGME-2 and -3 who are supervising 2 interns. On his/her own, no OGME-2 or OGME-3 will care for more than 14 patients. At no time should this "cap" be exceeded. The participating hospitals may

set the "cap" at a figure lower than this. A patient load in excess of this "cap" requires that the resident bring this to the attention of the attending physician(s) and/or local DME. If the matter is not rectified immediately, the resident should notify the program director.

No OGME-1 will admit more than 5 new patients in an admitting day (2 transfers onto service are allowed). When supervised by 2 OGME-1's, no OGME-2 or OGME-3 will admit more than 10 patients in an admitting day.

These are basic ACGME rules and for further details, the resident is referred to the ACGME website.

17. Verbal face to face sign-out rounds with supplementary written sign out is mandatory at each institution. All patients will be discussed with PGY-2 or greater supervision. Weekend call should include Active Lists as deemed appropriate by the facilities faculty.

18. The Internal Medicine Residency at PCOM follows the rules of the Graduate Medical Education Department in regard to leaves of absence, maternity/paternity leave, sick time, and appeals process for disciplinary actions. Residents are referred to the GME booklet given out during orientation concerning the specifics of these rules.

19. All residents, including the OGME-1 year, are required to participate in the outpatient continuity clinic experience. Residents are required to do 1/2 day (4 hours) per week in an outpatient setting. The minimum total number of sessions for the academic year is 44.

The supervising physician must be someone certified in general internal medicine. A subspecialist may be the supervising physician only if greater than 50% of the patients seen in the office are general internal medicine cases.

The resident must keep a log of the date and time spent in the clinic and a list of the patients seen and their diagnosis. Names of the patients should not be used but rather some other patient identifier. The supervising physician should sign each and every session log sheet. It is the responsibility of the resident, after making a copy of these logs for themselves to keep, to forward these logs to the program director or his/her designee.

A quarterly review of these log sheets will be done. If the resident has done less than the required sessions per academic quarter, then disciplinary actions may be taken.

If by the end of the academic year (June 30), the resident does not have the required 44 sessions in the clinic, he/she will not be given credit for that year of training until the required number of sessions is met.

## Chief Residents

### **OGME-1**

- Serve at the discretion of the Vice Dean for Clinical Education.
- Report to the Vice Dean for Clinical Education or his/her designee.
- Represent the OGME-1 class at all GME and Educational Committee meetings.
- Are ultimately responsible for OGME-1 call should no one be available for coverage.
- Help disseminate information of policy changes or schedule alterations to the OGME-1 class.

### **OGME-2**

- Serve at the discretion of the Internal Medicine Program Director.
- Report to the Internal Medicine Program Director or his/her designee.
- Are responsible for scheduling Core lectures every Thursday afternoon.
- Are responsible for communicating with the lecturers for the Core series and having available all necessary audiovisual needs.
- Are responsible for keeping attendance for the Core sessions including lecture topic, date and time.
- Act as the voice of the residents at GME and Educational Committee meetings.
- Help disseminate information of policy or procedural changes to the resident class.
- Participate in the interview process for prospective OGME-1 residents.
- Lead by example and provide guidance for all those in the Internal Medicine program.

### **OGME-3**

- Serve at the discretion of the Internal Medicine Residency Program Director.
- Provide the yearly "block" and call schedules.

- Provide the schedule for resident lectures, sub-I third year medical student lectures, and STAN sessions.
- Serve as a liaison between the residents and hospital administration, attendings, and nursing staff.
- Settle small conflicts between house staff.
- Act as the voice of the residents at GME and Educational Committee meetings.
- Participate in the interview process for prospective OGME-1 residents.
- Participate in the evaluation process of the OGME-1 residents.
- Represent PCOM Internal Medicine at all time, in and out of the hospital.
- Help disseminate information of policy or procedural changes to all the residents.
- Are ultimately responsible for call should no one else be available.
- Lead by example and provide guidance for all those in the Internal Medicine program.

## **Section 4**

# **Curriculum**

## **Office Curriculum**

As outline in the ACOI website, "the resident should demonstrate the ability to properly and efficiently evaluate, diagnose and establish treatment plans to include ongoing follow-up for all of the following chief complaints/problems in the ambulatory setting."

1. Chest pain, acute and Chronic
2. Dyspnea with orthopnea and evidence of heart disease
3. Dyspnea on exertion with evidence of pulmonary disease
4. Hypertension
5. Palpitation, with or without syncope
6. Diabetes mellitus and its complications
7. Hypothyroid states
8. Chronic steroid dependency
9. Abdominal pain/dyspepsia
10. Dysphagia
11. Chronic or acute diarrhea or abdominal cramps
12. Jaundice, with or without pain
13. Gastrointestinal bleeding
14. Chronic malnutrition
15. Eating disorders
16. Chronic anemia, evaluation and therapy
17. Chronic or recurrent infections
18. Fever of unknown origin
19. Infection in the high-risk population
20. AIDS screening and referral for chronic management when appropriate
21. Chronic renal insufficiency
22. Proteinuria
23. Chronic peritoneal or hemo dialysis
24. Uremia
25. Hematuria, with or without pain
26. Stroke rehabilitation
27. Peripheral weakness or dysesthesia
28. Loss of memory, orientation, or cognitive ability

