Department of Surgery Selectives

Description:
The Department of Surgery is pleased to offer the following five Selectives to 3rd and 4th year medical students. All students may register for these courses after finishing their basic science curriculum; there are no prerequisite clinical clerkships.

- Pediatric Surgery
- Surgical Oncology
- Transplantation
- Vascular Surgery
- Endocrine Surgery

These Selectives provide medical students an opportunity to experience an intensive, one month rotation on these services. These Selectives teach the biologic basis of surgical disease, surgical diagnosis, operative management, and the interdisciplinary nature of surgical disease.

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Goals of the Surgical Selectives: The goal of the Selectives in surgery is to allow students an in-depth exploration of a surgical specialty, integrating the basic sciences into a clinical setting.

Objectives of the Selective: Specific objectives are discussed in each section. All students are expected to

- Show an in-depth understanding of the surgical specialty
- Relate the basic mechanisms of disease to clinical surgical practices
- Describe the multidisciplinary approach to patient care

Key Responsibilities of the student while on Selective:

- A key goal is to understand the pathophysiology of the disease process and its treatment from a medical, surgical, and biologic basis. Students will work closely with basic science faculty to explore the pathophysiology relevant to their patients’ disease processes.

- Each student will be responsible for the care of patients under the supervision of house staff and faculty. Students will write admission notes, brief operative reports, consult notes, and progress notes on their patients.

- Students are expected to prepare for rounds and the operating room by reading about diseases and procedures relevant to their patients.

- All students will deliver a Power Point presentation on a basic science article with clinical relevance.

Didactic Program:
The majority of teaching during this clerkship will occur during rounds, in clinics, in the operating room, and during interactions with basic science faculty. There will be formal links to appropriate basic science departments (e.g. pediatric surgery and embryology). Students will be expected to take night call, as
determined by their clinical team. Students are responsible for attending all teaching conferences, and must present formally during Journal Club.

**Method of Evaluation:**
Attendance, honesty, and demonstration of responsibility for the care of patients are absolute requirements for successful completion of each Selective. The student will be responsible for attending office hours or clinic at least once a week, and should scrub on as many operative cases as possible. Clinical evaluations will be based these encounters. The Basic Science faculty will evaluate the student based on their interactions with the students during their individual encounters. The Selective director will provide guidance for career planning, as well as performance evaluation during the clerkship, including extensive evaluative comments on both the student’s clinical and professional performance.

In addition, all Selective students will be asked to deliver a PowerPoint presentation on a basic science article pertaining to their area. The presentation should explain the article and how it relates to clinical medicine. Students will be expected to field questions about the article, and will also be evaluated on the clarity of their delivery. Students will be evaluated by faculty and fellow Selective students on their presentation.

The Selective director will be responsible for assigning a grade of Honors, High Pass, Pass or Fail. Fail grades will be awarded for students who display unprofessional behavior. A grade of Fail will require a remediation program designed by the Selective Director and educational consultant Dr. Adina Kalet.

The total grade will be compiled as follows:
30% Clinical Director
30% Chief Resident
20% Basic Scientist,
20% compiled Journal Club presentation evaluations
Title: Pediatric Surgery Selective

Course Director: Dr. Keith A. Kuenzler
   Telephone 212-263-7391
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Basic Science Faculty: Elizabeth Fiorino, Michael Rindler

Michael Rindler, Ph.D.
Associate Professor, Department of Cell Biology
Embryology Content Director, Foundations of Medicine Course
Tel: 212-263-5812

Students per session: 1

Description: The Pediatric Surgery Service at Tisch and Bellevue Hospitals offers a Selective as an intensive exposure to pediatric surgery and the biologic basis of selected pediatric disease. The student functions as a member of the team, and will work with the on the Pediatric Surgery Service under the supervision of the pediatric surgeons and the house staff.

