



Visiting Medical Student Elective Directory

2017-2018

Office of Student Affairs
1247 S. Cedar Crest Blvd., Suite 202
Allentown, PA 18103
Phone: 610-402-2554
Email: medicalstudents@lvhn.org

2017-2018 Academic Year 6/12/2017 – 4/27/2018

**These block dates can be modified if they do not fit your school’s academic calendar.
Rotations must start on a Monday.**

■ Four week rotation options

■ Two week rotation options

<p>June 12 – July 7, 2017- Block 1 June 12 – June 23, 2017- Block 1A June 26 – July 7, 2017- Block 1B</p>
<p>July 10 – August 4, 2017- Block 2 July 10 – July 21, 2017- Block 2A July 24 – August 4, 2017- Block 2B</p>
<p>August 7 – September 1, 2017- Block 3 August 7 – August 18, 2017- Block 3A August 21 – September 1, 2017- Block 3B</p>
<p>September 5 – September 29, 2017- Block 4 September 5 – September 15, 2017- Block 4A September 18 – September 29, 2017- Block 4B</p>
<p>October 2 – October 27, 2017- Block 5 October 2 – October 13, 2017- Block 5A October 16 – October 27, 2017- Block 5B</p>
<p>October 30 – November 22, 2017- Block 6 October 30 – November 10, 2017- Block 6A November 13 – November 22, 2017- Block 6B</p>
<p>November 27 – December 22, 2017- Block 7 November 27 – December 8, 2017- Block 7A December 11 – December 22, 2017- Block 7B</p>
<p>January 8 – February 2, 2018- Block 8 January 8 – January 19, 2018- Block 8A January 22 – February 2, 2018- Block 8B</p>
<p>February 5 – March 2, 2018- Block 9 February 5 – February 16, 2018- Block 9A February 19 – March 2, 2018- Block 9B</p>
<p>March 5 – March 30, 2018- Block 10 March 5 – March 16, 2018- Block 10A March 19 – March 30, 2018- Block 10B</p>
<p>April 2 – April 28, 2018- Block 11 April 2 – April 13, 2018- Block 11A April 16 – April 27, 2018- Block 11B</p>

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Course: Dental Medicine	
Course Instructor(s):	Charles Incalcaterra, DMD and Michele A. Pisano-Marsh, DMD
Duration:	2 weeks
Location:	LVHN-Muhlenberg and LVHN-17
Prerequisites:	None
Description:	
<p>This is a two-week rotation split between the LVH-17th Street site in Allentown, and the LVH-Muhlenberg site in Bethlehem. Both sites support an outpatient dental clinic with a total of seven dental residents. This experience will give the student insight into understanding the systemic complications of dental disease and treatment.</p> <p>Students will observe dental therapy in the outpatient dental clinics, particularly on patients who need special care due to complex medical conditions. Students may be able to participate in providing direct patient care. Part of the hands-on experience may include administration of local anesthetics and non-complicated extraction of teeth under the direct supervision of our Attending dentists. The clinical experience may also include differential diagnosis of intra-oral lesions, early detection of oral cancers, recognition of oral lesions due to the systemic administration of medications, malocclusions, oro-facial pain and temporomandibular joint dysfunctions.</p> <p>The student will participate with the dental residents responding to inpatient consult requests from other departments. Students will learn when it is appropriate to consult with a dentist and how to respond to medical consult requests from dentists. Students will also respond to emergency call to the Emergency Rooms along with the resident after regular clinic hours.</p> <p>In addition, the student will attend seminars on various dentally-related topics along with the dental residents. If scheduled during the rotation, students will observe dental treatment in the Operating Room as well as IV sedation cases.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Examine what hospital-based post-doctoral dental programs consist of. 2. Increase knowledge of head and neck anatomy and pathology as well as understand the ramifications of systemic disease for dental treatment. 3. Describe the role that dental health plays in overall patient wellness. 4. Experience the provision of some simple procedures that could be used when engaging in future medical practices, such as administration of local anesthetics and/or simple dental extractions. 5. Analyze the relationship between oral and systemic diseases and be able to identify how systemic disease affects oral health. 	
Evaluation Methods:	
<p>Students will be assessed each day by the Attending who is present each clinic session who will provide a written evaluation to the Program Co-Directors. A summary of all evaluations will be presented to the student at the end of the rotation. Evaluations will be based on:</p> <ul style="list-style-type: none"> Level of engagement Professional conduct Patient Management and rapport Attendance at all assigned lectures Attendance for all on-call responsibilities 	

Course: Clinical Dermatology	
Course Instructor(s):	Stephen Purcell, DO
Duration:	2 or 4 weeks
Location:	1259 S. Cedar Crest Blvd. Suite 100, Allentown PA
Prerequisites:	Adult Medicine course
Description:	
<p>Upon completion of this elective, the student will be able to conduct a full dermatologic examination and will be able to recognize and offer reasonable management for common dermatologic disorders, including those primary to the integument and those associated with systemic disease. The student will attend various weekly with the Dermatology Residents.</p> <p>Students will rotate through the offices of Advanced Dermatology Associates, may see inpatient consults at LVHN, and may participate in the LVHN Dermatology Clinic.</p> <p>Periods 2, 3, and 4 are reserved for students applying to dermatology residency programs.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Conduct a complete and thorough dermatologic examination. 2. Analyze management strategies for common dermatologic conditions. 	
Evaluation Methods:	
<p>Student progress and performance in the clinical setting will be evaluated by the faculty and residents.</p>	

Course: Emergency Medicine	
Course Instructor(s):	Charles Worrilow, MD, FACEP
Duration:	4 weeks
Location:	All LVHN campuses
Prerequisites:	None
Description:	
This elective is designed to introduce 4th year students to Emergency Medicine.	
Objectives:	
<ol style="list-style-type: none"> 1. Develop the ability to take an appropriate history and physical exam in patients presenting with diverse clinical problems relating to emergency care. 2. Appreciate the importance of teamwork in caring for emergency patients in both the pre- hospital and hospital setting. This includes a one-day rotation with paramedics in the field. 3. Understand the importance of triage in setting priorities for emergency care. 4. Learn the proper utilization of clinical labs and x-rays as they relate to emergency care. 5. Develop skills in proper "chartsmanship," case presentation and formational plan. 6. Demonstrate performance of first aid and emergency procedures such as suturing, bandaging, splinting, wound and burn care. This includes a four-hour suture lab experience. 7. Understand the principles of pain management in the pediatric and adult patient. 8. Identify the principles of airway management and procedural sedation and analgesia. 9. Articulate an expanded differential diagnosis. 10. Identify strengths and weaknesses in emergency scenarios with a human patient simulator. 	
Evaluation Methods:	
Students will be graded based on clinical evaluations from their preceptors.	

Course: Emergency Medicine- Toxicology	
Course Instructor(s):	Matthew Cook, DO
Duration:	4 weeks
Location:	All LVHN campuses
Prerequisites:	None
Description:	
This elective will allow students the opportunity to focus on developing skills necessary for evaluation and treatment of toxicologic patients in an emergency setting.	
Objectives:	
<ol style="list-style-type: none"> 1. Develop a comprehensive approach to the poisoned patient. 2. Develop skill necessary for the evaluation and treatment of poisoned patients. 3. Develop skills to participate in resuscitations to an acute poisoning. 4. Gain an appreciation for the sophistication and advanced resources available to the acutely poisoned patients. 5. Work one clinical ER shift per week. 6. Work with our toxicologists, review interesting cases and have interactive sessions on assessment and management of toxicologic patients. 7. Participate in daily didactics. 8. Participate in bedside toxicology consults. 	
Evaluation Methods:	
Student grades will be determined based on clinical evaluations by their preceptors.	

Course: Family Medicine Residency Elective	
Course Instructor(s):	Veronica Brohm, DO
Duration:	2 or 4 weeks
Location:	LVHN-Cedar Crest and LVHN-17
Prerequisites:	Adult Medicine, Primary Care, and Maternal Newborn Pediatrics or Women's Health Pediatrics courses
Description:	
<p>During this elective, the student will spend each day seeing patients and working closely with the LVHN Family Medicine Residency Program faculty members and residents. The experience will take place in the office, hospital, and community, and will demonstrate our relationship-centered approach to family medicine.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Introduce the student to the relationship of Family Medicine to the medical community 2. Demonstrate the relationship of ambulatory care to hospital care and the effective utilization of other specialty consultations 3. Improve the student's skills and clinical judgment by a defined and supervised patient care experience 4. Demonstrate the organizational structure of a family medicine residency including office management, medical records, patient education, and preventive medicine 5. Demonstrate the various responsibilities and activities of the Family Medicine Resident 	
Evaluation Methods:	
<p>The Family Medicine faculty will prepare a formal evaluation based on the following:</p> <ul style="list-style-type: none"> • Fund of medical knowledge • Quality of assessment and presentation • Clinical judgment as indicated by the rationale of diagnostic and management plans • Attitude and rapport with patients and families • Subjective elements of interpersonal relationships, motivation, and ability 	

Course: Rural /Underserved Health	
Course Instructor(s):	Veronica Brohm, DO
Duration:	2 or 4 weeks
Location:	LVHN-Cedar Crest and LVHN-17
Prerequisites:	Adult Medicine, Primary Care, Maternal Newborn Pediatrics or Women's Health Pediatrics, Psychiatry/Neurology, and Surgical Care courses. Any interested student must inform Dr. Brohm AT LEAST 3 MONTHS PRIOR TO THE START OF THE ELECTIVE to allow time to coordinate with ECPA AHEC in placing them with a rural/underserved physician. Students should consider whether they would prefer a rural or underserved urban practice prior to contacting Dr. Brohm.
Description:	
<p>This is a rural/underserved health elective in which a student will be matched with an AHEC preceptor in the Mahoning Valley, Carbon County, Lehigh County, or Northampton County area. Responsibilities will largely be assisting with out-patient clinical care in a rural primary care office, though students may be expected to participate in hospital rounds/ER call at a hospital local to the primary practice site (depending upon preceptor). Coordination of the elective and placement is through East central PA Area Health Education Center (ECPA AHEC), with office located in Lehigh, PA. This clerkship might include a daily commute of up to 60 minutes from LVHN- Cedar Crest. Housing within the local community will not be provided. Students should also note that "rural/underserved" is a relative term. Many areas within 60 minutes of LVHN-Cedar Crest fit the definition and are typical of rural Pennsylvania. However, these are not REMOTE rural communities, which have a different flavor and feel. Students interested in a remote experience should consider other options.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Compare and contrast the health needs and problems encountered in rural or underserved practice to those encountered in prior urban practice rotations 2. Identify the unique opportunities and challenges to medical practice and life in a rural or underserved community 3. Introduce/sensitize the student to cross-cultural issues in health care 4. Understand the mechanisms and indications for consultation and referral in rural or underserved practice settings 5. Evaluate the business management of rural or underserved practice, including availability of organized funding for patient care, managed care, etc. 	
Evaluation Methods:	
<p>The assigned faculty preceptor will provide an individual evaluation addressing the student's adaptability and understanding as well as knowledge, judgment, and rapport.</p>	

Course: Cardiology- Acute Coronary Care	
Course Instructor(s):	Larry Jacobs, MD
Duration:	2 or 4 weeks
Location:	LVHN-Cedar Crest
Prerequisites:	None
Description:	
<p>The primary assignment is with the house officers, cardiology fellow and attending cardiologists in the Acute Coronary Care Units. Emphasis is on the total evaluation of the patient with acute and critical cardiovascular disease. Experience is available in the Non-Invasive Heart Station, Cardiac Catheterization Lab and/or the Electrophysiology Lab by prior arrangement.</p> <p>Educational Purpose: Students will acquire the knowledge and skills necessary to diagnose and manage patients with acute and critical cardiovascular disease of the coronary arteries, myocardium, heart valves, pericardium, disease of conduction and cardiac rhythm as well as diagnose and manage the peripheral effects of myocardial dysfunction. Students will learn “bedside” cardiology with emphasis on obtaining a proper history, bedside physical examination, analysis of the chest radiograph, basic ECG interpretation, and medical therapy.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Demonstrate the knowledge and skills necessary to obtain a proper cardiac history. The student will pay special attention to and record medications, medication compliance, diet compliance, and risk factors for various cardiac diseases. 2. Demonstrate proficiency in proper bedside physical examination. 3. Be able to accurately assess the presence or absence of congestive heart failure, cardiac tamponade, basic murmurs of valvular heart disease such as mitral regurgitation, mitral stenosis, aortic stenosis, aortic regurgitation and tricuspid regurgitation, and the presence or absence of peripheral vascular disease and abdominal aortic aneurysms. 4. Demonstrate basic electrocardiographic skills including an understanding of basic arrhythmias such as atrial fibrillation, atrial flutter, supraventricular tachycardia, multi-focal atrial tachycardia, ventricular tachycardia, and a basic diagnosis on the 12 lead ECG such as right and left bundle branch block, left ventricular hypertrophy, acute myocardial infarction, ischemia, WPW, and hyperkalemia. 5. Infer heart size, presence of cephalization, infiltrate, pleural effusions, and pneumothorax by looking at a chest X-ray. 6. Identify medical, interventional, and surgical therapies for basic cardiac syndromes such as myocardial infarction, unstable angina, chronic angina, congestive heart failure, valvular heart disease, hypertension, hyperlipidemia, and arrhythmia. 7. Name and utilize a variety of clinical pathways and practice guidelines. 8. Access and critically evaluate current medical information and scientific evidence. 9. Use information technology or other available methodologies to access and manage information, support patient care decisions and enhance both patient and physician education. 10. Explain the principles of primary, secondary prevention and risk modification. 11. Summarize the indications and diagnostic yield of various cardiac studies and therapeutics. 	