29. Headache
30. Tremors
31. Gait disturbances
32. Seizure or syncope
33. Screening and follow-up for carcinomas of the head and neck, breast, lung, gastrointestinal tract, central nervous system, urogenital tract, or skin
34. Wheezing, with or without cough
35. Hemoptysis
36. Sleep disorders or chronic hypersomnolence
37. Joint pains, acute and chronic
38. Systemic lupus, and its variations
39. Recurrent rashes
40. Environmentally related symptoms or diseases
41. Low back pain
42. Routine examinations
43. Fatigue
44. Psychosocial disorders
45. Disease prevention/health maintenance

## General Internal Medicine Curriculum

The following is the recommended curriculum advocated by the ACOI. They have, where applicable, given two levels of expertise. A **Level 1** indication means that this is an area that the resident must master as an independent provider. A **Level 2** indication means the resident must recognize and categorize and then seek expert assistance in management.

The curriculum for the following subspecialties are not included here and can be found on-line ([www.acoi.org](http://www.acoi.org)): Substance Abuse, Women's Medicine, Adolescent Medicine, Geriatric Medicine, Dermatology, Behavioral Medicine, and Palliative Medicine.

### Allergy/Immunology

#### History.

- a. Describe the symptoms of urticaria, acute and chronic;
  - b. Obtain accurate and complete environmental exposure history;
  - c. Thorough family history of atopy, urticaria, and immune deficiency;
  - d. Recognize occurrence patterns of symptoms consistent with allergic response;
  - e. Obtain history of blood transfusions and transplants;
  - f. Obtain history of prior immunotherapy and immunosuppressive therapy;
  - g. Obtain complete immunization history;
  - h. Obtain a history to categorize the severity of asthma.
- ii. Physical examination.
- a. Recognize the characteristic skin lesions of immune disorders;
  - b. Define the normal distribution of lymph nodes and the characteristics of abnormal nodes;
  - c. Recognize the phase characteristics of Raynaud's phenomenon;
  - d. Describe signs of uveitis and scleritis;
  - e. Detect fever patterns and diurnal variations;
  - f. Detect joint and synovial inflammation and dysfunction;
  - g. Recognize the pulmonary auscultory findings with interstitial allergic disorders;
  - h. Recognize the signs of asthma;
  - i. Recognize atopic disease of the skin to include urticaria, angioedema, atopic dermatitis and drug rash.
- iii. Basic principles.
- a. Anaphylaxis;
  - b. Allergic bronchopulmonary aspergillosis;

- c. Asthma;
  - d. Atopic eczema;
  - e. Contact dermatitis;
  - f. Drug reaction-allergic and non-allergic;
  - g. Erythema nodosum;
  - h. Stevens-Johnson syndrome;
  - i. Allergic rhinitis
  - j. Immune complex disorders:
    - 1. serum sickness;
    - 2. mixed cryoglobulinemia;
  - k. Anticardiolipin syndrome;
  - l. Serologic markers for HIV infection, and the appropriate stepwise screen and confirmatory testing;
  - m. Serologic testing for connective tissue disorders (refer to Rheumatology Section);
  - n. Urticaria, angioedema, and hereditary angioedema;
  - o. Food and gastrointestinal allergy;
  - p. Chronic fatigue;
  - q. Hyper-immunoglobulin E syndrome;
  - r. Hypereosinophilia syndrome;
  - s. Vasculitis;
  - t. Hymenoptera sensitivity.
  - u. Sinusitis;
  - v. Otitis media;
  - w. Nasal polyps;
  - x. Immunoglobulin deficiencies and other primary deficiencies;
  - y. Hypersensitivity pneumonitis.
- iv. Diagnostics/therapeutics.
- a. IgE testing;
  - b. T and B cell assay and interpretation;
  - c. Testing for neutrophil and macrophage function;
  - d. Tissue typing principles (esp. Blood);
  - e. RAST testing;
  - f. Schirmer test;
  - g. Synovial biopsy;
  - h. Skin testing for immediate hypersensitivity;
  - i. Serum protein electrophoresis;
  - j. Skin testing for delayed hypersensitivity (Tine and PPD, anergy panel);
  - k. Coombs testing-direct and indirect;
  - l. Cryoglobulin;
  - m. Complement component measurement and interpretation;
  - n. Drug challenge;
  - o. Immunotherapy principles-desensitization;
  - p. Plasmaphoresis indications;

- q. Appropriate use of steroids;
- r. Appropriate use of antihistamines;
- s. Appropriate use of nonsteroidal anti-inflammatory
- t. Appropriate use of immunoglobulin;
- u. Immunotherapy.
- v. Health maintenance.
  - a. Immunization principles in adults;
  - b. Prophylaxis in splenectomy patients;
  - c. Emergency bee sting kit education;
  - d. Family screening for heritable immune deficiency syndromes
  - e. Travel vaccine.