Integration of Disciplines: Close coordination with the Department of Pediatrics permits an unusual opportunity to study the surgical aspects of pediatric care from neonatal through the teenage years. There will also be scheduled sessions with basic science faculty from the Department of Embryology to evaluate how developmental abnormalities result in pediatric diseases treated on pediatric surgery, including: tracheoesophageal fistula, congenital lung lesions (CCAM, sequestration), congenital diaphragmatic hernia, malrotation of the intestine, gonadal development (undescended testes, inguinal hernias), meconium ileus, Hirschsprung's disease and anorectal anomalies.

Goals of the Selective: This Selective introduces the student to pre- and post-operative pediatric surgical care, the management of simple but common pediatric surgical problems. Students will also learn basic knowledge of major congenital anomalies.

Objectives of the Selective:
- Perform a focused physical exam appropriate for pediatrics
- Recognize the major disease processes in pediatric surgery
- Formulate a differential diagnosis and treatment plan
- Calculate pediatric fluid requirements
- Understand the role and function of all team members

Key Responsibilities of the student while on Selective:
- Attendance at daily morning rounds
- Assistance with daily progress notes
- Participation in the operating room
- Presence at all pediatric surgical and related conferences with required student presentation near the end of the Selective.

Didactic Program:
   Weekly Pediatric Surgical Conference
   Weekly Pediatric Radiology Conference
   Weekly Pediatric Oncology Conference

Method of Evaluation: Students will be evaluated by attendings with input from surgical house staff and basic science faculty. The Selectives Director will give formal feedback to the student on her/his performance. Evaluation will be based upon the level of knowledge displayed by the student on a daily basis, the depth of his or her reading, and the clinical performance as evaluated by the residents and faculty.
Title: Surgical Oncology Selective

Course Director: Dr. Richard Shapiro  
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Email: richard.shapiro@nyumc.org

Basic Science Faculty: Dr. Sandra Demaria, Dr. Nina Bhardwarj

Sandra Demaria, MD  
Associate Professor  
Department of Pathology, MSB-521  
phone: 212-263-7308  
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Students per session: 2

Description: Students on the Surgical Oncology Selective participate in all aspects of inpatient and outpatient care in the diagnosis and management of surgical oncology patients. Surgical management of breast cancer, malignant melanoma, thyroid and parathyroid disease and other soft-tissue neoplasms are emphasized.

Integration of Disciplines: The biologic basis of cancer is crucial to the understanding of the disease processes that will be encountered in this Selective. Weekly sessions with medical oncologists will be an integral part of the Selective. In addition, formal didactic sessions with basic science tumor biologists are planned.

Goals of the Selective: This Selective gives students an opportunity to concentrate on the treatment of malignant melanoma, carcinoma of the breast, soft tissue neoplasms, head and neck tumors, and surgical treatment of thyroid and parathyroid disease. Students participate in the daily management of patients, thereby acquiring an in-depth knowledge of the issues in diagnosis and treatment.

Objectives of the Selective:
- Perform a focused physical exam of the skin, breast, axilla, and neck
- Describe appropriate treatment options and decision algorithms
- Recognize the interdisciplinary nature of surgical oncology
- Formulate long-term follow-up of patients with various malignancies
- Differentiate the types of breast cancer and understand the implications on treatment and prognosis
- Interpret radiographic findings relevant to surgical oncology

Key Responsibilities of the student while on Selective:
- The student will participate in the inpatient and outpatient management of patients as well as in the Operating Room.
- The student will attend Surgical Oncology and related multidisciplinary oncologic conferences.
- The student will provide care under the supervision of the faculty and house-staff assigned to the Surgical Oncology Service.

Didactic Program: A specific reading program will be provided for the students and there will be weekly meetings with senior surgical faculty members to discuss issues in Surgical Oncology and specific clinically related problems regarding patients encountered during that week. Daily teaching rounds will be held with the student. The Selectives Director will be responsible for overseeing the student’s clinical and didactic schedule. It is expected that the student will meet with her/his Selectives Director each week at a minimum.

