

## INTRODUCTION AND GENERAL SUMMARY

A minimum of 24.5 weeks/955 hours are required for the M.D. degree. This provides a valuable opportunity for advanced study in the fields of medicine and the biological sciences through a process that is, as far as possible, open to the students' election. The chief constraint sets in when too many students ask for the same course at the same time. The sequence of electives can often be arranged to meet a student's desires and needs.

In addition to the 24.5 weeks of elective credit, **students must also complete two required electives.** These two electives include: one **advanced clerkship** (either the Advanced Clerkship in Critical Care or the Advanced Ambulatory Clerkship), and **one approved Subinternship experience.** Each of these clerkships is 4.5 weeks in length.

Students should consult freely with members of the faculty, the Associate Dean for Medical Student Affairs and Colleges Advisors in developing their programs. The ultimate responsibility for arranging the elective course of study rests with the student.

The electives chosen may be any of those formally listed in the elective book and in the catalog, or they may be developed on an individual basis with members of the faculty at Hopkins or elsewhere (approval of the Associate Dean for Medical Student Affairs is required for elective work carried out at other institutions). Only those electives which are considered to be a sound educational experience whether taken at Hopkins or at another institution will be approved.

The Associate Dean and Assistant Deans for Medical Student Affairs will be glad to help with arrangements for electives in other institutions. Remember that at least 15.5 weeks/605 hours must be taken with Johns Hopkins faculty.

Electives are an integral part of the required curriculum and students must register at the Registrar's Office for programs of study. Evaluation of the student's performance must be provided by the faculty preceptor.

### BASIC DEFINITIONS AND RULES

The following information is made as complete as possible to assist in planning an elective program.

#### Definitions of Terms Used in Guidelines:

**Home Department:** any officially designated department of the Johns Hopkins University, including the Bloomberg School of Public Health and the Homewood Schools.

**Faculty Preceptor:** a faculty member who supervises an elective offering. In general, a faculty preceptor will have the rank of assistant professor or higher. The faculty preceptor will also be responsible for providing an evaluation of the student's work at the end of the elective period.

**Internship Advisor:** a faculty member assigned by a department to provide information about internships in the department and elsewhere. Although not directly responsible for electives, internship advisors

are a valuable additional resource in planning a student's course of action. Internship advisors are listed at the end of these guidelines.

**Activities Recommended as Electives:** Elective credit will be given for a program of study that is considered by a faculty member to be a valuable intellectual experience and is approved by the department chairperson. Such activities may include advanced clerkships, individually arranged laboratory or clinical research, or advanced elective courses. Students may also undertake projects of their own within the framework of the laboratory or clinical activities of a home department so long as a faculty member approves it. However, unstructured, and unsupervised attendance at seminars and conferences is not acceptable for elective credit.

**Research Electives:** Research electives are arranged between the student and a faculty preceptor. No specific period of time need be spent on a project, but many faculty preceptors feel that a profitable research experience requires at least one full quarter (nine weeks). Students who undertake research during an elective quarter may also do some clinical work and attend conferences or seminars in any department if approved by their Faculty Preceptor.

**Other Activities in the Home Department:** During an elective period, students are considered junior members of the home department. As such, they are expected to participate in department conferences and other activities. Their role should be that of an active contributor rather than a passive observer.

**Electives Other Academic Institutions:** Elective study at other institutions must be approved by the Associate Dean for Medical Student Affairs. A letter of acceptance must be obtained from the sponsor at the outside institution and submitted along with the student's elective registration form and a list of goals and objectives. Assistance in arranging for electives elsewhere is also available in the Office of Medical Student Affairs. In general, externships or clinical clerkships at hospitals not directly affiliated with a medical school will not be approved.

**Evaluation of Performance during an Elective:** Faculty Preceptors will submit an evaluation and characterization of each student's performance at the end of each elective experience. Satisfactory completion of an elective is required in order to receive credit toward the M.D. degree.

**Stipends for Elective Activities: Students** may apply toward meeting the required 24.5 weeks/955 hours no more than 13.5 weeks of credit for which they also receive remuneration. Excluded from this limitation are prizes and merit awards (e.g., the Denison Scholarships). However, it is recognized that some sources of funding may prohibit award of academic credit.