Principal Teaching Methods:

Students will be assigned to the Cardiac Intensive care unit. Students will attend -teaching rounds with the medical intern, resident and fellow with the teaching cardiology faculty member on a daily basis from 8:30 to 11:30. The student will be assigned to perform consults and or admissions making daily follow up rounds under the supervision of the resident, fellow and the teaching attending.

At least weekly the student is required to submit one formal complete consult or history and physical. This consult or history should be completed on the appropriate template and include a complete history, physical, data, impression, diagnoses list and plan. It is the expectation that this will be completed after discussion with the fellow and attending and will not be a chart document. In addition, the student may also be requested to complete a brief consult for the chart which will be amended by the attending. The formal consult should be completed after rounds and not disrupt the flow of the clinical service.

Students will be issued an MPS player with simple murmurs. The students will be expected to listen to each murmur until they can be easily recognized.

A link to assigned reading materials can be found on the LVH intra-net. From the home page select non-clinical under resources. Select library. On bottom right of page select cardiology consult reading links under library service. The students are expected to read all the articles during the rotation. Students will also attend cardiology subspecialty conferences that include journal club, grand rounds, non-invasive conference, ECG conference, and cardiac cath conference.

Students will read electrocardiograms in the heart station with the cardiology attending in order to improve their electrocardiographic skills as needed.

As time permits, students may attend various cardiac procedures such as transesophageal echo, electrophysiologic studies, stress testing, cardiac catheterization and cath lab interventions, and heart surgery. However, this is not the primary focus of the elective.

Evaluation Methods:

At the conclusion of the rotation the teaching attending or his/her designee will give the student a brief oral exam on one of the following topics (from the mandatory reading links):

- Acute MI/ACS
- Decompensated CHF
- Risk factors modification for CAD
- Malignant HTN
- VT and heart block
- Syncope and SCD
- Valvular heart disease and exam (may include identification of simple murmur)
- ECG interpretation

The teaching attending completes an evaluation of every student on service based of observed performance, input by the cardiology fellow, consultations submitted and performance on the oral exam. It is the responsibility of each student to supply a copy of his/her medical school's evaluation to be completed in a timely manner. It is also the responsibility of the student to confirm that the evaluation has been completed before leaving the service. The teaching attending meets with each student at the end of the rotation to review the written evaluation. The student is also expected to complete an evaluation of

the rotation with the department of education and return any beepers or outstanding materials to LVH. Failure to complete and evaluation or return any materials may result as incomplete grade for the rotation.

Strengths and Limitations

Strengths of the cardiology rotation include the large volume and diversity of patients and the size of the faculty. Significant clinical research is performed by the division and residents are encouraged to participate in current research activities.

Lehigh Valley Hospital is a major referral center for cardiac patients. The learning experience is enhanced by the high volume of catheterization, PTCA, stents, and experimental procedures performed by the cardiology staff.

Course: Cardiology- Consultative	
Course Instructor(s):	Larry Jacobs, MD
Duration:	2 or 4 weeks
Location:	LVHN-Cedar Crest
Prerequisites:	None
Description:	
<p>The primary assignment is with the house officers and attending cardiologists on the Cardiology Teaching Service. Emphasis is on the total evaluation of the patient with cardiovascular disease and active medical intervention. Experience is available in the Non-Invasive Heart Station, Cardiac Catheterization Lab and/or the Electrophysiology Lab by prior arrangement.</p> <p>Educational Purpose: Students will acquire the knowledge and skills necessary to diagnose and manage patients with cardiovascular disease of the coronary arteries, myocardium, heart valves, pericardium, disease of conduction and cardiac rhythm as well as diagnose and manage the peripheral effects of myocardial dysfunction. Students will learn “bedside” cardiology with emphasis on obtaining a proper history, bedside physical examination, analysis of the chest radiograph, basic ECG interpretation, and medical therapy.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. To develop the knowledge and skills necessary to obtain a proper cardiac history. Specific areas to be covered include proper characterization of chest pain syndromes, dyspnea, syncope, exercise capacity, and functional class. History should include special attention to medications, medication compliance, diet compliance, and risk factors for various cardiac diseases. (Patient Care, Medical Knowledge) 2. To become proficient in proper bedside physical examination. Proper bedside examination includes blood pressure measurements, estimation of jugular venous pressure, peripheral pulses, detection of bruits, examination of lung fields, precise localization of left and right ventricular impulses, proper characterization of heart sounds, evaluation of murmurs, rubs and clicks, abdominal examination including palpation for femoral aortic aneurysm, pulsatile liver and the extremity exam. (Patient Care, Medical Knowledge) 3. To be able to accurately assess the presence or absence of congestive heart failure, cardiac tamponade, basic murmurs of valvular heart disease such as mitral regurgitation, mitral stenosis, aortic stenosis, aortic regurgitation and tricuspid regurgitation, and the presence or absence of peripheral vascular disease and abdominal aortic aneurysms. (Patient Care, Medical Knowledge) 4. To learn basic electrocardiographic skills including an understanding of basic arrhythmias such as atrial fibrillation, atrial flutter, supraventricular tachycardia, multi-focal atrial tachycardia, ventricular tachycardia, and a basic diagnosis on the 12 lead ECG such as right and left bundle branch block, left ventricular hypertrophy, acute myocardial infarction, ischemia, WPW, and hyperkalemia. (Patient Care, Medical Knowledge) 5. To perform basic interpretation of chest X-rays including heart size, presence of cephalization, infiltrate, pleural effusions, and pneumothorax. (Patient Care, Medical Knowledge) 6. To become familiar with medical, interventional, and surgical therapies for basic cardiac syndromes such as myocardial infarction, unstable angina, chronic angina, congestive heart failure, valvular heart disease, hypertension, hyperlipidemia, and arrhythmia. (Patient Care, Medical Knowledge) 7. To become familiar and utilize a variety of clinical pathways and practice guidelines. (Practice-Based Learning, Systems-Based Practice) 	

8. Access and critically evaluate current medical information and scientific evidence. Use information technology or other available methodologies to access and manage information support patient care decisions and enhance both patient and physician education. (Medical Knowledge, Practice-Based Learning and Improvement, Systems-Based Practice)
9. To understand the principles of primary, secondary prevention and risk modification. (Patient Care, Medical Knowledge, Systems-Based Practice)
10. To understand the indications and diagnostic yield of various cardiac studies and therapeutics. (Medical Knowledge, Practice-Based Learning and Improvement, Systems-Based Practice)

Principal Teaching Methods: Students will be assigned to the cardiology teaching service. Students will attend -teaching rounds with the medical intern, resident and fellow with the teaching cardiology faculty member on a daily basis. The student will be assigned to perform consults and or admissions making daily follow up rounds under the supervision of the resident, fellow and the teaching attending.

At least weekly the student is required to submit one formal complete consult or history and physical. This consult or history should be completed on the appropriate template and include a complete history, physical, data, impression, diagnoses list and plan. It is the expectation that this will be completed after discussion with the fellow and attending and will not be a chart document. In addition, the student may also be requested to complete a brief consult for the chart which will be amended by the attending. The formal consult should be completed after rounds and not disrupt the flow of the clinical service.

Students will be issued an MPS player with simple murmurs. The students will be expected to listen to each murmur until they can be easily recognized. A link to assigned reading materials can be found on the LVH intra-net. From the home page select non-clinical under resources. Select library. On bottom right of page select cardiology consult reading links under library service. The students are expected to read all the articles during the rotation.

Students will also attend cardiology subspecialty conferences that include journal club, grand rounds, non-invasive conference, ECG conference, and cardiac cath conference.

Students will read electrocardiograms in the heart station with the cardiology attending in order to improve their electrocardiographic skills as needed.

As time permits, students may attend various cardiac procedures such as transesophageal echo, electrophysiologic studies, stress testing, cardiac catheterization and cath lab interventions, and heart surgery. However, this is not the primary focus of the elective.

Evaluation Methods:

At the conclusion of the rotation the teaching attending or his/her designee will give the student a brief oral exam on one of the following topics (from the mandatory reading links):

- CAD/MI/ACS
- CHF
- Risk factors for CAD, lipids
- HTN
- Preop Cardiac Evaluation
- Afib
- Syncope
- Valvular heart disease and exam (may include identification of simple murmur)

- ECG interpretation

The teaching attending completes an evaluation of every student on service based of observed performance, input by the cardiology fellow, consultations submitted and performance on the oral exam. It is the responsibility of each student to supply a copy of his/her medical school's evaluation to be completed in a timely manner. It is also the responsibility of the student to confirm that the evaluation has been completed before leaving the service. The teaching attending meets with each student at the end of the rotation to review the written evaluation. The student is also expected to complete an evaluation of the rotation with the department of education and return any beepers or outstanding materials to LVH. Failure to complete an evaluation or return any materials may result as incomplete grade for the rotation.

Strengths and Limitations

Strengths of the cardiology rotation include the large volume and diversity of patients and the size of the faculty. Significant clinical research is performed by the division and residents are encouraged to participate in current research activities.

Lehigh Valley Hospital is a major referral center for cardiac patients. The learning experience is enhanced by the high volume of catheterization, PTCA, stents, and experimental procedures performed by the cardiology staff.

The primary deficiency during the cardiology rotation is the resident's limited exposure to patients with congenital heart disease.

Course: Clinical Allergy	
Course Instructor(s):	Howard Israel, MD
Duration:	2 or 4 weeks
Location:	All LVHN campuses
Prerequisites:	Adult Medicine and Primary Care courses
Description:	
<p>Allergic and immunologic problems affect up to 20% of adults and children in the United States, therefore, students rotating in Allergy and Immunology are exposed to a variety of common problems important to physicians regardless of their specialty interests. Both children and adults are seen in the clinics. The objective of the Allergy/Immunology experience is to familiarize the student with the pathogenesis, diagnosis, and treatment of various allergic and immunologic diseases. The student will examine patients with common medical diseases such as allergic rhinoconjunctivitis, chronic rhinitis, acute and chronic sinusitis, various forms of asthma, otitis media with effusion, hyper-sensitivity pneumonitis, atopic eczema, contact dermatitis, urticaria and/or angioedema, drug allergy, insect hypersensitivity, and food allergy. The student will also examine patients with immune-deficiency diseases (including HIV infection), eosinophilia, eosinophilic syndromes, and various other immunologic problems.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Analyze the pathogenesis, diagnosis and treatment methods of various allergic and immunologic diseases. 2. Examine patients with allergic conditions. 3. Examine patients with immunodeficiency disorders. 	
Evaluation Methods:	
<p>The student's grade will be based on clinical evaluations by their preceptors.</p>	

Course: Endocrinology	
Course Instructor(s):	Gretchen Perilli, MD
Duration:	2 or 4 weeks
Location:	LVHN-Cedar Crest
Prerequisites:	None
Description:	
<p>The rotation on the Endocrinology services involves exposure to inpatient consultations and the outpatient clinic with a senior resident and the attending endocrinology staff. The main emphasis is on clinical teaching of the pathophysiology of endocrine disorders including appropriate diagnostic tests and modes of therapy.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Evaluate an endocrine patient with history and physical, formulate an appropriate laboratory and radiologic work up, and create a suitable treatment plan. 2. Demonstrate the ability to manage diabetes mellitus type 1 and 2. 3. Demonstrate the ability to manage oral and insulin diabetes treatments as well as prevent and manage diabetic complications. 4. Discuss, evaluate and treat routine endocrine conditions including thyroid, parathyroid, adrenal, pituitary, and gonadal disorders. 	
<p>Learning Outcomes: This course will prepare students to use acquired knowledge gained in the rotation to evaluate and treat common endocrine disorders via evidenced based medicine. The student will learn how to interact with patients & their families, colleagues, and staff regarding patient care and treatment.</p>	
<p>Major Course Topics: Differential diagnosis, diagnostic testing, evidenced based medicine, hormone imbalances, diabetes, cancer, and endocrine conditions.</p>	
Evaluation Methods:	
<p>The student's grade will be based on clinical evaluations by their preceptors.</p>	

Course: Gastroenterology	
Course Instructor(s):	Paola Blanco, MD
Duration:	2 or 4 weeks
Location:	All LVHN campuses
Prerequisites:	Adult Medicine course
Description:	
<p>Upon successful completion of this elective, the student may expect to achieve an acceptable level of competence in the management of disorders of the gastrointestinal tract and liver. This will be achieved by the interpretation of symptoms and physical findings, utilization of appropriate laboratory and other diagnostic studies and knowledge of the basic therapeutic approaches. There will be a combination of direct patient contact and personal instruction. Observation of a variety of procedures including diagnostic and therapeutic upper GI panendoscopy, capsule endoscopy, (colonoscopy, polypectomy, diagnostic and therapeutic ERCP, flexible sigmoidoscopy, esophageal dilation and manometry studies will be afforded. Hands-on experience in capsule endoscopy is available. Attendance at ward and teaching rounds, outpatient clinics and teaching conferences will provide a further source of learning. Emphasis will be placed on pathophysiology, clinical manifestations, diagnosis and therapy. Students will participate in a regularly scheduled conferences and clinics.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Describe common disorders of the gastrointestinal tract and liver. 2. Interpret and utilize symptoms, physical findings, and laboratory and diagnostic studies to formulate a diagnosis. 3. Analyze different management strategies for various gastrointestinal disorders. 4. Participate in scheduled conferences and clinics where appropriate. 	
Evaluation Methods:	
<p>The student will be graded based upon clinical evaluations. The faculty will base their evaluations upon clinical discussions and didactic presentations by the student.</p>	