### Cardiovascular Medicine

- i. History.
  - a. dyspnea (exertional, resting, orthopnea, platypnea, nocturnal);
  - b. chest pain;
  - c. edema;
  - d. exercise intolerance and functional class;
  - e. heart murmur or rheumatic fever;
  - f. family history of cardiac illness;
  - g. hypertension;
  - h. congestive heart failure;
  - i. ischemic cardiac disease;
  - j. arrhythmia with or without syncope;
  - k. previous cardiac testing;
  - l. claudication;
  - m. deep venous thrombosis/embolus;
  - n. chest trauma/surgery;
  - o. stroke/TIA.
- ii. Physical exam.
  - a. proper five phase BP measurement;
  - b. detect conditions which affect accurate determination of BP: auscultatory gap, atherosclerosis, limb position, cuff size, arrhythmia;
  - c. obtain BP in all extremities and in two positions;
  - d. demonstrate technique and understanding of the principles for detecting pulsus paradoxicus, pulsus bisferiens, pulsus tardis et parvus, pulsus alternans;
  - e. detect signs of right and left ventricular failure;
  - f. describe heart murmurs as to location, timing, quality, radiation, intensity, and determine the valvular lesion by the type;

- g. detect left and right ventricular heaves by palpation, along with placement of PMI and presence of thrills;
- h. detect normal and variant S1, S2, S3 and S4;
- i. detect opening snap, systolic click, pericardial rub, and normal or paradoxical splitting of S2;
- j. detect differential swelling of extremities and edema.

iii. Basic principles.

a. **LEVEL I**

- 1. congestive heart failure;
- 2. cardiac arrhythmias;
  - I. AV block;
  - II. PSVT;
  - III. atrial tachycardia/flutter/fibrillation;
  - IV. junctional rhythm/tachycardia;
  - V. ventricular rhythm/tachycardia/fibrillation;
- 3. bundle branch block;
- 4. angina/infarction;
- 5. pericarditis/tamponade;
- 6. valvular heart disease;
- 7. Dressler syndrome;
- 8. cardiomyopathies - restrictive, dilated, hypertrophic;
- 9. myocarditis/endocarditis;
- 10. cor pulmonale;
- 11. pulmonary embolism/hypertension;
- 12. orthostatic hypotension/syncope;
- 13. hypertension/hypertensive heart disease;
- 14. Raynaud's phenomenon;
- 15. varicose veins/venous thrombosis/postphlebitic syndrome;
- 16. vasculitis;
- 17. atherosclerosis/risk factors.

b. **LEVEL II.**

- 1. atrial myxoma;
- 2. constrictive pericarditis;
- 3. aortic aneurysm;
- 4. anomalous AV conduction (WPW); (5) acute arterial occlusion;
- 5. A-V fistula;
- 6. recurrent ventricular tachycardia;
- 7. aortitis/Takayasu's;
- 8. thromboangitis obliterans;
- 9. coarctation;
- 10. subclavian steal syndrome;
- 11. Leriche syndrome;

12. hypertrophic obstructive cardiomyopathy;
  13. cardiogenic shock;
  14. ventricular aneurysm;
  15. lymphedema.
- ii. Diagnostics/therapeutics.
    - a. echocardiography-interpretation;
    - b. chest Xray interpretation;
    - c. exercise stress test- performance and interpretation;
    - d. ECG - performance and interpretation;
    - e. Swan Ganz catheterization? assist or perform;
    - f. D.C. cardioversion - perform;
    - g. temporary transvenous pacemaker insertion- assist or perform;
    - h. pericardiocentesis-assist;
    - i. structural evaluation-perform and interpret.
  - iii. Health maintenance.
    - a. risk factor modification;
    - b. low fat diet;
    - c. cholesterol/BP screening;
    - d. smoking cessation;
    - e. stress reduction/exercise prescription.
  - iv. Osteopathic principles.
    - a. reflex inhibition to thoracic trigger points T1-T5, predominantly for sympathetic discharge which may affect tachydysrhythmias or spasm;
    - b. occipito-atlantal therapy for parasympathetic outflow with potential effect in bradyarrhythmias;
    - c. limb fascial release for vascular insufficiency.

## B. ENDOCRINOLOGY

- i. History.
  - a. genital maturation/menarche;
  - b. growth and development;
  - c. thyroid dysfunction;
  - d. steroid use;
  - e. endocrine surgery/trauma;
  - f. weight variation;
  - g. edema;
  - h. radiation exposure;
  - i. family history of DM, goiter, growth defects, obesity.
- ii. Physical exam.
  - a. height/weight/ proportion;
  - b. skin fold thickness.
  - c. hyperpigmentation, stria, acne;
  - d. hirsutism;
  - e. exophthalmous;
  - f. thyroid nodule, size texture;