**Vacation:** The curriculum provides flexibility in scheduling vacation periods.

#### **FORMS AND ASSOCIATED DEADLINES AND RULES**

Students must complete a registration form for each elective experience in order to receive academic credit. The forms are available on the [JHUSOM Registrar Self-Service portal](#). After completing an elective registration form, the student must have it signed by the course director. If the elective is an experience outside of the Hopkins system, the student will need to obtain the signature of the Associate Dean for Medical Student Affairs. Students are expected to consult with their advisors about their academic program at regular intervals. It is the responsibility of the student to see that the Elective

Registration Form is completed and submitted to the Registrar's Office in a timely manner. The deadline for submission of the elective registration form is prior to the start of the elective. Effective July 1, 2020, the Office of the Registrar will no longer accept retroactive elective registration forms.

**Drop Form – within the deadline:** The normal deadline for dropping electives is one month prior to the course, with the exception of a two-month deadline for dropping subinternships and certain advanced clerkships. If a student wants to drop a course within the deadline, he or she should submit a drop form to the course director and verify the signed copy has been submitted to the Office of the Registrar prior to submitting a new registration form for that period.

**Late Drop Form:** Changes will not ordinarily be permitted after the deadlines, though students may petition for such changes by submitting a drop form to the Course Director, and the Associate Dean for Medical Student Affairs. The completed form with appropriate signatures should be submitted to the Registrar's Office. Credit will not be given for course work other than that indicated on the most current registration form. If a student fails to attend a course for which they have registered, an incomplete grade will be recorded on the transcript for that course, and the student will not be given credit for any other course during that time period.

#### **RULES CONCERNING REQUIRED SUBINTERNSHIPS AND CERTAIN ADVANCED CLINICAL ELECTIVES**

Certain advanced clinical electives (listed below) are very much in demand. One of the important advantages of these clerkships is the independent responsibility delegated to students so that they play a very active role in patient care. The trade-off is that students registering for these electives must accept the special responsibilities and obligations which they carry to patients, staff, their colleagues, and other members of the health care unit. Last minute dropouts from these courses impose burdens on the clinical unit and often mean lost opportunity for other students who want to participate in the elective. In view of the problems which have resulted from last minute dropouts, the Undergraduate Medical Educational Policy and Curriculum Committee (UMEPCC) adopted the following rules regarding the scheduling process for these rotations:

Students registering for advanced electives with significant patient care responsibilities are obliged to participate in such electives. Changes must be made two months prior to the start of such electives. If a drop is necessary past the deadline, the student may petition for a change by submitting a "Request to Drop Course After Deadline" to the Course Director, and the Associate Dean for Medical Student Affairs, and filing the completed form with the Registrar's Office. Credit will not be given for course work other than that indicated on the most current registration form. If student fails to attend a course for which they have registered, an incomplete grade will be recorded on their transcript for that course, and the student will not be given credit for any other course during that time period.

The following clinical experiences are governed by these rules:

#### **REQUIRED SELECTIVES**

*Approved Subinternship Experience*

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**Prerequisite(s):** Respective Core Clerkship

**Availability/Duration:** Year-round, 4 weeks; follows SOM Academic Calendar quarter dates

**Drop Period:** All scheduling must occur through the Registrar's Office

**Subinternships that fulfill graduation requirements (JHH or Bayview only):**

Emergency Medicine (Prerequisite: Emergency Medicine Core Clerkship)

Subinternship in Emergency Medicine (JHH – Dr. Sharon Bord)

Medicine (Prerequisite: Medicine Core Clerkship)

Subinternship in Medicine – Hospitalist Service (JH Bayview Medical Center) (Bayview – Dr. Rupert Hung)

Subinternship in Medicine (JHH – Dr. Amit Pahwa)

Subinternship in Medicine - Bayview Medical Center (Bayview – Dr. Janet Record)

Subinternship in Medicine - Hospitalist Service (JHH – Dr. Padmini Ranasinghe)

Subinternship in Medicine at JH Howard County Medical Center (Howard County – Dr. Afsheen Siddiqui)

Pediatrics (Prerequisite: Pediatrics Core Clerkship)

Subinternship in Pediatric Primary Care (JHH – Dr. Brandon Smith)

Subinternship in Pediatric Hospital Medicine (JHH – Dr. Amit Pahwa)

Subinternship in Pediatric Emergency Medicine (JHH – Dr. Lauren Kahl)

Surgery (Prerequisite: Surgery Core Clerkship)

Subinternship in Neurosurgical Surgery (JHH – Dr. Timothy Witham)

