

## List of Medical Specialties

### Allergy/Immunology

An allergist-immunologist is trained in evaluation, physical and laboratory diagnosis, and management of disorders involving the immune system. Selected examples of such conditions include asthma, anaphylaxis, rhinitis, eczema, and adverse reactions to drugs, foods, and insect stings as well as immune deficiency diseases (both acquired and congenital), defects in host defense, and problems related to autoimmune disease, organ transplantation or malignancies of the immune system. As our understanding of the immune system develops, the scope of this specialty will widen.

#### **Match**

For positions starting in 2010, many programs will participate with the [Electronic Residency Application Service](#). Residency programs are not affiliated with a matching program.

#### **Residency Training Requirements**

Training programs are available at some medical centers to provide individuals with expertise in both allergy/immunology and adult rheumatology, or in both allergy/immunology and pediatric pulmonology. Such individuals are candidates for dual certification.

#### **Training required:**

Prior certification in Internal Medicine or Pediatrics; two years in allergy/immunology.

#### **Subspecialties**

Pediatric Pulmonology

Also, check out the [American Academy of Allergy, Asthma & Immunology](#)

### Anesthesiology

Anesthesiology is the practice of medicine which involves the perioperative care of patients and the treatment of pain. The field is predominately a hospital-based specialty, which cares for patients acutely pre-operatively, post-operatively and in critical care units. It also involves the treatment of acute and chronic pain as one of its major subspecialties. The practice of anesthesiology includes a wide spectrum of patients: all ages, all degrees of illnesses and both sexes. The subspecialties include: pediatric, cardiac, neuro, obstetrical, ambulatory anesthesia as well as critical care medicine and pain management. Individuals interested in anesthesiology are those who enjoy physiology and applied pharmacology in the clinical setting. They must be comfortable with managing acute life threatening problems and enjoy working in the operating room.

#### **Match**

Most programs participate in Electronic Residency Application Service and National Residency Matching Program.

### **Residency Training Requirements**

4 years, including a Clinical Base (or PGY-1) Year.

Moderately Competitive

### **Subspecialties**

Pediatric Anesthesia, Cardiac Anesthesia, Obstetrical Anesthesia, Neuro Anesthesia, Critical Care Medicine and Pain Management

A Clinical Base Year rotation is required, which includes training in internal medicine or emergency medicine, pediatrics, surgery or any of the surgical specialties, critical care medicine, obstetrics and gynecology, neurology, family practice, or any combination of these.

Also, check out the [American Society of Anesthesiology](#)

## **Dermatology**

A dermatologist is trained to treat the skin such as hair loss and scars, and the skin changes associated with aging. To diagnose and treat pediatric and adult patients with benign and malignant disorders of the skin, mouth, external genitalia, hair and nails, as well as a number of sexually transmitted diseases. The dermatologist has had additional training and experience in the diagnosis and treatment of skin cancers, melanomas, moles, and other tumors of the skin, the management of contact dermatitis, and other allergic and nonallergic skin disorders, and in the recognition of the skin manifestations of systemic (including internal malignancy) and infectious diseases. Dermatologists have special training in dermatopathology and in the surgical techniques used in dermatology. They also have expertise in the management of cosmetic disorders.

Dermatologists see patients of all ages and backgrounds for various skin conditions. A typical practice setting is in either academia or private practice. Normal business hours are from 8:00-5:00 Monday through Friday for many practitioners, with some open on Saturday or with evening hours. Most commonly, Dermatologists conduct biopsies and excisions, prescribe medications, and do surgery to remove benign/malignant cancers. It isn't all acne!

### **Match**

Most programs participate in the Electronic Residency Application Service. Both PGY-1 and PGY-2 matching programs are operated through the National Resident Matching Program.

### **Residency Training Requirements**

4 years, including a broad-based PGY-1 year of training.

Very Competitive

### **Subspecialties**

Cutaneous Surgery, Pediatric Dermatology, Dermatopathology

Also, check out the [American Academy of Dermatology](#)

## Emergency Medicine

Emergency medicine physicians annual emergency department patient volumes may be over 90,000 patients. Emergency department volumes have increased in recent years. Emergency physicians focus on the rapid diagnosis and initial resuscitation and treatment of patient problems and diseases. Emergency physicians enjoy problem-solving diagnostics. The practice also includes a variety of procedures including laceration repairs, some fracture and dislocation reductions, management of major trauma, airway management including intubation and other procedures such as chest tubes, thoracentesis, paracentesis and arthrocentesis. s see all types of patients from pediatric to geriatrics, from medical to surgical. Although people often equate emergency medicine with trauma, major trauma cases comprise of less than 10% of emergency department patients. Over half of emergency department patients present with medical illnesses. Emergency medicine is a hospital-based specialty in that one will see patients in a hospital emergency department and typically not a free-standing unit. Most emergency departments are in community hospitals with annual patient volumes of 15,000-35,000 visits per year. Typically, a group of physicians will contract with a hospital to provide coverage in the emergency department. In teaching hospitals and large academic centers, a