- g. voice changes, breath odor;
  - h. inappropriate breast development;
  - i. genital structure and health.
- iii. Basic principles.
- a. **LEVEL I:**
    1. adrenal insufficiency;
    2. hyperadrenalism- endogenous/exogenous;
    3. hyperaldosteronism;
    4. diabetes mellitus;
    5. diabetic ketoacidosis;
    6. hyperosmolar coma;
    7. hypoglycemia/insulinoma;
    8. thyroid imbalance;
    9. goiter- hypo and hyperfunctioning;
    10. thyroid nodules/thyroiditis;
    11. parathyroid imbalance;
    12. SIADH;
    13. diabetes insipidus;
    14. osteoporosis;
    15. calcium imbalance/Paget's disease of bone;
    16. protein-calorie malnutrition;
    17. vitamin deficiencies;
    18. obesity/anorexia/bulimia;
    19. pheochromocytoma;
    20. hyperlipidemia;
    21. polycystic ovarian disease/amenorrhea;
    22. impotence.
  - b. **LEVEL II:**
    1. Reidel's struma;
    2. thyroid carcinoma;
    3. acute suppurative thyroiditis;
    4. carcinoid;
    5. dwarfism;
    6. hypogonadism;
    7. porphyrias;
    8. Wilson disease;
    9. panhypopituitarism.
- iv. Diagnostics/therapeutics.
- a. suppression/stimulation testing:
    1. fasting stress (insulinoma);
    2. TRH;
    3. ACTH;
    4. dexamethasone suppression;
    5. water deprivation.

- b. special lab tests:
  1. glycosylated hemoglobin;
  2. glucose tolerance test;
  3. serum hormone levels;
  4. insulin and c-peptide;
  5. serum catecholamines;
  6. plasma renin activity/ aldosterone;
  7. urine VMA/metanephrines;
  8. urine HCG.
- c. imaging procedures:
  1. sella turcica x-ray/MRI;
  2. thyroid radionuclide study;
  3. ultrasound thyroid;
  4. structural exam.
- v. Health maintenance.
  - a. dietary support for diabetics;
  - b. hypertension control.

### C. GASTROENTEROLOGY

- i. History.
  - a. family history of inflammatory bowel disease, peptic ulcer, bowel cancer or polyps, celiac disease or lactase deficiency;
  - b. sexual history;
  - c. mouth and tongue symptoms including bleeding, pain, soreness, ulcer, swelling, lumps;
  - d. dysphagia, eructation, dyspepsia, odynophagia;
  - e. vomiting/nausea/anorexia;
  - f. abdominal pain/bloating/swelling;
  - g. blood in stool, constipation, diarrhea, stool changes;
  - h. anal discharge;
  - i. anal pruritus/worms;
  - j. pain or mass in rectum or perirectal area;
  - k. jaundice;
  - l. weight loss or gain;
  - m. food intolerance.
- ii. Physical exam.
  - a. abdominal shifting dullness/balottement;
  - b. sequential exam of the acute abdomen: auscultation first, light palpation least tender area next, then most tender area; rebound, guarding, spasm;
  - c. know importance of serial abdominal exam;
  - d. rectal/pelvic exam;
  - e. light/deep palpation for masses, hernia;
  - f. auscultation for bruits;
  - g. palpatory examination of the spleen, liver, abdominal aorta, hernias of the abdominal wall, masses;

- h. detection of voluntary vs involuntary guarding, rigidity;
  - i. performance and understanding of the iliopsoas and obturator tests.
- iii. Basic principles.
- a. reflux esophagitis/varices;
  - b. hiatal hernia;
  - c. acid peptic disease;
  - d. upper and lower GI bleeding;
  - e. postoperative ileus;
  - f. diarrhea; acute, chronic, physiologic;
  - g. diverticular disease;
  - h. inflammatory bowel disease;
  - i. irritable bowel syndrome;
  - j. esophageal motility disorder;
  - k. diabetic gastropathy and enteropathy;
  - l. gut infections; bacterial, parasitic, viral;
  - m. pseudomembranous colitis;
  - n. hemorrhoids/anal fissures/pruritis ani;
  - o. hyperbilirubinemias; conjugated and unconjugated- familial;
  - p. drug induced cholestasis;
  - q. cirrhosis; alcoholic, cardiac;
  - r. hepatitis A-E, toxic, chronic persistent and chronic active;
  - s. cholangitis/cholecystitis/cholelithiasis;
  - t. pancreatitis/pseudocyst/cancer;
  - u. malnutrition/malabsorption;
  - v. volvulus/Meckel's diverticulum;
  - w. ischemic bowel;
  - x. gay bowel syndrome;
  - y. hernias.
- iv. Diagnostics/therapeutics.
- a. flexible sigmoidoscopy;
  - b. paracentesis;
  - c. insertion of central venous catheter for parenteral nutrition;
  - d. insertion of nasogastric tube;
  - e. liver biopsy- assist;
  - f. structural examination and therapy;
  - g. interpretation of appropriate laboratory tests to confirm findings in areas listed above;
  - h. understand indications for appropriate surgical procedures to include:
    - 1. cholecystectomy;
    - 2. peptic ulcer surgery;
    - 3. hiatal hernia repair;
    - 4. abdominal wall herniorrhaphy;
    - 5. exploratory laparotomy;
    - 6. bowel resection;

7. enterostomy/gastrostomy;
8. peritoneal shunts;
- i. endoscopic procedures - assist:
  1. esophageal dilation;
  2. sclerotherapy for esophageal variceal bleeding;
  3. palliative therapy for esophageal, gastric and colonic tumors;
  4. sphincterotomy of the Ampulla of Vater;
  5. stenting of bile duct;
  6. polypectomy.
- v. Health maintenance.
  - a. recommended bowel screening protocol;
  - b. colonic surveillance for polyps;
  - c. dietary management of colonic disease and malabsorption;
  - d. psychosocial support for gut dysfunction.
- vi. Osteopathic principles.
  - a. liver pump drainage techniques;
  - b. direct myofascial release to rectus abdominus and psoas spasm;
  - c. focus paraspinal areas for sympathetic reflexes:
    1. T5-T9 for gastric and esophageal motility;
    2. T12-L2 for bowel function and IBS;
    3. occipito-atlantal therapy for parasympathetic outflow with nausea and gastroparesis.