Method of Evaluation: Students will be evaluated by attendings with input from surgical house staff rotating through surgical oncology. The Selectives Director will give formal feedback to the student on her/his performance. Evaluation will be based upon the level of knowledge displayed by the student on a daily basis, the depth of his or her reading, and the clinical performance as evaluated by the residents and faculty.
Title: Transplantation Surgery Selective

Course Directors: Dr. Bruce Gelb  
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Email: bruce.gelb@nyumc.org

Basic Science Faculty: Dr. Lewis Teperman

Students per session: 1

Description: Students on the transplant service actively participate in all aspects of care including preoperative assessment of candidates for liver, kidney or pancreas transplantation. Students will assist in the remote procurement of organs, operating room implantation of organs, the post-operative management and immunosuppression. The attending transplantation surgeons are committed to maximizing the learning opportunities for students on the service. Principles of transplantation biology, including immunology are emphasized.

Integration of Disciplines: The biologic basis of transplantation is crucial to the understanding of the disease processes that will be encountered in this Selective. Weekly sessions with medical immunologists will be an integral part of the Selective. In addition at least two formal didactic sessions with basic science immunology faculty to better understand the rejection process are planned.

Goals of the Selective: Introduction of the student to transplantation by means of direct clinical involvement with all aspects of pre-and-post-transplant care. Students in transplantation will become familiar with the "language of transplantation" and be introduced to operative techniques including donor procurement and recipient surgery.

Objectives of the Selective:
- Define appropriate indications for organ transplantation
- Understand the pharmacology of immunosuppressive therapy
- Understand UNOS procurement system and how organs are matched
- Demonstrate comprehension of the long-term management of transplant patients
- Appreciate the psychosocial aspects of organ transplantation

Key Responsibilities of the student while on Selective: The student will be an important part of the transplant team. They will attend:
  - All transplant operations
  - Daily rounds
  - Pre-and-post transplant clinic
  - All surgery conferences attended by the residents

Didactic Program: The student will be assigned to a specific faculty preceptor who will formally meet with the student at least weekly (and probably much more frequently). Daily rounds include robust teaching of patient care and immunology. Weekly grand rounds and M & M conferences are mandatory.

Method of Evaluation: Students will be evaluated by attendings with input from surgical house staff. The Selectives Director will give formal feedback to the student on her/his performance. Evaluation will be based upon the level of knowledge displayed by the student on a daily basis, the depth of his or her reading, and the clinical performance as evaluated by the residents and faculty.
Title: Vascular Surgery Selective

Course Directors: Dr. Todd Berland
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Basic Science Faculty: Dr. Jeffrey Berger

Students per session: 2

Description: The student in vascular surgery participates in the care of patients with arterial and venous disease on the vascular surgery services of Tisch and Bellevue Hospitals. Outpatients are seen with diagnostic problems and for post-operative follow-up. In-hospital activities involve patients with a wide variety of arterial and venous syndromes. In addition to daily ward rounds and the weekly Vascular Surgery Conference, the student participates with the house staff in pre-operative and post-operative care and assists in surgery. There are abundant opportunities in the OR, office practice, and rounds for student-faculty participation.

Integration of Disciplines: Integration of Disciplines: The basis of most vascular disease is atherosclerosis. Sessions with basic science faculty in vascular biology will provide a robust understanding of the etiology of the vascular disease treated on the service. At least two formal didactic sessions with basic science vascular biology faculty will be provided, which cover:

1. Vascular Disease and the Coagulation Cascade: Pathogenesis to Treatment
2. Medical Therapy in Peripheral Vascular Disease
3. Pathophysiology of Vascular Disease (atherosclerosis, aneurysmal disease)

Goals of the Selective: The student will become exposed to all of the common problems associated with vascular disease, including arterial insufficiency, both in the lower extremities and in the carotid arteries, aneurysmal disease of the aorta and other vessels, venous insufficiency and in some cases, lymphatic disorders. The goal is to have the student become familiar with the use of noninvasive diagnostic tests, interventional radiology and surgery for the management of patients with these problems.