Subinternship in Noncardiac Thoracic Surgery (JHH – Dr. Richard Battafarano)

Subinternship in Pediatric Orthopaedic Surgery (JHH – Dr. Paul Sponseller)

Subinternship in Orthopaedic Surgery (Bayview – Dr. Amiethab Aiyer)

Subinternship in Otolaryngology (JHH – Dr. Marietta Tan)

Subinternship in Plastic Surgery (JHH – Dr. Salih Colakoglu)

Subinternship in Surgery (JHH – Dr. Alodia Gabre-Kidan)

Subinternship in General Surgery, Bayview Medical Center (Bayview – Dr. Alodia Gabre-Kidan)

Subinternship in Urology (JHH – Dr. Sunil Patel)

Women's Health (Prerequisite: Women's Health Core Clerkship)

Subinternship in Gynecologic Oncology (JHH – Dr. Silka Patel) {offered during Summer pds. 1, 2, and 3}

Subinternship in Gynecology (JHH – Dr. Silka Patel) {only offered during Summer pd. 3}

Subinternship in Gynecology & Obstetrics (Bayview – Dr. Silka Patel) {only offered during Summer pd. 3}

Subinternship in Obstetrics/Maternal Fetal Medicine (JHH – Dr. Silka Patel) {offered during Q3 and Summer pds. 1, 2, and 3}

**The following subinternships do not fulfill this requirement: Dermatology, Psychiatry, Neurology, Cardiac Surgery, and Ophthalmology.**

*Advanced Clerkship in Critical Care*

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**Prerequisite(s):** Medicine or Surgery Core Clerkship, except PICU which has a Prerequisite of Pediatrics

**Availability/Duration:** Available year-round, every half-quarter; follows SOM Academic Calendar quarter dates

**Drop Period:** All scheduling must occur through the Registrar's Office

*Advanced Ambulatory Clerkship*

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**Course Type:** Advanced Clinical Clerkship

**Department/Division:** Internal Medicine

**Course Director:** Dr. Sujay Pathak

**Contact:** Ms. Pamela McCann, [pmccann3@jhmi.edu](mailto:pmccann3@jhmi.edu)

**Faculty:** Drs. Sujay Pathak, Naomi Cutler, Sara Mixter, Holly Dahlman, Sharon Dlhosh, and others

**Availability/Duration:** Available year-round, every half-quarter

**Prerequisite(s):** At least the Medicine Core Clerkship is required; 2-3 clerkships, including Medicine, Pediatrics, or Women's Health preferred.

**Drop Period:** 1 month

**Description:** The Advanced Ambulatory Clerkship combines patient care experience in an outpatient primary care practice with additional experiences in the JH Bayview Geriatric Clinics, Memory Clinic, and Home Care visits. In their assigned outpatient primary care practice, students will work directly under the supervision of one (or more) preceptors in the field of General Internal Medicine or Family Practice. There is a curriculum of online modules that provides background in a number of topics that are relevant to primary and preventive care. Each student learns fundamental broad topics necessary to assess and provide care for adult patients along the continuum of aging.

If you have any questions about these rules and procedures, please do not hesitate to contact Dr. Katherine Chretien, Associate Dean for Medical Student Affairs, (410-955-3416), or William Bryant Faust IV, EdD Associate Dean and Registrar, (410-955-3080).

**GLOSSARY OF TERMS TO DESCRIBE ELECTIVES**

**SUBINTERNSHIP:**

A rotation in which the student assumes the role of an intern, including primary care of patients and sharing night call

**CLINICAL CLERKSHIP:**

A rotation similar to a Core clerkship but with more responsibility for patient care and teaching

**CONSULT SERVICE:**

A rotation in which the student participates in the daily consultative activities of a particular division; may include the selected care of inpatients and outpatients of that division

**TUTORIAL:**

A rotation in which the student works with one or a very few faculty members in tutorial and didactic settings. May be in a clinical or basic science department

**BASIC RESEARCH:**

A rotation in which the student is engaged in laboratory research in a basic science department or in a clinical department

**CLINICAL RESEARCH:**

A rotation in which the student is engaged in research in clinical medicine. May sometimes include laboratory work