#### D. HEMATOLOGY

- i. History.
  - a. fatigue, early exhaustion, anorexia, weight loss;
  - b. abnormal bleeding;
  - c. skin lesions, lumps, swellings, masses;
  - d. family history of tumors;
  - e. medications, drug use, alcohol, toxin exposure, smoking;
  - f. fever of unknown origin;
  - g. trauma and prior surgery.
- ii. Physical exam.
  - a. observe changes in fundi, sclera, conjunctiva, mouth, nose;
  - b. lymph nodes;
  - c. nails and nail beds;
  - d. tongue;
  - e. bones and joints;
  - f. liver and spleen;
  - g. structural examination.
- iii. Basic concepts.
  - a. iron deficiency anemia and sideroblastic anemia;
  - b. megaloblastic anemia;
  - c. bone marrow failure;
  - d. aplastic anemia and myelophthisis;

- e. anemia of chronic disease;
  - f. hemolytic anemia;
  - g. hemoglobinopathies;
  - h. platelet disorders;
  - i. clotting/bleeding disorders;
  - j. blood typing and transfusion medicine;
  - k. polycythemia vera;
  - l. myeloproliferative disorders;
  - m. diseases of the reticuloendothelial system;
  - n. acute and chronic leukemia;
  - o. Hodgkin's disease/lymphoma;
  - p. myeloma/gammopathy;
  - q. AIDS and its cancers.
- iv. Diagnostics/therapeutics.
    - a. bone marrow aspiration and core biopsy;
    - b. peripheral blood smear interpretation;
    - c. template bleeding time;
    - d. lumbar puncture for intrathecal therapy- assist;
    - e. thoracentesis, paracentesis, skin biopsy for diagnostic purposes;
    - f. osteopathic structural examination.
  - v. Health promotion.
    - a. ACS cancer screening protocols for GI, GYN, prostate, breast cancer;
    - b. hospice;
    - c. chronic pain management;
    - d. advanced directives.

## E. INFECTIOUS DISEASES

- i. History.
  - a. fever curve;
  - b. recent patient contacts;
  - c. travel and family history;
  - d. complete sexual history;
  - e. work/environmental exposures;
  - f. surgical/dental procedures or trauma;
  - g. detection of immunocompromising disorders (diabetes, carcinoma, steroid use, alcohol, etc.);
  - h. drug abuse/smoking;
  - i. discharges, odors, sores, swellings, rashes.
- ii. Physical exam.
  - a. skin lesions typical of specific organisms;
  - b. typical fever patterns of specific organisms;
  - c. identify and differentiate findings for the following:
    - 1. skin abscess, cellulitis, lymphangitis, phlebitis;
    - 2. conjunctivitis, sty, uveitis, blepharitis, periorbital cellulitis;
    - 3. pharyngitis and pharyngeal abscess;

4. otitis externa, media, and serous otitis;
  5. bronchitis, pneumonia, abscess, empyema;
  6. peritonitis, cholangitis, pelvic infection, abscess;
  7. septic joint, bursitis, osteomyelitis;
  8. urethritis, cystitis, nephritis, abscess;
  9. sialoadenitis, thyroiditis;
  10. paronychia/felon;
  11. meningitis, brain and epidural abscess;
  12. botulism, Guillian-Barre, transverse myelitis;
  13. infectious mononucleosis;
  14. food poisoning;
  15. systemic fungemias;
- d. osteopathic structural examination.
- iii. Basic concepts.
    - a. septic shock;
    - b. iatrogenic infections;
    - c. infected prosthetic devices or central lines;
    - d. endocarditis;
    - e. toxic shock;
    - f. human and animal bites;
    - g. infectious pericarditis/mediastinitis;
    - h. travel related immunizations;
    - i. AIDS;
    - j. urinary tract infections;
    - k. gram negative sepsis;
    - l. tuberculosis;
    - m. sexually transmitted diseases;
    - n. antibiotic associated colitis;
    - o. fever of unknown origin.
  - iv. Diagnostic/therapeutics.
    - a. X-ray interpretation: chest, bone, soft tissue;
    - b. nuclear scan interpretation: gallium, indium technetium;
    - c. cytology;
    - d. serology;
    - e. antibiotic utilization: cost effectiveness, indications, dosing monitoring;
    - f. specimen collection;
    - g. gram staining.
  - v. Health promotion.
    - a. screening/immunizations.
  - vi. Osteopathic principles.
    - a. lymphatic drainage techniques; b. myofascial release in peripheral infections.
- F. NEPHROLOGY**
- i. History.
    - a. urine frequency/volume/color/odor;