Course: Geriatric Medicine	
Course Instructor(s):	Anne M. Yawman, MD
Duration:	2 or 4 weeks
Location:	All LVHN campuses and surrounding long-term facilities
Prerequisites:	Adult Medicine and Primary Care courses.
Description:	
<p>The geriatric rotation will offer experience to observe and manage elderly patients with a wide variety of medical conditions on an inpatient and outpatient basis. The student functions as a member of a team with a resident and attending physicians, offering care for patients in acute, ambulatory, community and long-term care settings, in order to understand the interaction of natural aging and disease as well as the techniques of assessment, therapy and chronic and acute disease management.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Understand the normal anatomical and physiologic changes associated with aging and the concepts of homeostasis and frailty. 2. Recognize the atypical presentations of illness in the geriatric patient. 3. Evaluate and manage the common geriatric conditions including: delirium, dementia, depression, gait disorder and falls, syncope, unintentional weight loss, pain syndromes, urinary incontinence, and constipation. 4. Assess for and prevent the hazards of hospitalization of the geriatric patient including: 'polypharmacy', delirium, deconditioning and functional decline, malnutrition and pain syndromes. 5. Recognize the prevalence of complex and chronic disease in the elderly and its impact on functionality and quality of life. 6. Understand and utilize the AGS Beer's Criteria for potentially inappropriate medication use in the older adult. 7. Administer and interpret the various standardized instruments used for assessment of cognitive function, psychological affect and physical function in the geriatric population. 8. Understand the various post-acute rehabilitation and long-term care settings, including the duties of the interdisciplinary team members and Medicare/Medicaid and other insurance payment options. 	
Evaluation Methods:	
<p>Methods:</p> <ol style="list-style-type: none"> 1. Students will see patients on the hospital geriatric consultation service, the ambulatory primary care and outpatient consultation service and in several post-acute care rehabilitation and long-term care settings under the direct observation of the geriatric attending physicians with focus on addressing all the above listed objectives. 2. Students will participate in monthly geriatric journal club and geriatric trauma meetings. 3. Students will be given hard copy reading booklets they are expected to review. 4. Students will be expected to informally present a geriatric journal article at the end of the rotation. 5. Students will choose one acute hospital patient from the consultation service for continuity follow through to the post-acute rehabilitation setting and provide a written summary about the experience including: a summary of the patients course in hospital through rehabilitation, interviews and examinations done with the patient, transitions of care concerns, care plan formulations for post-rehab and their own recommendations for improvement of the system. <p>Evaluation: The students will be evaluated based on the ACGME competencies. Students will receive a short pre-test and post-test of geriatric cases with multiple choice answers they are expected to complete at the beginning and again at the end of the rotation with expectation of a post-test score $\geq 80\%$ correct. Grades are determined by: 50% clinical evaluation, 25% continuity patient summary write-up, 15% post-test score, 10% journal article presentation.</p>	

Course: Hematology/Oncology	
Course Instructor(s):	William Scialla, DO
Duration:	4 weeks
Location:	LVHN-Cedar Crest and LVHN-Muhlenberg
Prerequisites:	Adult Medicine course
Description:	
<p>This clerkship will expose the medical student to a wide range of hematologic and oncologic disease processes during a four week rotation. In the outpatient setting, an emphasis will be made on the proper screening, pathophysiology, staging, natural history and treatment of cancer. The inpatient service will both have a primary management role and consultative aspect. The student will be exposed to both common and uncommon hematologic problems with emphasis on recognition, treatment and natural history of these disorders. The students will also spend time in multidisciplinary clinics</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Identify key points in a patient's case and use them to make management decisions 2. Recall the important aspects of the history and physical in evaluating a patient with cancer or a hematologic disorder Identify detailed aspects of the CBC, coagulation studies, and peripheral blood smear 3. Will demonstrate the ability to accurately interpret CT scans and MRI imaging of oncology patients 4. Strengthen skills to develop a differential diagnosis and be able to justify studies ordered and rational behind treatment recommendations 5. Be able to compare and contrast mechanism of action and side effects of traditional chemotherapy and new targeted therapy. 6. Differentiate between palliative care and hospice care and decide when to transition patient to hospice 7. Appreciation for the importance of clinical trials and the process of screening patients 8. Appreciation for multidisciplinary care of oncology patients. Will spend time in Multidisciplinary clinic 	
Evaluation Methods:	
<ol style="list-style-type: none"> 1. The trainee will be evaluated in the office/clinic by the faculty hematology/oncology attending. In the hospital setting the students will be evaluated by the rounding attending and APC (advanced practice clinician) 2. The trainee will be given a brief multiple choice test at the start of the rotation and again at the completion to gauge progress. Test will cover basic concepts in hematology /oncology 3. The trainee will be given assignments. Example: Student will be given an interesting case by the attending to review. The case will be presented and reviewed with the attending. The trainee will be asked to complete a clinic question based on a case they were involved in. The will answer the question with support from the medical literature 	

Course: Infectious Disease	
Course Instructor(s):	Suzanne Templer, DO; Jaan Naktin, MD; Alex Benjamin, MD
Duration:	2 or 4 weeks
Location:	LVHN-Cedar Crest and LVHN-Muhlenberg
Prerequisites:	None
Description:	
<p>The primary focus of this rotation is the inpatient consultative service. Students will be expected to round collaboratively with a team including rotating residents, physician assistants, our ID pharmacist, as well as the attending physician. To complement this focus, the student will participate in ID journal club, case management series, and medical grand rounds. The student will also be exposed to other ID-related services, including microbiology and laboratory medicine, infection control, travel medicine, HIV, wound management, and antibiotic stewardship. Respiratory infections, influenza, sepsis, pneumonia, meningitis, and skin and soft tissue infections, HIV, pathogenesis and epidemiology. This course will prepare the student to diagnose, treat, and manage common infectious diseases caused by viruses, bacteria, parasites, and fungi. The student will develop an appreciation for vaccination, selective use of antibiotics to treat infections, and advanced tests used to identify pathogens.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Apply the principles of comprehensive history taking and physical examination to generate a differential diagnosis and to select advanced testing modalities. 2. Improve their assessment and management of disease processes using evidence-based literature and interdisciplinary communication. 3. Apply principles of empiricism and stewardship to antibiotic selection and management. 4. Improve familiarity with antimicrobial therapies, including antibiotic classes, adverse drug reactions and interactions. 5. Understand various states of immunosuppression (hereditary, drug-induced, acquired, organ transplant-related) and infections related to these. 6. Summarize Infection Control protocol to minimize spread of disease. 7. Deduce the appropriate method for treating microbial infections. 8. Identify the correct type of antibiotic to treat bacterial Infections. 	
Evaluation Methods:	
The student's grade will be based on clinical evaluations by their preceptors.	

Course: Internal Medicine Acting Internship	
Course Instructor(s):	Thomas Doherty, MD
Duration:	4 weeks
Location:	LVHN-Cedar Crest
Prerequisites:	Adult Medicine course
Description:	
<p>Students will function as acting interns on the general ward teams GIMS C, GIMS D, ECLS B, ECLS B or the Hospitalist Group. They will be given direct patient care clinical duties and responsibilities usually assigned to the first year house officer. The team resident and attending will closely supervise these clinical responsibilities. The level of clinical responsibilities will be distinctly above that of a third year clerkship rotation. Participating students will have an in depth autonomous inpatient experience so they may confidently assume such care in their PGY1 year regardless of their career choice. Mandatory attendance, excluding patient emergencies, is expected at assigned didactics. Students will participate in short call and weekend rounds mimicking the intern schedule.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Introduce the student to hospital based care and management. 2. Student will learn how to perform adequate and thorough history and physical examinations. 3. Write appropriate progress notes and all orders for therapeutic and diagnostic intervention with appropriate counter signature. 4. Participate on short call every fifth night as scheduled with the assigned team. 5. Learn and participate in internal medicine procedures including: paracentesis, thoracentesis, lumbar puncture, central line placement, if available. 6. Transition of patients from the Medical Intensive Care Unit. 7. Communicate inpatient management and outcomes with the patient's primary care physician. 8. Participate and learn appropriate discharge planning, utilization of system based care in the management of their patients and how to do discharge summaries. 9. Learn to interpret EKG's, radiographic studies, PFT's and appropriate lab diagnostic studies. 	
Evaluation Methods:	
<p>Students must either complete a research project (i.e. submit an abstract to a regional or national meeting), or submit a paper or case report for publication.</p>	

Course: Introduction to Hospice and Palliative Medicine	
Course Instructor(s):	Michael Chyu, MD
Duration:	2 or 4 weeks
Location:	LVHN-Cedar Crest
Prerequisites:	Adult Medicine and Primary Care courses
Description:	
<p>This elective is designed to introduce the basic philosophy of palliative care and how these principles are applied to patients with advanced complex diseases. A three-week OACIS inpatient rotation will consist of full participation on the inpatient consulting service, including daily rounds, weekly interdisciplinary team meetings (IDT), weekly staff meeting, and participation in regular interdisciplinary education sessions and case presentations (Schwartz Rounds and PalMS). Students will assist with inpatient consultations with precepting and support from the full inpatient team as well as a designated supervising physician. Focus will be on assessment and treatment of pain and non-pain symptoms, fundamental skill development in patient and relationship centered care, and coordination of care including family meetings, goals of care discussions, conflict resolution, and withdraw of life sustaining therapies. The fourth week will be focused on understanding the process of offering palliative care under the hospice medical benefit. Students will participate in home visits under the supervision of the hospice medical director and the guidance of the RN case manager and other members of the hospice team. Focus will be on the recognition of the dying process, the pharmacokinetics and pharmacological effects of medication commonly used to treat symptoms in dying patients, and an introduction to the regulatory requirements for hospice.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Initiate palliative care consults on patients in the hospital to include a comprehensive medical history, physical examination and assessment of patient and family understanding of illness and prognosis. Gather a psychosocial, coping history, and spiritual and values history. 2. Provide a comprehensive assessment of patients with pain identifying physical, psychosocial and spiritual components of distress. 3. Explain the relevant basic science, pathophysiology, associated symptoms and signs, and diagnostic options useful in differentiating among different etiologies of pain and non-pain syndromes. 4. In patient encounters, identify and address common patient, family, health care provider, and health care system barriers to effective symptom treatment. 5. List indications, clinical pharmacology, alternate routes, equianalgesic conversions, appropriate titration, toxicities, and management of common side effects in opioid administration. 6. Initiate informed relationship-centered dialogues about care. 7. Demonstrate empathy. 8. Communicate effectively with patients and families across a broad range of socioeconomic and cultural backgrounds. 9. Communicate effectively with physicians, other health professionals, and health related agencies. 10. Define patient requirements to qualify for the hospice medical benefit and describe how these benefits are delivered in through an interdisciplinary team. 	

Evaluation Methods:

For the inpatient educational experience, the trainee will see patients at Lehigh Valley Hospital-Cedar Crest and on the consultation services of the OACIS/Palliative Care Consult Service. They will actively participate in daily team rounds and weekly Inter-Disciplinary Rounds (IDT). Trainees will be assigned patients by the supervising faculty and will be integrally involved in the assessment of the patient's medical history, physical exam, and evaluation of patient and family understanding of illness and prognosis. They will actively participate in family meetings regarding goals of care and treatment plans. In addition, students will complete daily journal entries using a standardized question template to process their emotional/spiritual reaction to the work that is being done. Communication skills will be taught through didactic sessions, role play scenarios, and direct observations.

For the hospice experience, the student will see patients at the inpatient hospice unit at 17th and Chew St. Additionally, trainees will see patients who are enrolled in LVH Hospice Services at home with a member of the hospice team including pastoral care, social worker, nurse case manager, and medical director. They will participate in either one inpatient or home-based IDT during the week.

During the entire month, students will attend palliative care journal club, weekly hospice and palliative medicine fellow education sessions, Schwartz Rounds, and PalMS. Additionally, students will be required to read the UNIPAC series, and landmark journal articles regarding key palliative care topics.

Formal evaluation of students' communication skills will be through a formal standardized patient encounter in the simulation lab. Knowledge will be assessed through a pre-post knowledge exam in addition to an oral presentation given at one of the IDT rounds on a palliative care topic of interest. Finally, an overall evaluation will be completed by each member of the IDT using a competency-based assessment tool.