## RESIDENCY ADVISORS

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Anesthesiology & Critical Care Medicine	Dr. Tina Tran Bloomberg 6220 <a href="mailto:Ttran32@jhmi.edu">Ttran32@jhmi.edu</a>	410-955-7615
Dermatology	Dr. Daren Simkin <a href="mailto:Dsimkin1@jhmi.edu">Dsimkin1@jhmi.edu</a>	
Family Practice	Dr. Nancy Barr Franklin Square Hospital <a href="mailto:nancy.b.barr@medstar.net">nancy.b.barr@medstar.net</a>	
Medicine	Dr. Sanjay V. Desai <a href="mailto:sanjayvdesai@jhu.edu">sanjayvdesai@jhu.edu</a> Dr. Danelle Cayea <a href="mailto:dcayea1@jhmi.edu">dcayea1@jhmi.edu</a>	410-955-7910
Neurology	Dr. Raf Llinas <a href="mailto:rllinas@jhmi.edu">rllinas@jhmi.edu</a> Dr. Michael Kornberg <a href="mailto:michael.kornberg@jhmi.edu">michael.kornberg@jhmi.edu</a> Dr. Elisabeth Marsh <a href="mailto:ebmarsh@jhmi.edu">ebmarsh@jhmi.edu</a>	
Gynecology & Obstetrics	Dr. Betty Chou	410-955-6710

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	Phipps 227, JHH <a href="mailto:bchou1@jhmi.edu">bchou1@jhmi.edu</a>	
Ophthalmology	Dr. Henry Jampel Woods 177 <a href="mailto:hjampel@jhmi.edu">hjampel@jhmi.edu</a>	
Orthopaedic Surgery	Dr. Dawn LaPorte <a href="mailto:dlaport1@jhmi.edu">dlaport1@jhmi.edu</a>	
	Dr. Michael Ain JHOC 5253 <a href="mailto:main@jhmi.edu">main@jhmi.edu</a>	410-955-9300
Otolaryngology	Dr. Alexander Hillel <a href="mailto:ahillel@jhmi.edu">ahillel@jhmi.edu</a>	
Pathology	Dr. Marissa White <a href="mailto:mwhite44@jhmi.edu">mwhite44@jhmi.edu</a>	410-955-3580
Pediatrics	Dr. Nicole Shilkofski Bloomberg 8464 <a href="mailto:nshilko1@jhmi.edu">nshilko1@jhmi.edu</a>	410-955-2727
Psychiatry	Dr. Vinay Parekh Meyer 4-181, JHH <a href="mailto:vparekh1@jhmi.edu">vparekh1@jhmi.edu</a>	410-955-5514
Radiology	Dr. Liliya Solnes <a href="mailto:lsolnes1@jhmi.edu">lsolnes1@jhmi.edu</a>	
Surgery	Dr. Pamela Lipsett Osler 603 <a href="mailto:plipsett@jhmi.edu">plipsett@jhmi.edu</a>	410-955-3739
Urology	Dr. Marisa Clifton	410-955-2139

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[mmeyer18@jhmi.edu](mailto:mmeyer18@jhmi.edu)

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Internship advisors are available to assist students seeking post-graduate appointments. Students applying in these areas should make appointments to see at least one of the departmental advisors. Students are encouraged to seek additional advice from a variety of faculty, house staff, college advisors and peers. A broad base of information is helpful.

It may also be helpful to talk to some of our recent graduates who are at other institutions. The Office of Medical Student Affairs can provide names and addresses to assist you.

There are some students who will be going into residencies in disciplines other than those listed. While the Associate Dean of Medical Student Affairs can advise students concerning that process, it is also important that students speak with the department or division director in the discipline in which they have interest.

#### **DEPARTMENTAL RECOMMENDATIONS**

The following statements, provided by the clinical departments, suggest curricular choices for students wishing to enter post graduate training in a particular specialty.

#### **ANESTHESIOLOGY**

The basic recommendations for entrance into a residency in Anesthesiology and Critical Care Medicine are:

1. An interest and demonstrated proficiency in basic physiological and pharmacological principles.
2. A solid background in internal medicine, surgery, and/or pediatrics. Anesthesiology requires a clinical base year (medicine, surgery, pediatrics, or transitional) which is either a separate preliminary year or twelve months of basic experience incorporated into the residency itself, depending upon the program. The preliminary year focus should be chosen based on your preferences and skills, although internal medicine is often considered most useful. Elective suggestions for medical students include cardiology, pulmonary medicine, emergency medicine, surgical intensive care, and a medicine or surgery sub-internship.
3. A four-week elective in anesthesiology will allow you to develop an informed specialty decision and permit us to support your application as best we can. Further advanced electives in anesthesiology or anesthesia sub-specialties can be helpful to assist in career decisions and can be tailored to your interests but are not necessary. It is typically not helpful to do away or "audition" rotations in anesthesia.