- b. dysuria, change in stream, hesitancy, urgency, dribbling;
  - c. urinary incontinence;
  - d. hematuria;
  - e. flank pain, groin pain;
  - f. stones, abscesses;
  - g. family history of renal disease;
  - h. edema/hypertension;
  - i. sexual activity.
- ii. Physical exam.
- a. uremic "frost";
  - b. renal masses;
  - c. phimosis;
  - d. urinalysis;
  - e. Lloyd's sign;
  - f. edema;
  - g. urethral discharge;
  - h. prostate evaluation;
  - i. genital skin lesions;
  - j. scrotal contents abnormalities.
- iii. Basic concepts.
- a. **LEVEL I:**
    1. prostatitis/epididymitis/orchitis;
    2. testicular torsion/varicocele/tumor/hydrocoele;
    3. erectile dysfunction;
    4. prostatic hypertrophy/masses;
    5. balanitis/genital ulcers;
    6. condyloma/genital granulomas;
    7. basic infertility;
    8. hypertension: essential, secondary, accelerated, malignant, crisis;
    9. primary glomerulopathies: histology, natural history;
    10. nephrotic and nephritic syndrome;
    11. diabetic kidney;
    12. immune complex nephropathy;
    13. hepatorenal syndrome;
    14. myeloma/amyloid kidney;
    15. vasculitis;
    16. AIDS;
    17. interstitial nephritis;
    18. nephrolithiasis;
    19. obstructive uropathy;
    20. hereditary tubular disorders;
    21. acute and chronic renal failure;
    22. renal osteodystrophy;
    23. vitamin D metabolism;

24. renin-aldosterone axis;
  25. renal tubular acidosis;
  26. electrolyte management;
  27. acid/base;
  28. hemodialysis/peritoneal dialysis/transplantation.
- b. **LEVEL II**
1. genital neoplasms;
  2. prostatic abscess;
  3. priapism;
  4. urethral stenosis;
  5. phimosis;
  6. prostatic malignancy;
  7. Peyronie's disease.
- c. Diagnostics/therapeutics.
1. renal function evaluation: glomerular filtration rate, urine/serum osmolarity, fractional excretion of sodium, renal failure index, creatinine clearance;
  2. renal imaging: IVP, ultrasonography, renal scan;
  3. renal biopsy- assist;
  4. urinalysis with microscopic;
  5. arterial blood gas analysis;
  6. temporary vascular access for hemodialysis - assist;
  7. insertion of peritoneal dialysis catheter (temporary);
  8. peritoneal dialysis;
  9. osteopathic structural exam.
- d. Health promotion.
1. outpatient dialysis prescription;
  2. support group advising for dialysis patients;
  3. donor acquisition for transplant program;
  4. dietary management for chronic renal failure.
- e. Osteopathic principles.
1. lower thoracic and upper lumbar segmental reflexes in ureteral spasm and adjunct pain management;
  2. upper lumbar segmental reflexes for bladder dysfunction and spasm.

## G. NEUROLOGY

- i. History.
  - a. nature of dysfunction and mode of onset;
  - b. toxins or other environmental exposures;
  - c. trauma/infections;
  - d. activities of daily living;
  - e. family history.
- ii. Physical exam.
  - a. complete cranial nerve evaluation;
  - b. muscular tone, strength, fasciculations, wasting;

- c. reflex testing, clonus, Babinski, Chaddock, Bing;
  - d. cerebellar testing;
  - e. gait observation;
  - f. sensory testing to include pain, light touch, temperature, vibratory, position, neglect;
  - g. mental status exam.
- iii. Basic concepts.
- a. cephalgia: tension, vascular, cluster;
  - b. vertigo;
  - c. CNS infections, hemorrhage, trauma, edema;
  - d. concussion, epidural and subarachnoid hematoma;
  - e. seizures: status epilepticus, classification, evaluation, indications for treatment;
  - f. coma;
  - g. cerebrovascular disease: CVA, TIA, RIND, stroke in evolution, intracranial; hemorrhage and aneurysms;
  - h. fluent and non-fluent aphasia;
  - i. dementia: multi-infarct, metabolic, Alzheimer's, degenerative, toxic;
  - j. meningitis, encephalitis;
  - k. movement disorders: Parkinsonism, tardive dyskinesia, essential and secondary tremor;
  - l. multiple sclerosis;
  - m. muscular dystrophies;
  - n. polyneuropathy, mononeuritis, myasthenia gravis, Guillian Barre;
  - o. neuro-ophthamology: normal fundus, papilledema, Marcus-Gunn pupil;
  - p. syncope;
  - q. pituitary adenoma;
  - r. spinal cord compression, corda equina syndrome;
  - s. primary and secondary brain tumors;
  - t. Eaton-Lambert syndrome.
- iv. Diagnostics/therapeutics.
- a. lumbar puncture;
  - b. EEG- assist;
  - c. cerebral angiography- interpretation;
  - d. CT/MRI scanning - interpretation;
  - e. myelography-assist;
  - f. evoked potentials - interpret;
  - g. EMG assist;
  - h. doppler ultrasound of carotids - interpret;
  - i. osteopathic structural exam.
- v. Health promotion.
- a. psychosocial support;
  - b. genetic counselling.
- vi. Osteopathic principles.