Course: Nephrology	
Course Instructor(s):	Mohammad Saqib, MD
Duration:	2 or 4 weeks
Location:	LVHN-Cedar Crest
Prerequisites:	Adult Medicine and Primary Care courses
Description:	
This rotation provides experience on a regional renal service with patients with renal disease, electrolyte abnormalities or hypertension. The student functions on a team with house officers and attending physicians. Both consultations and patients admitted with kidney disease are included in the clinical program.	
Objectives:	
<ol style="list-style-type: none"> 1. Evaluate a patient with history and physical, formulate an appropriate laboratory and radiologic work up, devise a broad differential diagnosis, and create a suitable treatment plan. 2. Identify renal system physiology and explain the etiology of common diseases and disorders. 3. Interpret blood and urine tests to establish kidney function and use that information to devise a therapy plan. 4. Interpret a renal ultrasound. 5. Explain the role of a renal biopsy and compare and contrast the indications and risks in native and transplanted kidneys. 6. Analyze the types of dialysis and discuss the mechanisms of fluid delivery, machine mechanics and membrane physiology. 7. Identify the staging of kidney disease and complications at various stages of management. 8. Describe the complications and side effects associated with kidney transplantation and immunosuppressive therapy. 9. Analyze the indications and contraindications of drugs used to treat urinary conditions. 	
Evaluation Methods:	
Faculty will meet with each student at the mid-point and end of the rotation to provide verbal feedback on progress, including any deficiencies and suggestions for improvement. Faculty working with the student during their rotation will complete student evaluations either online or on paper.	

Course: Pulmonary Critical Care	
Course Instructor(s):	Daniel E. Schwed - Lustgarten, MD
Duration:	4 weeks
Location:	LVHN-Cedar Crest
Prerequisites:	Adult Medicine course
Description:	
<p>This elective is designed to introduce senior students to the practice of medicine in an intensive care unit. Under the supervision of clinical faculty, students will have the opportunity to practice in a large medical - surgical ICU (36 beds). Upon completion of this elective, students should understand the principles of diagnosis and management of the critically ill patient with specific emphasis in shock and respiratory failure.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Obtain a clinical history and physical exam on a non-verbal, critically ill patient based on limited available information from pre-hospital medical personnel (i.e. EMS), ER physicians, available hospital records, and interviews with the patient's family members. 2. Compare and contrast the health needs of the critically ill patient to those encountered in the general medical ward and outpatient settings. 3. Recognize critically ill patients with shock as well as trends in vital signs and key laboratory data that identify patients with a rapidly declining, life threatening condition or a worsening disease state that threatens a vital organ function. 4. Observe and then develop the practice of resuscitation of the patient in shock. 5. Analyze and become sensitized to end of life discussions with patients and/or family members. 6. Identify and describe the proper administration and use of the intensive care unit as a scarce and limited health care resource. 	
Evaluation Methods:	
<p>The course director will evaluate students at the end of the rotation based on written feedback provided by residents and faculty members who worked with them. Evaluations will be based on the ACGME core competencies. Students will also be graded by the attending physician on an oral presentation of a topic of interest. Students can expect to give one oral presentation per week. Grades are determined by: 80% clinical evaluations and 20% oral presentations. There are no written or oral tests during this elective.</p>	

<i>Course: Rheumatology</i>	
<i>Course Instructor(s):</i>	James Ross, MD
<i>Duration:</i>	2 or 4 weeks
<i>Location:</i>	LVHN-Cedar Crest
<i>Prerequisites:</i>	None
<i>Description:</i>	
This rotation provides experience with inpatients and with consultations in a large, multidisciplinary outpatient clinic and in a private office. The student functions as part of a team consisting of a senior resident and attending rheumatologists.	
<i>Objectives:</i>	
<ol style="list-style-type: none"> 1. Be able to obtain history and perform the physical examination appropriate for rheumatic disease patients. 2. Be able to order and interpret pertinent X-rays and laboratory studies. 3. Gain an understanding of the pathogenesis, differential diagnosis, and treatment of musculoskeletal conditions. 	
<i>Evaluation Methods:</i>	
Students will work closely with the attending rheumatologist who will provide the assessment.	

Course: Acting Internship in Inpatient Neurology	
Course Instructor(s):	Jay Varrato, DO
Duration:	4 weeks
Location:	LVHN-Cedar Crest
Prerequisites:	Psychiatry/Neurology course. Prior approval of Dr. Varrato required at least 3 months prior to rotation.
Description:	
<p>This elective is designed to provide advanced clinical and didactic training in inpatient neurology. Students will participate as a “sub-intern” on an inpatient neurology service. Students become an integral part of a team that cares for patients with various neurological diseases. Students are expected to have a small case load of patients that they actively manage taking on primary responsibility for the patient’s care in conjunction with the supervising faculty. Students will perform the history and physical for patients being admitted to the hospital and follow the patient throughout their stay at the hospital. The student will care for patients on the neurology service, consultative service, stroke service, and neuroscience critical care units at Lehigh Valley Hospital Cedar Crest campus. The elective is under the supervision of a Neurology attending. Students will also learn to compose discharge summaries. Close supervision, seminars and independent study will complement the clinical activities.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Master skills in obtaining neurological history and examination. 2. Examine various neurologic conditions in greater depth while determining the best method of treatment for these conditions 3. Actively participate in discussing differential diagnosis. 4. Learn to create a comprehensive management plan. 5. Gain more independence in dealing with neurological patients. 6. Develop readiness for transition into residency. 7. Function effectively as part of a neurology team and demonstrate the ability work with members of other medical teams and other disciplines. 	
Evaluation Methods:	
<p>The supervising faculty will evaluate the student’s clinical performance according to the elective objectives. Students will be also be evaluated by the course director at the end of the course, based largely on clinical evaluations completed by all faculty who work with them. In addition, the student will be required to evaluate the rotation as a learning experience.</p>	

Course: Inpatient Neurology Consultations	
Course Instructor(s):	Jay Varrato, DO
Duration:	2 or 4 weeks
Location:	LVHN-Cedar Crest
Prerequisites:	Psychiatry/Neurology course. Prior approval of Dr. Varrato is required before scheduling this elective.
Description:	
<p>This elective is designed to provide interested students with clinical and didactic training in inpatient consultative neurology. The student will have an opportunity to develop greater diagnostic and management skills in the inpatient setting in the Lehigh Valley Health Network. The elective is under the supervision of a Neurology attending. Students become an integral part of a team that cares of patients with various neurological diseases.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Master skills in obtaining neurological history and examination. 2. Actively participate in discussing differential diagnosis 3. Learn to create a comprehensive management plan 4. Become familiar with Neurology beyond the core requirements 5. Gain more independence in dealing with neurological patients 6. Learn to perform lumbar punctures 7. Learn basics of EEG and EMG/NCS 	
Evaluation Methods:	
<p>The supervising faculty will evaluate the student's clinical performance according to the elective objectives. Students will be also be evaluated by the course director at the end of the course, based largely on clinical evaluations completed by all faculty who work with them.</p>	

Course: Outpatient Neurology	
Course Instructor(s):	Jay Varrato, DO
Duration:	2 or 4 weeks
Location:	All LVHN campuses
Prerequisites:	Psychiatry/Neurology course. Prior approval of Dr. Varrato required at least 3 months prior to rotation
Description:	
<p>With the course director's assistance, the student will construct a calendar of outpatient experiences which can include any or all of the following Neurology specialties: Dementia; epilepsy; general neurology; headache; neuromuscular; multiple sclerosis, Parkinson's Disease and Movement Disorders and Stroke. Selected reading will be advised. The course is designed to assist students who want a career in primary care or neurology as they prepare for outpatient delivery of care. The department may assign students to the offices at Lehigh Neurology Cedar Crest Campus, Muhlenberg Campus or the 17th Street Hospital Outpatient Clinic to complete this elective. Close supervision, seminars and independent study will complement the clinical activities.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Master skills in obtaining neurological history and examination. 2. Diagnose movement disorders, including Parkinson's disease, Essential Tremor, Dystonia, Ataxia, and Huntington's disease. 3. Experience in treatment of movement disorders, including observing botulinum toxin injection 4. Manage the chronicity of headaches and the development of migraines 5. Students should understand the differential diagnosis of epilepsy 6. Understand components of a good neuromuscular examination. 	
Evaluation Methods:	
<p>The supervising faculty will evaluate the student's clinical performance according to the elective objectives. Students will be also be evaluated by the course director at the end of the course, based largely on clinical evaluations completed by all faculty who work with them. In addition, the student will be required to evaluate the rotation as a learning experience.</p>	

Course: Vascular and Critical Care Neurology	
Course Instructor(s):	Jay Varrato, DO
Duration:	2 or 4 weeks
Location:	LVHN-Cedar Crest
Prerequisites:	Psychiatry/Neurology course.
Description:	
<p>This elective is designed to give fourth-year students more extensive exposure to the practice of Vascular and critical care Neurology. Under the supervision of clinical faculty, students will have the opportunity to evaluate patients with known or suspected stroke syndromes in Lehigh Valley Hospital Cedar Crest Campus. Students will round with the Stroke Team in the hospital on the Vascular Neurology Service and see patients in the Neuroscience ICU under the supervision of a Vascular Neurology or Critical Care Neurology Attending. The elective will provide students with a better understanding of the dimension of Stroke, which is a leading cause of disability and the third leading cause of death in the United States. Students will also get exposure to interventional neurology as it pertains to the management of ischemic stroke and subarachnoid hemorrhage and gain experience in critical care neurology as it pertains to the management of patients with ischemic stroke, intracerebral hemorrhage and subarachnoid hemorrhage.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Introduce the heterogenous nature of stroke syndromes and be able to differentiate them from non-stroke mimics 2. Apply principles of evidence-based medicine to cerebrovascular diagnosis and management. 3. Evaluate the proper use of laboratory and neuroimaging studies in cerebrovascular diagnosis. 4. Appreciate the diagnostic and management algorithms in acute stroke intervention. 5. Understand the principles of management of acute ischemic stroke. 6. Understand the principles of management of acute hemorrhagic stroke. 7. Identify risk factors and treatment strategies for primary and secondary prevention of stroke. 	
Evaluation Methods:	
<p>The supervising faculty will evaluate the student's clinical performance according to the elective objectives. Students will be also be evaluated by the course director at the end of the course, based largely on clinical evaluations completed by all faculty who work with them.</p>	

Course: Gynecologic Oncology	
Course Instructor(s):	Martin Martino, MD
Duration:	4 weeks
Location:	LVHN-Cedar Crest and LVHN-Muhlenberg
Prerequisites:	Maternal Newborn Pediatrics or Women's Health Pediatrics and Surgical Care courses.
Description:	
<p>Students will participate in outpatient and inpatient activities relative to the diagnosis and treatment of a wide range of malignant and pre-malignant tumors of the female genital tract. They will gain insight in the principles of surgical anatomy, radical pelvic surgery and perioperative care. They will experience the multi-modality approach to the treatment of malignancies of the female genital tract.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Act as the primary provider (house officer) by admitting and developing a management and diagnostic plan for the gynecologic oncology patient and have plan for initial orders for assigned patients. 2. Follow up on patient's status and develop new management and diagnostic plans for assigned gynecologic oncology patients. 3. Be assistant to surgeon for procedures as level of training allows. 4. Follow, round on, document upon, and present assigned patients on the gynecologic oncology service during daily rounds. 5. Manage a sufficient number of patients as a sub-intern to gain skills, attitudes, and knowledge necessary to function as the primary physician and demonstrate critical aspects of caring for oncologic patients. 6. Examine patient in the ambulatory gynecologic office setting with faculty attending physicians when assigned. 7. Participate in and develop an understanding for the principles of robotic surgery. 8. Develop communication skills regarding the care of complex patients with morbidity and cancer. 9. Research, prepare, and present a 15 minute oral presentation relating to a chosen gynecologic oncologic topic during the rotation. 	
Evaluation Methods:	
<p>The trainee will see patients at Lehigh Valley Cedar Crest and Lehigh Valley Muhlenberg with the gynecologic oncology team. The trainee will be evaluated by the course director with feedback from other team members. Evaluation will be based on clinical observations.</p>	

Course: Gynecology	
Course Instructor(s):	Kristin Friel, MD
Duration:	4 weeks
Location:	All LVHN campuses
Prerequisites:	Maternal Newborn Pediatrics or Women's Health Pediatrics and Surgical Care courses
Description:	
This elective is designed to introduce senior students to a variety of benign gynecologic procedures. Under the supervision of clinical faculty, students will have the opportunity to participate in a variety of benign gynecology cases. This elective will provide students with a better understanding of the various gynecologic procedures performed: their indications, the surgical management and potential surgical complications.	
Objectives:	
<ol style="list-style-type: none"> 1. Compare and contrast medical and surgical options for common benign gynecologic complaints. 2. Participate in a variety of gynecologic procedures performed by a generalist obstetrician gynecologist. 3. Understand basic anatomy, physiology and the pathophysiology which underlies common surgical gynecologic problems. 4. Appreciate complications involved in gynecologic procedures. 	
Evaluation Methods:	
<p>Methods: The trainee will be assigned cases at one of the hospitals based on their surgical interests and case availability. The trainee will follow patients from admission through the surgery and discharge and be involved in all steps of their care as appropriate. Trainees will accompany clinical faculty to their outpatient offices and work alongside faculty in the care of the patients who present there for evaluation. Upon completion of this AI, the trainee should understand medical and surgical management of common benign gynecologic complaints; have a good understanding of pelvic anatomy and the possible complications of gynecologic procedures.</p> <p>Evaluation: The trainee will be evaluated by the course director at the end of the course, based on clinical evaluations completed by all residents and faculty who work with them. There will also be a graded patient write up and an oral presentation of a topic of interest, graded by the attending physician. Grades are determined by 75% clinical evaluations, 10% graded write up and 15% oral presentation.</p>	

Course: Maternal Fetal Medicine	
Course Instructor(s):	Kara Coassolo, MD
Duration:	4 weeks
Location:	LVHN-Cedar Crest; outpatient Maternal Fetal Medicine office
Prerequisites:	Maternal Newborn Pediatrics or Women's Health Pediatrics course
Description:	
The student will learn to recognize complicated obstetric disorders and care for the affected patient. The experience will enable the student to further evaluate OB/GYN as a career path.	
Objectives:	
<ol style="list-style-type: none"> 1. Demonstrate the ability to function as a member of the MFM team by active engagement and by displaying initiative. 2. Able to evaluate data obtained from ultrasounds and all perinatal procedures. 3. Demonstrate participation skills in consults with the physicians, nurse practitioners, and genetic counselors. 4. Care for 1-3 antepartum patients by rounding on these patients in conjunction with the appropriate resident and on-service attending, attending all counseling and ultrasound sessions, and contributing to management decisions of these patients. 5. Diagnose and treat the common clinical situations that a perinatologist routinely encounters. 6. Present a 15 minute talk during the last week of the rotation focusing on a perinatal topic or an interesting patient seen during the subinternship. 	
Evaluation Methods:	
The trainee will see patients at Lehigh Valley Cedar Crest and Lehigh Valley 17th & Chew as well as the MFM office at 3900 Hamilton Blvd. with the MFM team. The trainee will be evaluated by the course director with feedback from other team members. Evaluation will be based on clinical observations.	