4. Research in any area (basic science, clinical, biomedical engineering, information management, health policy, etc.) can be relevant to anesthesiology and can greatly enhance an application, although it is not expected or required unless you anticipate an academic career.

5. Personal characteristics suggesting promise in anesthesiology, which include an inquisitive nature, dynamic decision-making skills utilizing multiple variables and hypothesis testing, the ability to maintain a high level of vigilance and detail-oriented approach to patient care, good procedural skills, the desire to work as part of a team, a willingness to be flexible and adapt to different work environments and new technology, and the ability to organize resources and maintain a demeanor of effective leadership in crisis situations.

*Dr. Colleen Koch*

*Chair*

*Department of Anesthesiology and Critical Care Medicine*

## **DERMATOLOGY**

We welcome students to take a dermatology clerkship regardless of the medical discipline they intend to pursue. However, this should take place towards the end of their third year after completing several core clerkships including Medicine, Surgery and Pediatrics. We believe students should receive as broad exposure to medicine as possible before taking our introductory clerkship (Clinical Clerkship in Dermatology) and making career decisions. If further experience/learning is desired, we also suggest taking our Advanced Clinical Clerkship in Dermatology. For those students with a career interest in Dermatology, taking electives in related sub-specialties such as Rheumatology, Immunology, and Plastic Surgery are encouraged.

*Dr. Daren Simkin*

*Assistant Professor, Department of Dermatology*

*Assistant Residency Program Director*

*Director of Medical Student Education*

*Medical Student Rotation Coordinator:*

*Shanika Bennett*

[sbenne17@jhmi.edu](mailto:sbenne17@jhmi.edu)

## **EMERGENCY MEDICINE**

The student interested in a career in Emergency Medicine is well advised to take advantage of the career counseling services available in the Department of Emergency Medicine to aid them in their decision-making process. Students can be advised in the following areas:

1. Personal life/goal planning
2. Careers in Emergency Medicine
3. Medical school rotations

4. Application preparation

5. Interview skills

6. Research exposure

The Department of Emergency Medicine at Johns Hopkins is particularly interested in those students who wish to pursue academic careers, but department members will be happy to advise students contemplating community hospital or private practice careers.

Medical student rotations should emphasize a well-balanced program including: emergency medicine, pediatric emergencies, general surgery and trauma, internal medicine, cardiology, anesthesia, general pediatrics, obstetrics & gynecology, and intensive care rotations. Other recommended rotations include: psychiatry, ophthalmology, orthopaedics, plastic surgery, otolaryngology, neurology, and pulmonary/critical care medicine. Research experience is highly recommended, and opportunities are offered through the Johns Hopkins Department of Emergency Medicine.

Those interested in applying for the Emergency Medicine training program at Johns Hopkins are advised to arrange elective time in late third year or early fourth year. Since specialty training in Emergency Medicine is among the most competitive in the country, it may be wise to arrange an elective at another institution also. Faculty members in the Department of Emergency Medicine can advise in this regard.

*Dr. G. D. Kelen*

*Director*

*Department of Emergency Medicine*

#### **GYNECOLOGY & OBSTETRICS**

For those students who are considering a career in Obstetrics and Gynecology or who desire additional experience in Women's Health, a Subinternship in Obstetrics and/or Gynecology is available. Successful completion of a core clerkship in Obstetrics and Gynecology is a prerequisite for all subinternships.

If the student wishes to take subspecialty electives within the department, there is a choice of gynecology, gynecologic pathology, gynecologic oncology, reproductive endocrinology and infertility, maternal-fetal medicine, family planning, and pelvic medicine and reconstructive surgery, as well as many opportunities for research. Clinical electives are primarily offered when a core clerkship is not in session. Core clerkship dates may be found on the department's medical student website:

[www.hopkinsmedicine.org/gynecology\\_obstetrics/education/medstudents/](http://www.hopkinsmedicine.org/gynecology_obstetrics/education/medstudents/)

Since Obstetrics and Gynecology is a primary care field, the most appropriate use of elective time for students who are committed to specialty training in Obstetrics and Gynecology involves completion of the various subspecialty medical or surgical electives. Although the student is welcome, it is not necessary to take elective courses within the Department of Gynecology and Obstetrics.