- a. focus on secondary structural changes and spasm with myofascial release, counterstrain, and mobility therapy;
- b. cervical myofascial release for tension cephalgia;
- c. short leg syndrome therapy.

## H. ONCOLOGY

- i. History.
  - a. carcinogens in environment/workplace;
  - b. family history and genetic predisposition;
  - c. exposure to radiation, toxins, drugs, hormones;
  - d. tobacco use;
  - e. sun exposure;
  - f. fatigue, weakness, weight loss, anorexia;
  - g. bleeding;
  - h. masses, lumps, changes in skin lesions;
  - i. bowel habit change, bloating;
  - j. fever, sweats;
  - k. dysphagia, mouth sores;
  - l. jaundice, abdominal pain;
  - m. dyspnea, edema;
  - n. mental status change, delirium, neurologic abnormalities, personality change;
  - o. chronic cough.
- ii. Physical exam.
  - a. masses;
  - b. pallor;
  - c. edema;
  - d. skin changes;
  - e. complete lymph node examination;
  - f. rectal exam and occult blood testing;
- iii. Basic concepts.
  - a. pathophysiology of neoplasia: growth patterns, doubling time, etiologies;
  - b. cancer chemotherapy principles: first and second order cell kill, marrow salvage;
  - c. breast cancer;
  - d. ovarian cancer;
  - e. genital cancer/testicular cancer;
  - f. prostatic hypertrophy and malignancy;
  - g. skin cancers;
  - h. paraneoplastic syndrome;
  - i. oncologic emergencies including hemorrhage, sepsis, hypercalcemia, seizures, coma, cauda equina syndrome;
  - j. hemochromatosis;
  - k. liver/gall bladder/ductal carcinoma;
  - l. GI tract cancer and pancreas;

- m. lung cancer;
- n. urinary tract cancer;
- o. radiation injury;
- p. endocrine neoplasms: Zollinger-Ellison, gastrinoma, carcinoid thyroid/parathyroid cancer;
- q. CNS tumors.
- iv. Diagnostics/therapeutics.
  - a. bone marrow aspiration/biopsy;
  - b. thoracentesis/paracentesis;
  - c. osteopathic structural exam.
- v. Health promotion.
  - a. hospice care;
  - b. pain management;
  - c. psychosocial support;
  - d. rehabilitation;
  - e. nutritional support.
- vi. Osteopathic principles.
  - a. liver/spleen pump techniques;
  - b. lymphatic drainage techniques.
- I. PULMONARY**
  - i. History.
    - a. dyspnea: exertional, positional, rest;
    - b. cough: productive, dry, character, frequency, pattern changes, color, quantity of sputum;
    - c. wheezing, stridor;
    - d. environmental exposures;
    - e. past history of lung or functional disorder;
    - f. previous pulmonary testing;
    - g. snoring, hypersomnolence;
    - h. hemoptysis;
    - i. voice changes;
    - j. chest pain.
  - ii. Physical exam.
    - a. extrapulmonary findings in lung disease:
      - 1. cyanosis;
      - 2. clubbing;
      - 3. chest configuration;
    - b. respiration patterns:
      - 1. Cheyne-Stokes;
      - 2. Kussmaul;
    - c. accessory muscle use/abdominal paradox;
    - d. thoracic structural abnormalities;
    - e. detection and character of crackles, wheezes, ronchi, post-tussive crackles, tubular breath sounds;

- f. pleural friction rub;
  - g. differentiation of effusion from consolidation with percussion in multiple positions, egophony, e-to-a;
  - h. subcutaneous emphysema;
  - i. diaphragmatic immobility.
- iii. Basic concepts.
- a. **LEVEL I**
    1. aspiration pneumonitis;
    2. lung abscess/pneumonia/bronchitis/colonization;
    3. hypersensitivity pneumonitis;
    4. bronchiolitis/tracheitis;
    5. allergic bronchopulmonary aspergillosis;
    6. infiltrate with eosinophilia;
    7. emphysema/chronic bronchitis/asthma;
    8. pulmonary embolism/infarction;
    9. bronchopulmonary hemorrhage;
    10. sleep apnea;
    11. pulmonary contusion/rib fracture/burns/drowning;
    12. pneumothorax;
    13. ARDS;
    14. atelectasis; basic physiology of respiration;
    15. pulmonary function testing;
    16. rheumatoid lung and other connective tissue disorders;
    17. cor pulmonale.
  - b. **LEVEL II**
    1. mediastinitis/tumors;
    2. empyema;
    3. alveolar proteinosis/BOOP;
    4. desquamative interstitial pneumonitis;
    5. eosinophilic granulomatosis;
    6. sarcoidosis;
    7. Churg-Strauss syndrome/vasculitis;
    8. Wegener's granulomatosis; granulomatosis with polyangiitis;
    9. Goodpasture's syndrome;
    10. fungal/TB granulomatosis;
    11. foreign body;
    12. hemosiderosis;
    13. cystic fibrosis;
    14. flail chest;
    15. primary pulmonary hypertension.
- iv. Diagnostics/therapeutics.
- a. **LEVEL I**
    1. ventilator management/physiology/weaning parameters/modes/adjustments/trouble shooting;