Course: Obstetrics	
Course Instructor(s):	Amanda Flicker, MD
Duration:	4 weeks
Location:	All LVHN campuses
Prerequisites:	Adult Medicine, Primary Care, Surgical Care, Maternal Newborn-Peds or Women's Health-Peds and Psychiatry/Neurology courses. Preference will be given to those students who are pursuing residency training in obstetrics and gynecology and to USF students.
Description:	
<p>The purpose of this rotation is to advance your knowledge primarily in the area of inpatient obstetrics. Your elective can be tailored, however, if there is something specific to which you would like to gain exposure. Please do not hesitate to discuss this with your preceptor.</p> <p>GOALS: Develop clinical and technical skills in patient care of obstetrical patients. Student will demonstrate knowledge of responsibilities of an intern on obstetrics service by completing all related clinical and administrative tasks under supervision of assigned faculty mentor.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Perform initial assessment of patients in the triage area by conducting history and supervised physical exams, participating in decisions regarding management, admitting patients as appropriate and counseling patients being discharged on necessary follow-up 2. In conjunction with residents and attending staff, perform ongoing assessment of intrapartum patients and manage their labor progress 3. Under supervision, perform vaginal deliveries and laceration repair 4. Participate in cesarean deliveries with level of participation at the discretion of the attending physician 5. Perform postpartum rounds with resident obstetrics team 6. May engage in antepartum teaching rounds 	
Evaluation Methods:	
<p>Students will be evaluated by both attending and resident staff in the department of obstetrics and gynecology. Primary responsibility for the completion of the evaluation will be shared by the course directors, but composite information will be reflected from other department members with whom the student works. The student will be observed clinically both in the inpatient obstetrics unit, on history, physical exam and technical skills and on both oral and written presentations of patients. The oral report will be included in the grade as well as completion of the "passport." No written exam will be performed.</p>	

Course: Urogynecology Pelvic Reconstructive Surgery	
Course Instructor(s):	Steven Tugbiyele, MD
Duration:	4 weeks
Location:	All LVHN campuses
Prerequisites:	Maternal Newborn Pediatrics or Women's Health Pediatrics and Surgical Care courses
Description:	
<p>This course will prepare the student to perform a proper clinical evaluation and become knowledgeable in appropriate treatments for female pelvic floor disorders, including urinary and fecal incontinence as well as pelvic organ prolapse. This rotation provides the student with active clinical involvement in the office, urodynamics laboratory, operating room and the inpatient areas. The student who is interested in learning more about challenging pelvic and vaginal gynecologic surgery will find the experience most valuable.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Act as the primary provider (house officer) by admitting and developing a management and diagnostic plan for the urogynecology patient and have plan for initial orders for assigned patients. 2. Follow up on patient's status and develop new management and diagnostic plans for assigned urogynecology patients. 3. Be assistant to surgeon for procedures as level of training allows. 4. Follow, round on, document upon, and present assigned patients on the urogynecology service during daily rounds. 5. Manage a sufficient number of patients as a sub-intern to gain skills, attitudes, and knowledge necessary to function as the primary physician and demonstrate critical aspects of caring for urogynecology patients. 6. Examine patient in the ambulatory urogynecology office setting with faculty attending physicians when assigned. 	
Evaluation Methods:	
<p>The trainee will see patients at Lehigh Valley Cedar Crest, Lehigh Valley Muhlenberg, and Lehigh Valley 17th & Chew with the urogynecology team. The trainee will be evaluated by the course director with feedback from other team members. Evaluation will be based on clinical observations.</p>	

Course: Anatomic Pathology	
Course Instructor(s):	Dennis Cornfield, MD
Duration:	2 or 4 weeks
Location:	LVHN-Cedar Crest and LVHN-Muhlenberg
Prerequisites:	Pathology course
Description:	
<p>Students will observe and participate in the daily activities in Anatomic Pathology, including Forensic Pathology. Practical tissue dissection, frozen section diagnosis, immunocytochemistry and other special techniques will be illustrated in addition to routine histopathology. Participation in conferences will be encouraged. The role of the pathologist as consultant and educator will be demonstrated.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Describe the steps involved in, and understand the limitations and benefits of, a frozen section. 2. Understand the role of the pathologist in different professional activities. 3. Describe important features (including pertinent molecular aspects) of select cases encountered during this rotation. 4. Gain familiarity with the handling and processing of a tissue specimen from its receipt in the Pathology gross room until its status as a finished product on a glass slide. 5. Recognize major histologic abnormalities in different organ systems. 	
Evaluation Methods:	
<p>Evaluation will be based on oral assessment of the above objectives by members of the Department of Pathology.</p>	

Course: Adolescent Medicine	
Course Instructor(s):	Valerie Lewis, MD, MPH
Duration:	4 weeks
Location:	401 N. 17th Street, Suite 203 (In ABC Pediatrics/Allentown Medical Center adjacent to LVHN-17 campus) and possibly at 1210 S. Cedar Crest Blvd., Suite 2700 (adjacent to Cedar Crest campus)
Prerequisites:	Maternal Newborn Pediatrics or Women's Health Pediatrics course
Description:	
<p>Students will be able to see and care for adolescents and young adults, ages 12 to 25 years. The outpatient adolescent experience will afford students the opportunity to provide specialty care to adolescents in an office setting. The experience will be supplemented with time spent with the dietician, learning about disordered eating patterns and weight management as well as the gynecologist, learning about the unique reproductive care needs of the adolescent.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Obtain a comprehensive history from the adolescent and parent that is developmentally appropriate and sensitive to issues related to confidentiality. History should include current health concerns, medical history, nutritional history, and social history. 2. Demonstrate the appropriate physical examination skills used to evaluate male and female adolescents. 3. Analyze the differential diagnosis and management of common acute and chronic adolescent problems. 4. Describe the psychosocial issues that affect adolescents including peer and family relationships, mood disorders, eating disorders, substance use, sexuality and school performance 5. Evaluate growth using screening tools and assess development using standardized growth charts and body mass index (BMI) and be able to recognize normal and abnormal patterns of growth and development in adolescent patients. 	
Evaluation Methods:	
<p>Student will be evaluated on clinical performance during their 4 week rotation. The student will have direct observation and be precepted by Adolescent Medicine faculty in the outpatient setting. They will receive weekly feedback and a final evaluation based on their clinical performance, knowledge and skills.</p>	

Course: Inpatient Pediatric Acting Internship	
Course Instructor(s):	Melissa Brannen, MD
Duration:	4 weeks
Location:	LVHN-Cedar Crest
Prerequisites:	Maternal Newborn Pediatrics or Women's Health Pediatrics course
Description:	
<p>This acting internship will provide the student with practical experience in Inpatient Pediatrics. The student will participate fully in all aspects of medical care of acute and chronically ill hospitalized children. On the Inpatient Pediatrics unit, the student will participate as a member of the clinical team consisting of attending and resident physicians and third-year medical students. He or she will function as an acting intern / subintern in the care and management of hospitalized children.</p> <p>In addition to the learning opportunities provided by hands-on patient care, the educational experience is supplemented by a didactic lecture series for medical students, biweekly morning report case conference and weekly Pediatrics Grand Rounds. Student will be on the night shift one week during the elective.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Accurately evaluate the sick child or adolescent and identify the criteria necessitating admission to the hospital. 2. Manage children and adolescents admitted to the hospital for a variety of acute and chronic medical conditions. 3. Justify why specific laboratory testing and imaging is required in the management of hospitalized children. 4. Demonstrate the ability to work on a clinical team of physicians, nurses and support staff in the care of hospitalized children. 5. Combine prior knowledge and experience to assist in teaching and supervising junior members of the clinical team. 	
Evaluation Methods:	
<p>Student will be evaluated on multiple aspects of patient care and clinical performance during the 4 week rotation. The student will have direct observation and be precepted by inpatient pediatric faculty and pediatric residents where appropriate. Student will receive weekly feedback and a final evaluation with formative and summative comments based on clinical performance, knowledge and skills.</p>	

Course: Pediatric Neurology	
Course Instructor(s):	Muhammed Sheikh, MD
Duration:	4 weeks
Location:	1210 S. Cedar Crest (LVHN-Cedar Crest campus; LVHN - Cedar Crest Pediatric Specialty Center)
Prerequisites:	Maternal Newborn Pediatrics or Women's Health Pediatrics course
Description:	
<p>This course will expose the student to various neurological disorders in infants and children. The student will work in an outpatient setting and in inpatient consults to develop the skill in performing a neurological exam under the supervision of the attending physician. The student will follow the pediatric neurologist throughout all consultations and will get an opportunity to spend time in the neurophysiology lab. The student will also be exposed to the pediatric wards, neonatal ICU and pediatric ICU patients and be responsible for participating in all follow-up care.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Demonstrate an approach for taking a proper history and neurological exam and be able to localize pathology in the nervous system. 2. Justify the approach and use it to formulate an appropriate differential diagnosis. 3. Identify the role laboratory data, neurophysiology, and neuroimaging have on the diagnosis and treatment of neurological conditions. 4. Discuss and effectively communicate treatment or therapy options with patients, family members, and other members of the health care team. 	
Evaluation Methods:	
<p>Performance during the rotation will be assessed by supervising faculty with input from members of the clinical team. Student will be assessed based on the objectives listed above and according to evaluations provided by their home institution. There will not be a written exam but written work will be assessed as part of the clinical performance.</p>	

Course: Elective in Child Protection

Course Instructor(s):	Debra Esernio-Jenssen, MD
Duration:	4 weeks
Location:	CAC is located at 17 th & Chew; consults may take place at the Children's ER or inpatient units located at Cedar Crest.
Prerequisites:	None

Description:

This elective is designed to provide a basic structure of child abuse pediatrics as a specialty medical practice of pediatrics and is structured primarily around inpatient, ED and outpatient clinical evaluation of child maltreatment. Opportunities to observe interactions of Multidisciplinary Investigative Team meetings; Act 33 (fatality and near fatality reviews; Child Death Review Teams; Court Preparation with various Assistant District Attorneys; and observation of courtroom testimony as available. Student will accompany staff on inpatient and ED consultations and on outpatient evaluations at the Child Advocacy Center. Majority of time will be spent at the CAC at LVHN, 17th & Chew.

Objectives:

1. Know the elements of a history and physical when non accidental trauma is suspected.
2. Participate in the medical evaluation of alleged abuse in children and explain the role of the multidisciplinary team in the care of a child with suspected abuse.
3. Recognize various conditions and injuries that require specialty child protection team evaluation.
4. Recognize various conditions and injuries that initially appear to be related to abuse but either have a medical or reasonable accidental explanation.
5. Discuss when and how to report suspected child abuse.
6. Discuss what the legal and child welfare systems need from pediatricians in the community in response to allegations of child abuse.
7. Understand the other specialties such as radiology, ophthalmology, neurosurgery, trauma surgery, etc. that are involved in child protection evaluations.
8. Describe community based partners such as CYS, Law Enforcement, District Attorney's office and their respective roles in the investigation of Child Abuse and Neglect.
9. Recognize the role of the Child Advocacy Center and Child Protection Team in the evaluation and investigation of child abuse and neglect.

Evaluation Methods:

Methods: Through direct and observational patient/family interactions and meeting objectives above. Presentation given by student during the rotation. Topic will be selected by the student in discussion with the faculty preceptor. Evaluation: USF MS4 evaluation to be completed by Dr. Esernio-Jenssen.