### **Match**

Most programs participate in Electronic Residency Application Service and National Residency Matching Program

### **Residency Training Requirements**

3 years; no prerequisites  
Moderately Competitive

### **Subspecialties**

Types of fellowships or subspecialties: Research, Pediatric, EM, EMS, Toxicology, Sports Medicine

### **Organization or Interest Group Contact**

Emergency Medicine Interest Group Website: <http://msuemig.googlepages.com/home>

Also, check out the [American College of Emergency Physicians](#)

## Family Medicine

A Family physician is trained to provide care to patients and their families with a focus on their community. The care provided is continuing, comprehensive, coordinative, preventive, and delivered in a personalized manner to patients regardless of age, gender, presence of disease or organ system affected. Family physicians engage in a broad range of clinical activities that occur in the office, hospital, home, nursing home, extended care facility and other settings. Commonly performed procedures include vasectomy, flexible sigmoidoscopy, colposcopy, skin biopsy, and casting and splinting. Family physicians practice in geographic setting ranging from rural, urban and everything in between.

### **Match**

Most programs participate in Electronic Residency Application Service and National Residency Matching Program

### **Residency Training Requirements**

3 years

## **Subspecialties**

Types of fellowships or subspecialties: Faculty Development, Sports Medicine, Geriatrics, Obstetrics, Research, Rural Medicine, Substance Abuse, Adolescent Medicine

Also, check out the [American Academy Family Physicians](#)

## **Surgery-General**

General Surgery encompasses a wide variety of disease process and patient populations. Overall, it includes disease process such as cancers of the breast, endocrine glands, skin and gastrointestinal tract, the care of trauma and burn victims, and benign gastrointestinal problems which can range from peptic ulcer disease to biliary tract disease to inflammatory bowel disease. General surgeons also take care of more common problems such as hernias. There are several subspecialties that require training in general surgery prior to entering fellowship training. These include: Cardiothoracic Surgery, Pediatric Surgery, Vascular Surgery, and Colorectal Surgery. There is no typical practice setting. Practice settings can range from a pure private practice environment, where the surgeon is practicing alone, specifically without the presence of residents or students, to a University environment, where surgeons participate in the training of residents and medical students, as well as teaching and doing basic or clinical research. A general surgical practice is unique in the type of surgeon may have patients who follow up with him/her on a regular basis, such as breast or GI cancer patients, where the surgeon who assesses the patient for tumor recurrence, as well as having patients who come for solutions to a “one time” problem such as a hernia. Surgeons must diagnose and manage many complex clinical problems non-operatively as well as master operative procedures.

## **Match**

Most programs participate in the Electronic Residency Application Service and in the National Resident Matching Program

## **Residency Training Requirements**

5 years, no prerequisites

## **Subspecialties**

Cardiovascular, Vascular, Transplant, Trauma, Colorectal, Pediatric Surgery, Critical Care, Oncology (all require general surgery training prior to beginning fellowships)

Also, check out the [American Board of Surgery](#)

## **Internal Medicine**

An Internal Medicine physician provides long-term, comprehensive care in the office and the hospital, managing both common and complex illness of adolescents, adults, and the elderly. Internists are trained in the diagnosis and treatment of cancer, infections, and diseases affecting the heart, blood, kidneys, joints, and digestive, respiratory and vascular systems. They are also trained in the essentials of primary care internal medicine which incorporates an understanding of disease prevention, wellness, substance abuse, mental health, and effective treatment of common problems of the eyes, ears, skin, nervous system, and reproductive organs.

## **Match**

Most programs participate in Electronic Residency Application Service and National Residency Matching Program.

## **Residency Training Requirements**

3 Year Residency Program

The American Board of Internal Medicine (ABIM) offers a special test that certifies expertise in internal medicine. Passing this test is beneficial to an internal medicine career, and most graduates take this examination to become “board certified” in medicine. It is not required. A similar examination is offered by ABIM following completion of a subspecialty fellowship.