2. arterial blood gas performance and interpretation;
3. pleural biopsy-assist;
4. thoracentesis;
5. simple spirometry;
6. pleural fluid analysis;
7. sputum induction;
8. direct fluorescent Legionella antibody in sputum/urine;
9. gram stain;
10. basic hypersensitivity testing;
11. endotracheal intubation;
12. chest tube drainage;
13. lung scan/gallium scan;
14. pre-operative evaluation;
15. osteopathic structural evaluation.

b. **LEVEL II**

1. bronchoscopy/biopsy/lavage;
  2. fluoroscopy;
  3. MRI/CT of chest;
  4. lung biopsy or aspiration;
  5. pulmonary angiography;
  6. cardiopulmonary stress testing;
  7. complete pulmonary function testing with methycholine challenge;
  8. tracheotomy;
  9. mediastinoscopy;
  10. lung transplantation protocol.
- v. Health maintenance.
- a. smoking cessation;
  - b. immunizations;
  - c. rehabilitation;
  - d. support groups;
  - e. screening exams.
- vi. Osteopathic principles.
- a. thoracic pump;
  - b. rib raising techniques;
  - c. diaphragmatic release techniques;
  - d. appropriate chest physiotherapy on ventilated patients.

J. **RHEUMATOLOGY**

- i. History.
- a. joint pain, stiffness, motion dysfunction, swelling, muscle pain;
  - b. neck, low back and thoracic spine pain and motion dysfunction;
  - c. weakness, joint instability or locking;
  - d. sensory dysfunction;
  - e. functional limitations - ADL's;
  - f. occupational and athletic history;

- g. prior treatment and responses;
- h. family history;
- i. joint symmetry/asymmetry-distribution.
- ii. Physical examination.
  - a. erythemas, Heberden's nodes, Bouchard nodes, ulnar deviation, Dupuytren's contracture, tophi, thenar atrophy, foot drop, varus/valgus deformity;
  - b. osteopathic evaluation including bulge, ballottement, crepitus, stability, range of motion, strength, spinal loading, spasm, stretch testing;
  - c. posture, gait, movement;
  - d. chest expansion for spondylitis;
  - e. leg length;
  - f. sacroiliac motion testing;
  - g. anal sphincter tone;
  - h. sensory and reflex examination
  - i. warmth, effusion, deformity, range of motion all joints, nodules;
  - j. proximal and other muscle strength/weakness;
  - k. skin changes, including raynaud's;
  - l. range of motion of cervical, thoracic, lumbar spine.
- iii. Basic concepts.
  - a. laboratory use:
    - 1. rheumatoid factor; anti-CCP
    - 2. ANA;
    - 3. cryoglobulins;
    - 4. sedimentation rate;
    - 5. immunogenetics--anti-DNA, anti-ENA, ANCA
    - 6. CBC, routine urinalysis, biochemistry profile;
  - b. x-ray interpretation
    - 1. non-articular rheumatism:
    - 2. fibromyalgia;
    - 3. bursitis/tendonitis;
    - 4. polymyalgia rheumatica;
    - 5. carpal tunnel syndrome/other entrapment syndromes;
    - 6. reflex sympathetic dystrophy.
    - 7. mono-articular disease:
    - 8. infectious arthritis;
    - 9. crystal deposition disease;
    - 10. internal derangement;
    - 11. bursitis/tendinitis.
  - c. malignancy associated disease:
    - 1. hypertrophic pulmonary arthropathy;
    - 2. palmar/plantar fasciitis;
    - 3. seronegative rheumatoid arthritis;
    - 4. dermatomyositis;
    - 5. amyloidosis;

6. osteoarthritis;
  7. gout.
- d. polyarticular disease:
1. rheumatoid arthritis;
  2. juvenile chronic polyarthritis;
  3. seronegative spondyloarthropathies including enteropathic arthropathies, reactive arthritis, psoriatic arthritis;
  4. systemic lupus erythematosus;
  5. vasculitis:
    - I. hypersensitivity angiitis;
    - II. giant cell arteritis;
    - III. necrotizing angiitis;
    - IV. Sjogren's;
  6. systemic sclerosis;
  7. viral arthritis, parvovirus, Hepatitis B, Aids.
- e. metabolic bone disease - osteoporosis, paget's, hyperparathyroidism.
- f. immunology:
1. complement;
  2. mediators/lymphokines;
  3. cellular immunology.
- g. Diagnostics/therapeutics.
1. joint aspiration;
  2. joint injection;
  3. polarizing microscopy;
  4. osteopathic evaluation and treatment.
- h. Health maintenance.
1. screening;
  2. immunizations;
  3. physical therapy.
- i. Osteopathic principles.
1. range of motion therapy;
  2. myofascial release, especially in fibromyalgia;
  3. counterstrain techniques for fibromyalgia.