All requests for subinternships and electives from the Registrar's Office are initially screened through the department's Office of Medical Student Education (contact Rebecca Slattery at 410-614-0088). All requests for research electives may be directed toward individual faculty, or the student may contact Dr. Silka Patel or Ms. Rebecca Slattery for assistance in finding the appropriate research mentor.

*Dr. Andrew J. Satin*  
*Chair*  
*Department of Gynecology & Obstetrics*

*Dr. Betty Chou*  
*Director of Resident Education*  
*Department of Gynecology & Obstetrics*

*Dr. Silka Patel*  
*Women's Health Clerkship Director*  
*Department of Gynecology & Obstetrics*

### **INTERNAL MEDICINE**

We are looking for people who will become healers and leaders in Internal Medicine. Most successful applicants to the Osler Medical Housestaff Training program will have performed in an outstanding fashion on multiple internal medicine rotations and will have explored beyond the boundaries of the traditional curriculum, e.g., becoming involved in research or community service. We offer a commitment to outstanding patient care, a collegial environment, and an intellectually stimulating experience.

*Dr. Sanjay V. Desai*  
*Director*  
*Osler Residency Training Program*

### **NEUROLOGY CORE CLINICAL CLERKSHIP**

Neurology is part of the core curriculum at the Johns Hopkins University School of Medicine. It is preferred, but not required that students complete their Medicine clerkship before taking Neurology. The clerkship includes both inpatient and consultation services as well as an outpatient experience. For those with an interest in the area of Pediatric Neurology, a request may be made to be placed on that service.

Several Neurology electives are available which students who are interested in a residency in Neurology have found to be a rewarding experience.

For students with further interest, an elective and sub-I rotations in both Adult and Pediatric Neurology are now available.

*Dr. Rachel Salas, Director*  
*Dr. Doris Leung, Co-director*  
*Neurology Core Clerkship*

### **NEUROLOGY RESIDENCY**

[www.hopkinsmedicine.org/neurology\\_neurosurgery/education/residencies/neurology\\_residency/index.html](http://www.hopkinsmedicine.org/neurology_neurosurgery/education/residencies/neurology_residency/index.html)

The residency is a three-year program that follows a required Medicine Internship year. The major goal of the program is to prepare neurologists for a career in academic medicine, beginning with the acquisition of excellent clinical skills. A rich and diversified clinical experience is assured by exposure to

several distinct inpatient services, consultative services, and outpatient settings at the three teaching hospitals.

We have agreements with both the Osler Medical Residency and the Bayview Medical Residency to place neurology applicants in their programs. Students who plan to go on to adult neurology directly after internship must have made this career decision by early in the fourth year of medical school. There is a matching system (ERAS) which accompanies the internship application process.

*Dr. Rafael Llinas*  
*Director, Neurology Residency Program*

*Dr. Michael Kornberg*  
*Associate Director, Neurology Residency Program*

*Dr. Elisabeth Marsh*  
*Associate Director, Neurology Residency Program*

*Dr. Rachel Salas*  
*Director, Neurology Core Clerkship*

*Dr. Doris Leung*  
*Associate Director, Neurology Core Clerkship*

*Dr. Carlos Romo*

*Program Contact*  
*Sandy Vieyra*  
*Medical Training Program Administrator*  
*410 502 0817*  
*svieyra@jhmi.edu*

Pediatric Neurology Residency

[www.hopkinsmedicine.org/neurology\\_neurosurgery/education/residencies/pediatric\\_neurology/index.html](http://www.hopkinsmedicine.org/neurology_neurosurgery/education/residencies/pediatric_neurology/index.html)

The Pediatric Neurology residency at Johns Hopkins is a three-year program that follows a one year required Medicine Internship and one year of Pediatrics. It is designed to train a physician in academic and clinical pediatric neurology. The program stresses the development of competence in several areas including clinical neurology (with inpatient, outpatient, and consultative experiences), neurosurgical problems, and the scientific basis of neurology. Furthermore, the program allows pediatricians with diverse backgrounds and interests the opportunity to develop areas of special competence in specific clinical or research areas. All residents are required to participate in at least one research project under the mentorship of a full-time member of the faculty, to be completed and presented in June of their graduating year.