## **Subspecialties**

\*2 to 3 years of training beyond residency

\*Applications for fellowship are submitted the 2nd year of residency training

Allergy and Immunology, Cardiovascular Disease, Endocrinology, Diabetes and Metabolism, Gastroenterology, Hematology, Infectious Disease, Medical Oncology, Nephrology, Rheumatology, Pulmonary Disease

## **Combined Programs**

Dermatology/Internal Medicine

Emergency Medicine/Internal Medicine

Emergency Medicine/Internal Medicine/Critical Care Medicine

Family Practice/Internal Medicine

Internal Medicine/Neurology

Internal Medicine/Nuclear Medicine

Internal Medicine/Pediatrics

Internal Medicine/Physical Medicine and Rehabilitation

Internal Medicine/Preventative Medicine

Internal Medicine/Psychiatry

Also, check out the [American College of Physicians](#)

## **Medical Genetics**

A specialist trained in diagnostic and therapeutic procedures for patients with genetically-linked diseases. This specialist uses modern cytogenetic, radiologic, and biochemical testing to assist in specialized genetic counseling, implements needed therapeutic interventions, and provides prevention through prenatal diagnosis. A medical geneticist plans and coordinates large scale screening programs for inborn errors of metabolism, hemoglobinopathies, chromosome abnormalities, and neural tube defects.

## **Match**

Residency programs are not affiliated with a matching program. Individuals must apply directly to the desired program.

## **Residency Training Requirements**

4 Years

The first two must have been completed in another specialty or its equivalent (usually pediatrics, ob-gyn, or internal medicine).

## **Subspecialties**

Molecular Genetic Pathology

Also, check out the [American Board of Medical Genetics](#)

## **Neurology**

Neurology is the medical specialty dedicated to the care of patients with dysfunction of the central nervous system (stroke, epilepsy, headache, Alzheimer's disease, sleep disorders, Parkinson's disease, multiple sclerosis, brain tumors) or the peripheral nervous system (nerve root compression from herniated discs; amyotrophic lateral sclerosis, carpal tunnel syndrome, Guillain-Barre syndrome, myasthenia gravis and muscular dystrophies). Neurologists typically divide their time between outpatients, inpatients hospitalized for primary neurologic disorders, and inpatients hospitalized for other conditions who also have neurologic problems. Common procedures used by neurologists include lumbar puncture (LP), electroencephalography (EEG), electromyography (EMG), and polysomnography (PSG). Neurologists must also learn to interpret a variety of imaging studies, notably CT and MRI scans.

### **Match**

Most programs participate in the Electronic Residency Application Service. Both PGY-1 and PGY-2 matching programs are operated through the National Resident Matching Program.

### **Residency Training Requirements**

4 Years

Length of training includes a required preliminary year in general internal medicine.

### **Subspecialties**

Types of fellowships or subspecialties: Cognitive Disorders, Stroke, Epilepsy, Neuromuscular, Electrophysiology, Sleep Disorders, Neuro-ophthalmology, Neuro-otology, Multiple Sclerosis, Neuro-oncology, Movement Disorders, Neurorehabilitation.

Also, check out [American Academy of Neurology](#)

## **Neurosurgery**

Neurosurgery is the surgical specialty that treats patients with disorders of the brain, spinal cord, and peripheral nervous system. About 70% of patients treated by neurosurgeons have diseases of the spine or spinal cord. The remainder has problems with the brain and peripheral nervous system. There are about 3,500 practicing neurosurgeons in the United States of which 500 are in teaching centers. Technical aspects of the specialty cover a broad spectrum from microsurgical techniques, particularly aneurysms, arteriovenous malformations and brain tumors, to extensive reconstruction of the spine. Neurosurgery became a surgical specialty just after the turn of the last century. Current frontiers in neurosurgery include treatment for brain tumors, movement disorders, nerve and spinal cord regeneration, and neuroprotection therapy for head injury and stroke.

### **Match**

Beginning 2009, all programs will participate in the National Resident Matching Program. Some neurological surgery programs offer the PGY-1 training year integrated into its program. Many programs begin with PGY-2 positions available.

## **Residency Training Requirements**

\*6 years, including a preliminary 1 year of training

The preliminary year of training must be in either general surgery or a broad acquisition of fundamental clinical skills.

## **Subspecialties**

Spine, Tumor, Functional Stereotaxy, Epilepsy

Also check out the [American Association of Neurological Surgeons](#)

## **Nuclear Medicine**

A nuclear medicine specialist employs the properties of radioactive atoms and molecules in the diagnosis and treatment of disease, and in research. Radiation detection and imaging instrument systems are used to detect disease as it changes the function and metabolism of normal cells, tissues, and organs. A wide variety of diseases can be found in this way, usually before the structure of the organ involved by the disease can be seen to be abnormal by any other techniques. Early detection of coronary artery disease (including acute heart attack); early cancer detection and evaluation of the effect of tumor treatment; diagnosis of infection and inflammation anywhere in the body; and early detection of blood clot in the lungs are all possible with these techniques. Unique forms of radioactive molecules can attack and kill cancer cells (e.g., lymphoma, thyroid cancer) or can relieve the severe pain of cancer that has spread to bone. The nuclear medicine specialist has special knowledge in the biologic effects of radiation exposure, the fundamentals of the physical sciences and the principles and operation of radiation detection and imaging instrumentation systems.

## **Match**

Most programs participate in the Electronic Residency Application Service. Check with the program. Transitional year training programs may participate in the National Resident Matching Program.