Objectives of the Selective:
- Perform a complete vascular exam on a patient
- Describe radiographic imaging findings and their implications
- Understand the interactions of co-morbidities on operative risk
- Comprehend the major arterial and venous diseases and their underlying basic science mechanisms

Key Responsibilities of the student while Selective:
- The student will work closely with the housestaff in the management of vascular patients in the hospital. This would include histories and physicals, preoperative and postoperative assessment, as well as daily rounds.
- The student will spend more time in the Operating Room than the junior housestaff officers, giving them the opportunity to see the pathology firsthand.
- In general, the students take night call twice a week with a senior housestaff officer.

Didactic Program: Vascular Service has a weekly Tuesday morning conference geared toward students and housestaff officers. The Selectives Director will formally meet with the student at least weekly to insure that proper clinical and basic science exposure is occurring as contemplated.

Method of Evaluation: Students will be evaluated by attendings with input from surgical house staff. The Selectives Director will give formal feedback to the student on her/his performance. Evaluation will be based upon the level of knowledge displayed by the student on a daily basis, the depth of his or her reading, and the clinical performance as evaluated by the residents and faculty.
Title: Endocrine Surgery Selective

Course Director: Dr. Jennifer Ogilvie
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Endocrine Surgery Faculty: Dr. Keith Heller, Division Chief
   Dr. Jennifer Ogilvie
   Dr. Kepal Patel

Basic Science Faculty: Dr. Marie Monaco
   Telephone: 212-263-4184
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Students per session: 1

Description: The Endocrine Surgery Selective is a four week experience to provide students with an in-depth exposure to the specialty of Endocrine Surgery. Students will actively participate in all aspects of patient care, including pre-operative and post-operative assessment of patients with thyroid cancer, other thyroid diseases, hyperparathyroidism, and adrenal tumors. Students will assist in the operating room and will get extensive exposure to thyroid and parathyroid ultrasound, ultrasound-guided fine needle aspiration, and fiberoptic laryngoscopy. The attending endocrine surgeons are committed to maximizing learning opportunities for students on the service. Students will be expected to present cases at our twice monthly Endocrine Surgery conferences.

Integration of Disciplines: The Endocrine Surgery Service is uniquely positioned to take advantage of the goals of the Curriculum for the 21st Century. Weekly sessions seeing patients with medical Endocrinologists will be an integral part of the Selective. In addition, students will have at least two formal didactic sessions with a Basic Science Endocrine Biologist. The biologic basis of endocrine disease is crucial to the understanding of the disease processes that will be encountered in this Selective.

Goals of the Selective: Students will experience an in-depth exposure to Endocrine Surgery, and will learn the pre-operative and post-operative assessment of patients with thyroid cancer, other thyroid diseases, hyperparathyroidism, and adrenal tumors. Students will become familiar with indications for surgery, work up and operative management of endocrine surgery diseases.

Objectives of the Selective:
   • Understand the basic mechanisms of endocrine diseases
   • Describe the appropriate pre-operative evaluation of patients with thyroid and adrenal lesions
   • Perform an appropriate physical examination of the neck

Key Responsibilities:
The student will be an important part of the Endocrine Surgery team. They will attend:
   Endocrine Surgery operations
   Daily rounds
   Pre-and-post operative office hours
   All resident teaching conferences

In addition each student will be assigned responsibility for 2-4 inpatients on the Endocrine Surgery service.

Didactic Program: Each student will be assigned one of the attending Endocrine Surgeons as her/his Preceptor. A routine day will include daily rounds with residents as well as abundant teaching in the operating room and during office hours. Bi-monthly Endocrine Surgery conference, monthly Multidisciplinary Endocrine Conference, and weekly M & M conferences are mandatory. In addition, students will select a topic based on
a case observed in the operating room and will have at least two meetings with their Basic Science Preceptor to discuss the biologic mechanisms of disease.

**Method of Evaluation:** The students will be evaluated on their performance by both the senior surgical resident and the faculty, including input from their Endocrine Surgery and Basic Science Preceptors. Students are encouraged to participate in endocrine surgery-related research with Dr. Kepal Patel, which can be initiated during this rotation and pursued during the subsequent academic year(s). Evaluation will be based upon the level of knowledge displayed by the student on a daily basis, the depth of his or her reading, and the clinical performance as evaluated by the residents and faculty.