*Dr. Eric Kossoff*   *Dr. Adam Hartman*  
*Director, Pediatric Neurology Residency Program*   *Associate Director, Pediatric Neurology Residency Program*

## **OPHTHALMOLOGY**

Students who plan to apply for a residency in Ophthalmology should:

1. Meet with the Director of Medical Student Education in Ophthalmology, Dr. Henry Jampel , to discuss scheduling of clerkships and electives: [hjampel@jhmi.edu](mailto:hjampel@jhmi.edu); 410-955-6052

2. Consider the following scheduling guidelines:

Clerkships in Medicine and Surgery, the General Clinical Elective in Ophthalmology, and any other clerkship or elective in a field that is a possible career choice should be scheduled as early as possible in the third year.

3. Students applying for residency in Ophthalmology should plan to do two or three electives in the field.

Other electives that students going into Ophthalmology have found helpful (but not required) are the Advanced Clerkship in Internal Medicine; Subinternship in Medicine at Good Samaritan (Rheumatology or Pulmonary); Dermatology; Radiology and Infectious Disease.

## **PATHOLOGY**

Electives in Pathology provide students an excellent way of broadening their knowledge of medicine and determining their level of interest in the specialty. Most pathology electives give students firsthand knowledge of the central role pathology plays in the diagnosis of disease, and as such, are valuable for students going into almost any clinical specialty. Both general and subspecialty electives in Pathology are available. Electives in anatomic pathology focus on morphologic and histologic diagnosis; those in the clinical laboratory illustrate the effective use and interpretation of laboratory testing, while others provide insight into basic pathogenesis of disease. Dr. Marissa White ([mwhite44@jhmi.edu](mailto:mwhite44@jhmi.edu)) would be happy to discuss elective choices. Students who have already made a firm decision to enter postgraduate training in Pathology should contact the Residency Program Director, Dr. Chris VandenBussche ([cjvand@jhmi.edu](mailto:cjvand@jhmi.edu)), to gain assistance in planning a balanced elective program.

Dr. Karen Sfanos  
Deputy Director for Education

Dr. Ralph Hruban  
Director  
Department of Pathology

## **PEDIATRICS**

Elective experiences offered in the Department of Pediatrics include subspecialty consultation services, research opportunities and subinternships on a variety of services. Subspecialty electives help the student develop specific skills and knowledge and emphasize the development of an approach to patients who have been referred because of their particular problems. Subinternships, whether in the neonatal intensive care unit, on the general pediatric inpatient units, or in the Harriet Lane Clinic, offer the student an opportunity to manage a variety of patients with a higher level of independence than they experienced during the Core clerkship. A wide range of clinical and laboratory research experiences provide students with a close working relationship with faculty mentors and a chance to help define new knowledge, whether the student is an experienced researcher or a beginner. Members

of the pediatric faculty are available to provide guidance and advice for students who seek further experience in pediatrics, whether he/she is certain of the career path or is in the exploration stage. Either Dr. Christopher Golden (Pediatrics Clerkship director) [cgolden@jhmi.edu](mailto:cgolden@jhmi.edu) or Dr. Nicole Shilkofski, (Vice-Chair for Pediatric Education) 410-955-2727 would be happy to discuss elective choices.

*Dr. Tina Cheng  
Director  
Department of Pediatrics*

## **PSYCHIATRY**

Although there are numerous clinical and research electives available in the department, they should not be considered as prerequisites for residency training in psychiatry.

For those students who are considering doing a psychiatry residency, we strongly recommend that they do a subinternship in Psychiatry. However, elective time in psychiatry for these students is also encouraged as it will allow them to clarify their choice and to develop new areas of interest in the field.

We find that the subinternship experience is especially good for those students who wish to find out if they will like psychiatry as a career before making decisions about entering the field. It is also quite helpful for those students who are sure that they are not going into psychiatry but realize that a broadened clinical experience in this field would be useful for them in their chosen specialty. Students who think they might be interested in training in psychiatry should talk with Dr. Vinay Parekh (410-955-5514) as early as possible to get answers to questions and to get advice concerning their educational plans.

*Dr. Vinay Parekh  
Director, Psychiatry Clerkship and Clinical Electives*

## **RADIOLOGY**

Opportunities are available for research projects in magnetic resonance spectroscopy, magnetic resonance imaging, neuroradiology, cardiovascular interventional radiology, computed tomography, positron emission tomography, and diagnostic ultrasound. The successful completion of a research project often enhances a student's likelihood of being selected by a Radiology residency program.

*Dr. Karen Horton  
Director  
Department of Radiology*

## **SURGERY**

Recommended electives: Gastroenterology, Infectious Disease, Nephrology, Cardiology, Pulmonary, and Anesthesiology.