Course: Neonatal ICU Acting Internship	
Course Instructor(s):	Nachammai Chinnakaruppan, MD
Duration:	4 weeks
Location:	LVHN-Cedar Crest
Prerequisites:	Maternal Newborn Pediatrics or Women's Health Pediatrics course; Neonatal Resuscitation certification (NRP) is required as well as two weeks of prior inpatient Pediatric experience.
Description:	
<p>This acting internship/elective will provide the student with experience in the intensive care nursery and delivery room. The student will participate in all aspects of medical care of preterm infants, acutely ill neonates, and neonates with complex medical conditions. The student will participate as a member of the NICU clinical team consisting of faculty attending physicians and neonatal nurse practitioners and pediatric residents. He or she will function as an acting intern in the care and management of hospitalized neonates. In addition to the learning opportunities provided by hands-on patient care, the educational experience is supplemented by a didactic lecture series for medical students/residents, biweekly morning report case conference and weekly Pediatrics Grand Rounds.</p> <p>Student will be on night shift one week of the elective.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Describe normal physiology and pathophysiology of the sick preterm, sick term neonate and the well preterm low birth weight neonate. 2. Develop skills in resuscitation, stabilization and care of the at-risk neonate. 3. Evaluate and manage patients with common problems in the NICU such as jaundice, pneumonia, respiratory distress syndrome, necrotizing enterocolitis, patent ductus arteriosus, chronic lung disease, apnea of prematurity, hypoglycemia, sepsis, feeding intolerance, basic fluids electrolyte therapy, and surgical emergencies. 4. Examine various assisted ventilation strategies. 5. Collaborate and effectively communicate with pediatric subspecialties in management of patients. 6. Demonstrate the ability to work with patient care team including nurses, respiratory therapists, dietitians, speech and occupational therapists and case managers. 7. Effectively communicate with patient's families about the nature of their infant's illness and progress of their babies. 	
Evaluation Methods:	
<p>Student will be evaluated on multiple aspects of patient care and clinical performance during their 4 week rotation. The student will have direct observation and be precepted by pediatric faculty and pediatric residents where appropriate. Student will receive weekly feedback and a final evaluation with formative and summative comments based on clinical performance, knowledge and skills.</p>	

Course: Pediatric Cardiology

Course Instructor(s):	Louis Hansrote, MD
Duration:	2 weeks
Location:	LVHN 17 th Street
Prerequisites:	Primary Care course and basic knowledge of general pediatrics

Description:

Objectives:

1. The resident during the course of his/her elective will accompany an attending pediatric cardiologist to learn the essential elements of the pediatric cardiologic examination, history taking and modes of therapy for different pediatric cardiac illnesses.
2. The resident during this elective will familiarize themselves with what constitutes an innocent vs. a pathologic murmur.
3. The resident will understand the grading system of heart murmurs and modal auscultation for both innocent and pathologic murmurs.
4. The resident will learn the basic differences between the pediatric EKG vs. adult EKG.
5. The resident will learn basic concepts of both performance of echocardiography and reporting.
6. The resident will become familiarized with the most common pathologic entities of congenital heart disease and acquired heart disease in patients from a fetus until eighteen years of age.
7. The resident will accompany an attending physician during this elective and will see patients in an outpatient setting. He/She will participate in history taking and performance of physical examination. He/She will also be asked to come to an assessment based on the prior information obtained.
8. Upon completion of this elective, the trainee should understand the principles and diagnosis of most common congenital heart disease, common acquired pediatric cardiology issues as well as understand the difference between innocent vs. pathological murmurs.
9. Upon completion of this elective, the resident will be evaluated at the end of this particular rotation based on his/her level of participation and improvement during this particular elective.

Evaluation Methods:

Course: Pediatric Endocrinology

Course Instructor(s):	Laurissa Kashmer, MD
Duration:	4 weeks
Location:	LVHN- 17 th Street
Prerequisites:	Women's Health and Pediatrics

Description:

This elective will provide fourth year medical students with an in-depth exposure to the diagnoses and management of acute and chronic illnesses of the endocrine system in infants, children and adolescents. Students will evaluate patients primarily in the outpatient setting at the Pediatric Specialty Center and may occasionally join endocrinologist doing consults in the hospital.

Objectives:

- 1. Differentiate between normal and pathological states related to endocrinology**
- 2. Evaluate and manage patients with presenting signs and symptoms that suggest an endocrine disease process**
- 3. Demonstrate principles of growth and pubertal development important to the general pediatrician**
- 4. Understand the role of the Endocrinologist and primary care provider in preventing and managing diseases of the endocrine system and in counseling and screening individuals at risk for these diseases**
- 5. Collaborate and effectively communicate with both general and specialist Pediatricians in the management of patients with acute and chronic endocrine illnesses**
- 6. Effectively communicate with patients and families about endocrine conditions, including management of acute and chronic conditions and interpretation of test results**

Evaluation Methods:

Methods: The trainee will see patients in the specialty center. They will have direct contact as well as observation of patient/family interactions to meet the objectives above. Students will be expected to give a presentation during the elective. Topic will be selected by the student in discussion with the faculty preceptor

Evaluation: Direct and timely feedback will be given to student by Endocrinologists. MS4 evaluation to be completed by Dr. Kashmer with input from Drs. Kuryan and Chacko and office clinical staff

Course: Gastroenterology	
Course Instructor(s):	Naser Tolaymat, MD
Duration:	4 weeks
Location:	1210 S. Cedar Crest, Suite 2400 (LVHN-Cedar Crest campus)
Prerequisites:	Maternal Newborn Pediatrics or Women's Health Pediatrics course
Description:	
<p>The student will attend the Pediatric Gastroenterology clinic with one of the two attending physicians, discuss the findings of the history and exam of the patient, discuss differential diagnosis and develop appropriate plan for work up and treatment. The student will respond to the consults from the pediatric inpatient and discuss the consult with the attending. Additionally, the student may observe Gastrointestinal procedures (upper endoscopy and colonoscopy). These outpatient procedures are done at the Pediatric Ambulatory Center at the Muhlenberg campus.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Identify and explain the anatomy, physiology and pathology of the digestive system. 2. Utilize knowledge about the developmental stages of the digestive system to aid in disease diagnosis and treatment. 3. Be able to accurately evaluate and manage a pediatric patient for common gastrointestinal problems. 4. Explain the role genetics, biochemistry and molecular biology has on the digestive system. 5. Justify the use of drugs to treat gastrointestinal conditions and be able to explain the pharmacological effects on the body. 6. Summarize the principles of gastrointestinal surgery and be able to assess the risks and benefits of surgical procedures. 	
Evaluation Methods:	
<p>Student will be evaluated on multiple aspects of patient care and clinical performance during the 4 week rotation. The student will have direct observation and be precepted by pediatric faculty and pediatric residents where appropriate. Student will receive weekly feedback and a final evaluation with formative and summative comments based on clinical performance, knowledge and skills.</p>	

Course: Pediatric Hematology/Oncology	
Course Instructor(s):	Philip Monteleone, MD
Duration:	4 weeks
Location:	LVHN-Muhlenberg, 3rd Floor and Pediatric Inpatient Unit at Cedar Crest campus
Prerequisites:	Maternal Newborn Pediatrics or Women's Health Pediatrics course
Description:	
<p>This clerkship will expose the medical student to a wide range of hematologic and oncologic diseases in children. An emphasis will be made on the proper screening, pathophysiology, staging, natural history and treatment of cancer as well as the importance of regular health maintenance in children with chronic blood disorders such as sickle cell anemia, thalassemia and bleeding disorders. This outpatient rotation will ensure exposure to both common and uncommon hematologic problems with emphasis on the recognition, treatment and natural history of these disorders.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Identify key points in a patient's case and use them to guide and manage the therapeutic process. 2. Recall the important aspects of the history and physical in evaluating a patient with cancer and blood disorders. 3. Identify detailed aspects of the CBC, coagulation studies, and peripheral blood smear. 4. Develop patient medical record by means of differential diagnosis and be able to justify rationale behind treatment recommendations. 5. Compare and contrast mechanism of action and side effects of traditional chemotherapy and new targeted therapy. 6. Decide when it is appropriate to transition patients. 	
Evaluation Methods:	
<ol style="list-style-type: none"> 1. The trainee will be evaluated by the Pediatric Hematology/Oncology clinic attending physicians based on clinical evaluations of the team physicians and nurse practitioners. 2. The trainee will take a multiple choice test of specific pediatric hematology and oncology questions at the start of rotation and again at end of rotation to be graded by the clinic attending physician. 	

Course: Pediatric Infectious Disease

Course Instructor(s):	Tibisay Villalobos-Fry, MD
Duration:	4 weeks
Location:	1210 S. Cedar Crest, Suite 2400 (LVHN-Cedar Crest campus)
Prerequisites:	Maternal Newborn Pediatrics or Women's Health Pediatrics course
Description:	
<p>The rotation exposes the medical student to a wide variety of pediatric infectious diseases in the hospital and outpatient settings. It allows first-hand clinical work supervised by the Infectious Diseases staff at the Children's Hospital pediatric wards, PICU and NICU as well as in the Infectious Diseases Clinic at the Pediatric Subspecialty Center. The student will be responsible for seeing ID consults and follow-ups in both settings. The student will present his/her patients daily to the ID attending and update their progress and discuss proper evaluation and management. During the rotation the student will attend various didactic activities including: Pharmacy/ID rounds, weekly Infection Control meeting, ID Journal club, Antibiotic Stewardship meeting, Grand Rounds and morning report with the pediatric residents as well as any other conference that may be of interest during the rotation. Opportunities for clinical research may be available.</p>	
Objectives:	
<ol style="list-style-type: none">1. Learn to take a complete and thorough history pertaining to common infectious diseases problems.2. Demonstrate appropriate physical examination skills and ability to perform adequate assessment and differential diagnosis between infectious and non-infectious illnesses.3. Learn about laboratory diagnosis of common infections and the interpretation of current microbiologic, virologic, mycologic, parasitologic and serologic tests4. Learn how to correlate laboratory findings (such as antibiotic sensitivities) to the clinical evaluation at the patient bedside5. Learn about antimicrobials and the proper use in pediatrics6. Identify the immunizations administered during childhood and adolescence and evaluate the indications for specific vaccines.7. Learn basic concepts of Hospital Epidemiology and Infection Prevention/Control and how to apply them to daily clinical practice.8. Understand the principles of treatment for most common infectious diseases.9. Identify infectious disease in the perinatal period that can cause congenital and neonatal Infections.10. Learn about travel medicine and global health: how infectious diseases spread around the world	
<p>Learning Outcomes: This course will prepare the student to diagnose, treat, and manage common infectious diseases in children caused by viruses, bacteria, parasites, and fungi. The student will develop an appreciation for immunizations, advanced tests used to identify pathogens, and the appropriate use of antimicrobials to treat infections.</p> <p>Major Course Topics: Bacterial sepsis, HIV infection, Influenza, Infectious diarrhea, Musculoskeletal and soft tissue infections, Respiratory infections, Tuberculosis; Infection prevention and epidemiology</p>	
Evaluation Methods:	
<p>Student will be evaluated on multiple aspects of patient care and clinical performance during the 4 week rotation. The student will have direct observation and be precepted by pediatric faculty and pediatric residents where appropriate. Student will receive weekly feedback and a final evaluation with formative and summative comments based on clinical performance, knowledge and skills.</p>	

Course: Pediatric ICU Acting Internship	
Course Instructor(s):	Amy Lindmark, DO
Duration:	4 weeks
Location:	LVHN-Cedar Crest
Prerequisites:	Maternal Newborn Pediatrics or Women's Health Pediatrics course; Two weeks prior inpatient Pediatrics experience is required.
Description:	
<p>This acting internship/elective will provide the student with practical experience in Pediatric Critical Care Medicine. The student will participate in the medical care of acute and chronically ill hospitalized children in our Pediatric ICU, with the region's only Pediatric Trauma and Burn services. In the PICU, the student will participate as a member of the clinical team which consists of attending and resident physicians. He or she will function as an acting intern/sub-intern in the care and management of hospitalized children with supervision and guidance by critical care pediatricians and critical care pediatric nurses.</p> <p>In addition to the learning opportunities provided by hands-on patient care, the educational experience is supplemented by a didactic lecture series for medical students, biweekly morning report case conference and weekly Pediatrics Grand Rounds. Medical students will be on call overnight on an average of once weekly during the rotation.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Assess pediatric patients to determine severity of illness and decide if hospitalization/ long-term monitoring is required. 2. Identify life threatening symptoms and respond appropriately to stabilize the child. 3. Identify and explain the various monitoring strategies available in the PICU. 4. Interpret laboratory results and use that knowledge to develop a treatment plan. 5. Explain the basic assessment of pediatric ABCs (airway, breathing, circulation) and demonstrate basic airway skills. 6. Discuss methods used to provide enteral and parenteral nutritional supplementation. 7. Be able to maintain a medical record by preparing intensive care unit progress notes. 8. Explain the pathophysiology and treatment of common medical conditions arriving in the PICU. 9. Summarize the role of pharmacology in the PICU and be aware of the indications and contraindications for specific drugs. 	
Evaluation Methods:	
<p>Student will be evaluated on multiple aspects of patient care and clinical performance during their 4 week rotation. The student will have direct observation and be precepted by pediatric faculty and pediatric residents where appropriate. Student will receive weekly feedback and a final evaluation with formative and summative comments based on clinical performance, knowledge and skills.</p>	

Course: Pediatric Pharmacology	
Course Instructor(s):	Jenny Boucher, Pharm. D, BCPS
Duration:	4 weeks
Location:	LVHN-Cedar Crest
Prerequisites:	Maternal Newborn Pediatrics or Women's Health Pediatrics course. The student must obtain approval from Dr. Boucher prior to scheduling this elective. It would be helpful to have rounded with a medical team but not an absolute requirement.
Description:	
<p>Pharmacokinetics and pharmacodynamics of medications will be the main focus of the elective. Students will be tasked to review literature, summarize findings, and explain outcomes for drug information projects the preceptor assigns. There will be a number of projects students will perform that will be designed to allow them to enhance both scientific literature searching skills as well as understanding of drug pharmacokinetics as it relates to patient treatments and decision making.</p> <p>Students will follow patients on a pediatric medical team on a rotating schedule provided by the preceptor. Students will concentrate on drug selection and dosing based on disease state management and available evidence-based data. Students will discuss therapies with the preceptor with respect to diagnosis as it relates to drug selection and drug dosing.</p> <p>Students will also perform drug information activities that relate to patients they are following on rounds. Preceptor will provide an overview and guidance related to literature search and assessment for drug information responses.</p> <p>Students may spend a small amount of time with a clinical staff pharmacist to get a sense of their activities and perspective. Some flexibility may be available with this elective if students have special topic interests.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Perform scientific literature searches to: investigate questions regarding drug therapy and dosing, obtain the most relevant and up-to-date evidence based practice, and find pharmacokinetic information on specific drugs of interest. 2. Provide drug information and analyze drug pharmacokinetic and pharmacodynamic properties. 3. Compare and contrast the most common antibiotics for pediatric patients. 	
Evaluation Methods:	
<p>The preceptor will provide feedback at frequent meetings as well as at mid-point and end-point of the rotation. The student will be expected to complete the tasks that have been assigned and meet the deadlines required for completing the tasks. The student will be expected to display dedication to completing the assigned tasks, as well as communicating any questions or issues to the preceptor openly and in a timely manner. The student will be providing the preceptor with multiple written assignments that will be evaluated based on content and organization. The student will be expected to diligently exert required effort to complete the assigned work, with the preceptor's assistance as required. The student should expect to give a PowerPoint presentation with patient case at the end of the rotation that will be graded based on content, organization, and professional demeanor.</p>	

Course: Pediatric Pulmonology	
Course Instructor(s):	Michael S. Schwartz, MD
Duration:	4 weeks
Location:	1210 S. Cedar Crest, Suite 2700 (LVHN-Cedar Crest campus)
Prerequisites:	Maternal Newborn Pediatrics or Women's Health Pediatrics course; The student must get approval from Kate Adams who is the pediatric residency administrator. She will be able to coordinate elective rotation scheduling so that it does not conflict with pediatric residents rotating in their pulmonary elective.
Description:	
<p>This course will introduce the student to pediatric respiratory care. The student will work in an outpatient setting to diagnose and treat common respiratory afflictions in children. Respiratory symptoms and problems are among the most common reason for childhood physician encounters, and are a chief cause of school absenteeism, hospital admission and impairment of normal play and sports. For all these reasons it is essential that the student become familiar with the recognition, diagnosis and care of respiratory diseases in children.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Recognize the differential diagnosis of common respiratory signs and symptoms and apply history and physical exam skills to revise these differential diagnoses in the patients encountered in daily practice. 2. Demonstrate physical exam skills specific to the respiratory system. 3. Explain the basics of outpatient management for common respiratory disorders including asthma, chronic lung disease of infancy (broncho pulmonary dysplasia), cystic fibrosis, rhinosinusitis, and sleep-disordered breathing. 4. Recognize the effects of neuromuscular and gastrointestinal diseases on the respiratory system (muscular dystrophy, neurodevelopmental impairment, aspiration, gastroesophageal reflux disease) and explain the fundamental evaluation and treatment of patients with these disorders. 5. Identify the indications for and develop basic skills in the interpretation of common respiratory diagnostic procedures/testing (including flexible fiber optic bronchoscopy, pulmonary function testing, polysomnography, and chest imaging). 6. Master basic interpretation of spirometry and identify the indications for other pulmonary function tests such as lung volume measurements, negative inspiratory force/maximal inspiratory pressure and diffusion capacity. 7. Name and summarize the current NIH Guidelines for the diagnosis and management of asthma. 8. Discuss the general pediatrician's role in the outpatient management of cystic fibrosis. 9. Recognize sleep disorders in children and identify the appropriate diagnostic steps in evaluating the child for obstructive sleep apnea. 	
Evaluation Methods:	
<p>The evaluation will be based on clinical evaluations by the faculty members who work with the student during their rotation.</p>	

Course: Pediatric Radiology

Course Instructor(s):	Alexander Kowal, MD
Duration:	4 weeks
Location:	LVHN-Cedar Crest
Prerequisites:	Maternal Newborn Pediatrics or Women's Health Pediatrics course

Description:

The student will gain one-on-one didactic and practical experience and training in correctly ordering, protocoling and interpreting various diagnostic imaging examinations and procedures. On a case by case basis, the student will discover and discuss the imaging findings and formulate age specific differential diagnoses tailored to pediatric patients. The student will observe and participate in various invasive procedures in fluoroscopy, ultrasound, CT and interventional radiology/angiography, when applicable to the pediatric patient. The student will also gain exposure to nuclear medicine and PET/CT imaging when applicable to the pediatric patient.

The course of study will also include department and interdepartmental conferences, one-on-one didactic teaching by attending radiologists and the use of audio-visual aids including online pediatric radiology teaching files and courses.

Objectives:

1. Identify and explain indications / contraindications for common pediatric radiographic tests.
2. Develop clinical judgment regarding the appropriate use of radiographic examinations.
3. Identify alternatives to radiography, fluoroscopy and CT in the pediatric patient.
4. Identify and institute pediatric specific protocols in common examinations.
5. Interpret common pediatric radiographic examinations.
7. Identify and discuss imaging concerns directly applicable to the pediatric patient, including radiation exposure, child life assistance, and sedation.
7. Integrate information into a multidisciplinary approach to radiologic care and services.
8. Communicate effectively with patients, family members, and members of the health care team.

Evaluation Methods:

The evaluation will be based on clinical evaluations by the faculty members who work with the student during the rotation.

Course: Pediatric Sedation	
Course Instructor(s):	Samuel Umaru, MD & John Lindmark, DO
Duration:	2 weeks
Location:	LVHN-Cedar Crest
Prerequisites:	Maternal Newborn Pediatrics or Women's Health Pediatrics course
Description:	
<p>This course allows students to learn in a pediatric inpatient setting the basic principles and practice of pediatric procedural sedation. Students will be able to assess, evaluate and participate in the monitoring of sedation. Emphasis is placed on the review of relevant pharmacologic principles and techniques of sedative drugs and pain management.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Demonstrate the ability to conduct a comprehensive pre-sedation evaluation that includes a focused history and physical exam. 2. Explain indications and contraindications for each sedative drug classification. 2. Acquire and review pertinent medical records, select appropriate sedative and/or analgesia and develop a plan to manage pain. 4. Accurately calculate dosage and predict the effect the medication will have on patient. 5. Demonstrate the ability to properly use equipment designed to monitor sedated child. 	
Evaluation Methods:	
<p>The evaluation will be based on clinical evaluations by the faculty members who work with the student during their rotation.</p>	

Course: Outpatient Pediatrics	
Course Instructor(s):	Elaine Donoghue, MD
Duration:	4 weeks – 2 weeks in clinic and 2 weeks in private practice setting
Location:	LVHN-17 Pediatric Clinic and LVPG ABC at Health Center/Bethlehem
Prerequisites:	Maternal Newborn Pediatrics or Women's Health Pediatrics course
Description:	
<p>In both settings, the student will independently see and evaluate children for sick visits with the opportunity to schedule well visits under the supervision of attending physicians. He or she will function as an acting intern/subintern in these ambulatory care settings. Students will see patients and present their visit to a supervising faculty member.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Demonstrate the ability to perform detailed histories, physical examinations and evaluations of children and adolescents presenting for routine well-child care. 2. Demonstrate the ability to acquire, critically interpret and apply established and evolving medical knowledge to patient care. 3. Explain the importance of childhood immunizations and identify the current recommended vaccination schedule. 4. Identify the sequence of normal childhood development and assess the developmental milestones in the primary care setting. 5. Evaluate and assess children and adolescents presenting for a sick-visit. 6. Identify and articulate age-based preventive care and anticipatory guidance to parents and caregivers during a primary care visit. 7. Display effective communication skills by exchanging information in a thoughtful and clear manner with patients, families, faculty, nurses, staff and other health care providers. 	
Evaluation Methods:	
<p>Student will be evaluated on multiple aspects of patient care and clinical performance during their 4 week rotation. The student will have direct observation and be precepted by pediatric faculty and pediatric residents where appropriate. Student will receive weekly feedback and a final evaluation with formative and summative comments based on their clinical performance, knowledge and skills.</p>	

Course: Radiology	
Course Instructor(s):	Alexander Kowal, MD
Duration:	2 or 4 weeks
Location:	LVHN-Cedar Crest
Prerequisites:	None
Description:	
<p>The student will gain didactic and practical experience and training in invasive procedures, nuclear medicine, and various modalities of diagnostic radiology including ultrasound, CT and MRI.</p> <p>Students will acquire experience in ordering and sequencing imaging examinations, correlating various examinations with clinical problems. Intrinsic to this experience will be elementary interpretation of images in the Diagnostic Radiology and Nuclear Medicine Departments.</p> <p>The course of study will also include department and interdepartmental conferences, one-on-one didactic teaching by attending radiologists and the use of audio-visual aids.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Identify and explain the indications/ contraindications for common radiographic tests. 2. Accurately interpret common radiographic tests. 3. Develop clinical judgment regarding the appropriate use of radiographic tests. 4. Select appropriate consultants to assist in patient care. 5. Integrate information into a multidisciplinary approach to radiologic care and services. 6. Communicate effectively with patients, family members, and members of the health care team. 	
Evaluation Methods:	
<p>Students will be graded based on clinical evaluations from their preceptors.</p>	

Course: Advanced Surgical Intensive Care	
Course Instructor(s):	Joseph Stirparo, MD
Duration:	4 weeks
Location:	LVHN-Cedar Crest and associated sites
Prerequisites:	Surgical Care course
Description:	
This is a clinical rotation that includes graded responsibility, as well as regular formal instruction in techniques of management of critical surgical illness. Students selecting this course are assigned a full time, co-management role in the SICU.	
Objectives:	
<ol style="list-style-type: none"> 1. Develop an understanding of common surgical complications, preoperative preparation of the complex surgical patient, and practical application aspects of ICU care to include but not limited to hemodynamic monitoring, ventilator management and nutrition. 2. Describe the acute phase response patients undergo with respect to their disease processes and surgical procedures with an emphasis on fluid and electrolyte balance. 	
Evaluation Methods:	
Students will be evaluated based on their clinical performance (100%).	

Course: Cardiothoracic Surgery	
Course Instructor(s):	Tim Misselbeck, MD
Duration:	4 weeks
Location:	LVHN-Cedar Crest and associated sites
Prerequisites:	Surgical Care course
Description:	
<p>The student will participate in pre-operative evaluation, assist at surgery and procedures and be involved in post-operative management in a one-on-one relationship with an attending surgeon or a resident. Because of the size and complexity of this division, which includes open heart and thoracic activities, it is recommended that the student discuss personal goals with the chief of the division before starting the course.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Participate in pre-operative evaluation of the patient. 2. Participate in the post-operative management of the patient. 3. Assist with designated procedures in the operative suite. 4. Describe the pathophysiology of cardiothoracic disorders. 5. Identify and discuss personal goals to be addressed during the elective 	
Evaluation Methods:	
<p>Students will be evaluated based on their ward performance.</p>	

Course: Colorectal Surgery	
Course Instructor(s):	Robert Sinnott, MD
Duration:	2 or 4 weeks
Location:	LVHN-Cedar Crest and associated sites
Prerequisites:	Surgical Care course
Description:	
<p>The student will participate in a busy service with colon-rectal surgery residents. This rotation addresses common disorders that the student may encounter whether he or she should choose to specialize in general surgery, internal medicine or family practice. Additionally, the rotation focuses on colon-rectal surgery and provides opportunities in sigmoidoscopy, fiber optic colonoscopy and the evaluation and care of colon and rectal disorders arising from systemic disease.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Develop an understanding of the pathophysiology of common colorectal diseases. 2. Create a differential diagnosis of colorectal disorders 3. Describe treatment and surgical options for colorectal disorders 4. Observe or participate in colorectal procedures and colonoscopies 5. Identify the relation of such disorders to systemic disease 	
Evaluation Methods:	
<p>Students will be evaluated based on their ward performance.</p>	

Course: General Surgery Acting Internship	
Course Instructor(s):	Joseph Stirparo, MD/Scott Beman, MD
Duration:	4 weeks
Location:	LVHN-Cedar Crest and associated sites
Prerequisites:	Surgical Care course
Description:	
<p>The student will work with a high-volume division of general surgery and will be responsible to the senior surgical resident on the service. Activities will include participation in preoperative evaluation, surgical procedures and post-operative care. The student will have the opportunity to attend outpatient office hours or clinic. Students may utilize the surgical skills lab to practice with tasks trainers and simulators. Attendance will be required at Grand Rounds, Morbidity, and Mortality Conference, and various other conferences. The student will perform histories and physical examinations, write all progress notes, and write orders for diagnostic and therapeutic intervention with supervision from house staff. Students will be encouraged to perform procedures such as CVP placement, invasive monitoring line placement, chest tube placement, etc., with appropriate supervision. Operating room experience will also be extensive.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Perform history and physical examinations. 2. Write progress notes, and orders for diagnostic and therapeutic intervention with supervision from house staff. 3. Develop an understanding of surgical disease and the role of house staff. 3. Perform procedures to include CVC placement, invasive monitoring line placement, chest tube placement, etc. with appropriate3 supervision 4. Perform operative procedural skills (e.g. suturing, knot tying, etc.) as permitted and under the supervision of the attending surgeon. 	
Evaluation Methods:	
Students will be evaluated based on their clinical performance (100%).	