Recommended - Research Experience. This need not be done in a surgical laboratory but may have application to the care of surgical patients. Research in either the laboratory or clinical research setting is acceptable.

Surgery electives that are helpful in making career decisions for other students include: Surgical Subinternship, Surgical Intensive Care, or Elective Clerkships in the Surgical Specialties

Students planning to apply for non-surgical training programs may also find the above surgical electives at Johns Hopkins of benefit to their medical education. Applicants to the Hopkins surgical program are evaluated on an individual basis, and those wishing to be considered for a Hopkins appointment should discuss their decision with either Dr. Alodia Gabre-Kidan (agabrek1@jhmi.edu), or the Director of the appropriate Surgical Specialty Department.

### **OTOLARYNGOLOGY – HEAD AND NECK SURGERY**

Medical students interested in a postgraduate career in Otolaryngology-Head and Neck Surgery should be well grounded in the basic principles of surgery, medicine, and pediatrics. During the third year of medical school, interested students can participate in a two-week elective in Otolaryngology-Head and Neck Surgery during their basic surgical clerkship. The experience gained in this rotation provides front line exposure to all aspects of clinical and surgical care provided within our discipline. For those who are not able to match to that elective, as well as those who wish more of an exposure, there is a senior year elective option which should be taken early in the year. Other useful related electives include Neurosurgery, Ophthalmology, Plastic Surgery and Anesthesiology.

Throughout the United States today, resident candidates are being advised to pursue a meaningful research experience as a medical student. Exposure to well-designed research rotations provides an opportunity to apply prospective, controlled experimental methodologies, and immeasurably strengthens an application for a residency position in Otolaryngology-Head and Neck Surgery.

*Dr. David Eisele  
Director  
Department of Otolaryngology-Head and Neck Surgery*

### **ORTHOPAEDIC SURGERY**

We highly encourage all medical students considering application to an Orthopaedic resident training program to work with our surgeons. All faculty are involved in selecting candidates for post graduate training in Orthopaedics. A student will do best as an Orthopaedic subintern if they are well grounded in surgery and medicine prior to their subinternship. They should take their core clerkships in these fields and exploit the opportunities to learn the fundamentals of Orthopaedics prior to taking an advanced Orthopaedic clerkship. I recommend taking an advanced Orthopaedic clerkship in the institution or with members of the faculty with whom they would like to train. I advise that may take more than an Orthopaedic rotation, Adult Clinical Orthopaedics and Pediatric Orthopaedics. In general, it is best to have electives in two-three training institutions.

Basic medical and surgical clerkships and an advanced Orthopaedic elective should be completed by the end of September of the fourth year, prior to the selection process.

The formal application procedure for the residency, which requires an integrated internship, begins towards the end of the junior year. In addition to obtaining all the relevant application materials,

spending time discussing the various programs with myself as well as another Orthopaedic faculty member at Hopkins can be very useful in paring down the application list.

Appropriate curriculum vitae should be given to all those who have been asked to write letters of recommendation, as well as a list of the people and addresses to which these letters should be sent. The appropriate form of this list should be worked out with each individual person who is writing recommendations for you. Inquire about the preferred format individually.

Although some additional Orthopaedic electives can be taken during the fall of the fourth year, the fourth year is an ideal time to focus education in the medical fields for a unique experience during an Orthopaedic residency.

*James R. Ficke, M.D.  
Director  
Department of Orthopaedic Surgery*

## **UROLOGY**

Urology is a field which integrates both medical and surgical managements of urinary tract system and the male reproductive organs. Urology has been on the cutting-edge of surgical technology including microsurgery, lasers, and minimally invasive surgery (laparoscopy and surgical robotics). Urology is one of the most competitive and highly sought-after specialties to enter for physicians.

The best preparation for students who are considering a career in Urology is to obtain a strong background in surgery and internal medicine. This includes elective rotations in general surgery, a sub-internship on the Urology service, ICU rotation, and advanced clerkships in internal medicine. We also strongly recommend students to do a research project with our clinical or research faculty. This exposure allows the student an opportunity to complete a project, get exposure to the urology faculty who can then write a strong letter of recommendation and allow the student to assess their own enthusiasm for the field. A strong research project is an invaluable asset when interviewing for residency positions.

*Marisa Clifton, M.D.  
Residency Program Director  
Department of Urology*