Course: Neurosurgery	
Course Instructor(s):	P. Mark Li, MD
Duration:	2 or 4 weeks
Location:	LVHN-Cedar Crest and associated sites
Prerequisites:	Surgical Care and Psychiatry/Neurology courses
Description:	
<p>The student will be associated with neurosurgical surgeons whose patients' exhibit a wide spectrum of neurological problems, including brain and cord neoplasm and acute and chronic cranial and cord trauma. Activities will include bedside neurological diagnosis, assisting in the neurological operating room, participating in rounds and observing angiographic and CT diagnostic procedures. Prerequisites are introductory surgery and clinical neurology rotations.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Describe common neurosurgical disorders 2. Be able to develop a differential diagnosis for a patient with neurosurgical disease 3. Assist in neurosurgical cases and procedures 4. Participate in daily rounds and evaluations of patients. 	
Evaluation Methods:	
<p>Students will be evaluated based on their ward performance.</p>	

Course: Orthopedic Surgery	
Course Instructor(s):	Eric Lebby, MD
Duration:	4 weeks
Location:	LVHN-Cedar Crest and associated sites
Prerequisites:	Surgical Care course
Description:	
<p>Students may work within specialized areas or a combination of areas: Orthopedic Trauma, Sports Medicine, Joint Implant/Reconstruction, Spine Surgery, Hand Surgery and the Foot and Ankle. Exposure to all specialty areas is available. The student will participate in operative procedures and in office orthopedics. There are combined weekly division meetings and daily specialty case presentations in formal and informal settings. An opportunity to participate in research projects in any of the specialized areas is available to interested students.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Participate in orthopedic procedures 2. Participate in the office evaluation of patients. 3. Develop an understanding of orthopedic treatment options. 4. Identify areas of interest in orthopedics and discuss with course director 	
Evaluation Methods:	
<p>Students will be evaluated based on their ward performance.</p>	

Course: Otolaryngology (ENT) Acting Internship

Course Instructor(s):	Paul Lemberg, MD
Duration:	4 weeks
Location:	LVHN-Cedar Crest and associated sites
Prerequisites:	Surgical Care course
Description:	
This clinical acting internship is designed to provide an in-depth experience in the practice of otolaryngology. Students will participate in the preoperative study of patients in private offices and will follow them upon their admission to the hospital. They will assist at the operative procedures on selected patients and will be expected to follow their postoperative course. Opportunity will also be afforded to carry out long-range observation of postoperative results in patients who have previously been treated for otolaryngological problems.	
Objectives:	
<ol style="list-style-type: none">1. Demonstrate knowledge in the otolaryngological head and neck exam.2. Discuss a variety of ear, nose, and throat disorders such as acute respiratory obstruction, hearing loss, dizziness, sinusitis, external otitis, otitis media, modern diagnosis and management of head and neck cancer, maxillofacial trauma, epistaxis, hoarseness, and dysphasia.	
Evaluation Methods:	
Students will be evaluated based on their ward performance.	

Course: Otolaryngology (ENT)	
Course Instructor(s):	Paul Lemberg, MD
Duration:	4 weeks
Location:	LVHN-Cedar Crest and associated sites
Prerequisites:	Surgical Care course
Description:	
<p>This clinical rotation is designed to provide experience in the practice of otolaryngology. Students will participate in the preoperative study of patients in private offices and will follow them upon their admission to the hospital. They will assist at the operative procedures on selected patients and will be expected to follow their postoperative course. Opportunity will also be afforded to carry out long-range observation of postoperative results in patients who have previously been treated for otolaryngological problems.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Demonstrate knowledge in the otolaryngological head and neck exam 2. Discuss a variety of ear, nose, and throat disorders such as acute respiratory obstruction, hearing loss, dizziness, sinusitis, external otitis, otitis media, modern diagnosis and management of head and neck cancer, maxillofacial trauma, epistaxis, hoarseness, and dysphasia. 	
Evaluation Methods:	
<p>Students will be evaluated based on their ward performance.</p>	

Course: Plastic Surgery Acting Internship	
Course Instructor(s):	Marshall Miles, DO
Duration:	4 weeks
Location:	LVHN-Cedar Crest and associated sites
Prerequisites:	Surgical Care course
Description:	
An acting intern experience with a plastic surgery service with a varied case load is offered. The service is oriented to trauma, facial, hand, cancer and cleft-palate surgery as well as reconstructive and cosmetic surgery. Exposure to the Regional Burn Center located at Lehigh Valley Health Network is also provided. The student will work with attending surgeons and plastic surgery residents.	
Objectives:	
<ol style="list-style-type: none"> 1. Develop an understanding of the varied areas of plastic surgery. 2. Participate in the evaluation of plastic surgery patients 3. Participate in the treatment of plastic surgery patients 4. Describe basic plastic surgery principles such as flaps, v-y advancement, etc. 5. Function as an intern on a plastic surgery service. 	
Evaluation Methods:	
Students will be evaluated based on their clinical performance (100%).	

Course: Plastic Surgery	
Course Instructor(s):	Marshall Miles, DO
Duration:	2 or 4 weeks
Location:	LVHN-Cedar Crest and associated sites
Prerequisites:	Surgical Care course
Description:	
<p>A rotation with a plastic surgery service with a varied case load is offered. The service is oriented to trauma, facial, hand, cancer and cleft-palate surgery as well as reconstructive and cosmetic surgery. Exposure to the Regional Burn Center located at Lehigh Valley Health Network is also provided. The student will work with attending surgeons and plastic surgery residents.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Develop an understanding of the varied areas of plastic surgery. 2. Participate in the evaluation of plastic surgery patients 3. Participate in the treatment of plastic surgery patients 4. Describe basic plastic surgery principles such as flaps, v-y advancement, etc. 	
Evaluation Methods:	
<p>Students will be evaluated based on their ward performance.</p>	

Course: Retinal Surgery	
Course Instructor(s):	Maz Kazahaya, MD
Duration:	2 or 4 weeks
Location:	LVHN-Cedar Crest and associated sites
Prerequisites:	Surgical Care course
Description:	
<p>Students will evaluate patients with diabetic retinopathy, hypertensive retinopathy, senile macular degeneration, retinal detachments, intraocular tumors, and uveitis using direct and indirect ophthalmoscopy and slit lamp examination of the fundus. Students will learn the interpretation of fundus fluorescein angiography and ultrasonography. They will participate in argon and krypton laser photocoagulation, intraocular injections, scleral buckles, vitrectomies, and radiation plaque therapy. For those interested in ophthalmology as a career, this course is an opportunity to learn the most advanced diagnostic and therapeutic techniques used in eye care today. Those interested in family practice, internal medicine, geriatrics, and endocrinology will see the retinal pathology most often encountered in their future specialty and learn the resources that are available for evaluation and treatment. In the last week of the rotation, the student is required to present and discuss a patient they have evaluated during the course at the departmental case conference..</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Evaluate patients with a variety of retinal disorders utilizing direct and indirect ophthalmoscopy and slit lamp examination of the fundus. 2. Interpret fundus fluorescein angiography and ultrasonography. 3. Participate in argon and krypton laser photocoagulation, intraocular injections, scleral buckles, vitrectomies, and radiation plaque therapy. 	
Evaluation Methods:	
<p>Students will be evaluated based on their clinical performance (100%).</p>	

Course: Transplant Surgery	
Course Instructor(s):	Michael Moritz, MD
Duration:	4 weeks
Location:	LVHN-Cedar Crest and associated sites
Prerequisites:	Surgical Care course
Description:	
<p>Students will work under the direct supervision of the transplant surgeons.</p> <p>This elective is designed to offer students active participation in organ procurement and transplantation (kidney, pancreas). Students will be directly involved with the evaluation and work up of possible renal transplant recipients, observe surgery, and play an active role in the inpatient and outpatient postoperative management of transplant patients, which includes the identification, management and treatment of infections, rejection, and complications.</p> <p>Students will receive an overview of all aspects involved in renal transplantation, from donor identification through clinical transplantation and long term follow up. They will gain insight and experience in the area of transplantation immunology.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Understand transplant immunology, cross matching, compatibility as related to organ transplantation. 2. Describe the multidisciplinary approach to evaluation of patients for transplantation and post transplant care. 3. Discuss the ethics of organ donation and organ allocation. 4. Learn principles of donor and recipient transplant surgery. 5. Comprehend the routines and complexity of post transplant care, both inpatient and outpatient. 	
Evaluation Methods:	
<p>Students will be evaluated based on their performance in 3 settings: operating room (50%), inpatient (25%), outpatient (25%).</p>	

Course: Trauma Surgery Acting Internship	
Course Instructor(s):	Joseph Stirparo, MD
Duration:	4 weeks
Location:	LVHN-Cedar Crest and associated sites
Prerequisites:	Surgical Care course
Description:	
As a member of the trauma team, along with attending surgeons and house officers in a state designed Level 1 Trauma Center. The student will participate in the resuscitation of all multi- trauma patients, definitive surgery and critical care. Emphasis is on the pathophysiology of trauma, including metabolic, hemodynamic, cardiopulmonary and nutritional requirements. The student will report to the chief surgical resident and attending trauma surgeon.	
Objectives:	
<ol style="list-style-type: none"> 1. Understand the principles of Advanced Trauma Life Support (ATLS) and how it applies to trauma patient care. 2. Describe the principles in the acute phase of trauma resuscitation. 3. Describe the management of the critically ill trauma patient including invasive monitoring, nutrition, ventilator management and operative interventions. 4. Describe the management of severe traumatic brain injury including interventions regarding cerebral perfusion pressures. 5. Compare and contrast the patterns of injury for both blunt and penetrating trauma. 	
Evaluation Methods:	
Students will be evaluated based on their clinical performance.	

Course: Urology	
Course Instructor(s):	Angelo A. Baccala, Jr., MD
Duration:	2 or 4 weeks
Location:	LVHN-Cedar Crest and associated sites
Prerequisites:	Surgical Care course
Description:	
<p>The student will rotate on the Urological Surgery service as an acting intern, being exposed to the office practice of urology in addition to surgical and consultative experiences. The student is expected to develop a basic fund of knowledge concerning common urologic malignancies, urinary functions, urinary stone disease and voiding function.</p>	
Objectives:	
<ol style="list-style-type: none"> 1 Understand the basics of and be involved in open, endourological, and advanced laparoscopic and robotic surgical cases. 2 Describe the broad concepts and specific data regarding the evaluation, diagnosis, and management of the common diseases of the genitourinary tract 3 Exposure to clinics where the student will receive a broad exposure to ambulatory urological care and provide them with an opportunity to take urologic histories and physicals, and have exposure to common urologic disorders. 4 Assist with various surgical and office procedures and to participate in floor rounds. 5 Participate in the care of pre- and post-operative patients on the nursing units. This care takes the form of dressing changes, wound packing, suture and drain removal. 	
Evaluation Methods:	
<p>Our goal is to provide each student with a comprehensive experience encompassing both "textbook" didactic knowledge as well as a practical approach to patient care. Students will have assigned reading each week that is pertinent to urology as well as a final mock oral exam reviewing major topics covered in the readings as well as in OR experiences. The oral exam will examine work-up, treatment, and follow-up of various common urologic problems.</p>	

Course: Vascular Surgery Acting Internship

Course Instructor(s):	Alan Berger, MD
Duration:	4 weeks
Location:	LVHN-Cedar Crest and associated sites
Prerequisites:	Surgical Care course
Description:	
The student is expected to function as a subintern on a team with residents and attending surgeons. This service generates an active schedule of operations and arteriograms daily, including endovascular procedures. Additionally, the student will become familiar with work in the Non-Invasive Vascular Laboratory and Interventional Radiology.	
Objectives:	
<ol style="list-style-type: none">1. Describe a variety of noninvasive vascular diagnosis2. Interpret physiologic data relative to angiographic findings and clinical symptoms.3. Experience the role of an intern on the vascular surgery service in all aspects of patient care4. Compare operative and non-operative therapy for a wide variety of arterial and venous diseases.	
Evaluation Methods:	
Students will be evaluated based on their clinical performance (100%).	

Course: Vascular Surgery	
Course Instructor(s):	Alan Berger, MD
Duration:	4 weeks
Location:	LVHN-Cedar Crest and associated sites
Prerequisites:	Surgical Care course
Description:	
<p>The student is expected to function on a team with residents and attending surgeons. This service generates an active schedule of operations and arteriograms daily, including endovascular procedures. Additionally, the student will become familiar with work in the Non-Invasive Vascular Laboratory and Interventional Radiology.</p>	
Objectives:	
<ol style="list-style-type: none"> 1. Describe a variety of noninvasive vascular diagnosis 2. Interpret physiologic data relative to angiographic findings and clinical symptoms. 3. Compare operative and non-operative therapy for a wide variety of arterial and venous diseases. 	
Evaluation Methods:	
<p>Students will be evaluated based on their ward performance</p>	