## **Residency Training Requirements**

3 Years

Length of training includes successful completion of a transitional year program, or a PGY1 program in internal medicine or surgery.

Also, check out the [American College of Nuclear Physicians](#)

## **Obstetrics & Gynecology**

The medical practice of Obstetrics and Gynecology provides medical care for women throughout their life cycle. Physicians facilitate prevention, diagnosis and treatment of women's health related issues in both inpatient and outpatient settings, including delivery of infants and gynecological surgery. It is a unique opportunity to provide the primary and reproductive health care services for women.

## **Match**

Most programs participate in the Electronic Residency Application Service and National Resident Matching Program.

## **Residency Training Requirements**

4 years; no prerequisites.

## **Subspecialties**

Gynecological Oncology, Maternal Fetal Medicine, Reproductive Endocrinology

Also, check out the [American College of Obstetrician and Gynecologists](#)

## **Ophthalmology**

An ophthalmologist has the knowledge and professional skills needed to provide comprehensive eye and vision care. Ophthalmologists are medically trained to diagnose, monitor, and medically or surgically treat all ocular and visual disorders. This includes problems affecting the eye and its component structures, the eyelids, the orbit and the visual pathways. In so doing, an ophthalmologist prescribes vision services, including glasses and contact lenses.

## **Match**

Most programs require the Centralized Application Service. Applicants who have not yet completed their PGY-1 training will have to register for and participate in the OMP and the National Resident Matching Program simultaneously. The OMP match takes place in January and matches applicants to their PGY-2 position; the NRMP Match takes place in March and matches applicants to their PGY-1 position.

## **Residency Training Requirements**

3 Years

Requires successful completion of a PGY-1 year in internal medicine (3 years), neurology (4 years), pediatrics (3 years), surgery (5 years), family practice (3 years), or emergency medicine (3 years).

Also, check out the [American Academy of Ophthalmology](#)

## **Orthopedic Surgery**

Orthopedics is a medical specialty devoted to the diagnosis, treatment, rehabilitation and prevention of injuries and diseases of the musculoskeletal system. The term “orthopaedics” comes from the Greek- ortho (straight) and pais (child). Once devoted to the care of children with spine and limb deformities, orthopaedists now care for patients of all ages-newborns with clubfeet, young athletes requiring arthroscopic surgery and older patients with arthritis need joint replacements. While most orthopaedists practice general orthopaedics in a private group practice setting, some may specialize in treating the foot, hand, shoulder, spine, hip, knee and others in pediatrics, trauma, or sports medicine. The American Academy of Orthopaedic Surgeons is the world’s largest medical association of musculoskeletal specialists (24,000 internationally).

## **Match**

Most programs participate in the Electronic Residency Application Service and National Resident Matching Program.

## **Residency Training Requirements**

5 years, including a PG-Y 1 year  
PGY-1 year of training must be in general surgery.

## **Subspecialties**

Reconstructive, Sports, Spine, Trauma, Oncology and Pediatrics

Also, check out the [American Academy of Orthopaedic Surgeons](#) website.

## **Otolaryngology**

Otolaryngology is the oldest specialty in the United States. Otolaryngologists are physicians trained in medical and surgical management and treatment of patients with diseases and disorders of the ear, nose, throat (ENT) and related structures of the head and neck. They are commonly referred to as ENT physicians. Their special skills include diagnosing and managing diseases of the sinuses, larynx (voice box), oral cavity and upper larynx (mouth & throat), as well as structures of the neck and face. Otolaryngologists diagnose, treat, and manage specialty-specific disorders as well as many primary care problems in both children and adults.

## **Match**

Most programs participate in the Electronic Residency Application Service. PGY-1 programs participate in the National Resident Matching Program. PGY-2 programs and integrated programs (which include a PGY-1 program) participate in the in the NRMP.

## **Residency Training Requirements**

5 years, including a PGY-1 year.  
PGY-1 year with at least nine months of basic surgical, emergency and critical care, and anesthesia training.

## **Subspecialties**

Head and Neck, Facial Plastic, Pediatric, Otolaryngology, Neuro-Otolaryngology

Also, check out the [American Academy of Otolaryngology- Head and Neck Surgery](#)

## **Pediatrics**

[www.aap.org](http://www.aap.org)

Pediatricians focus on the care of children from birth to 21 years of age. They provide preventative health maintenance for healthy children and medical care for those who are seriously or chronically ill. They may diagnose and treat infections, injuries, genetic defects, malignancies and many types of organic disease and dysfunctions. Pediatricians may practice in many different types of outpatient (private or public clinics) or hospital-based settings (inpatient or urgent-care/emergency departments in community or academic hospitals). One may choose to work in general pediatrics or in one of the pediatric sub-specialty fields. Pediatricians may also work in the field of public health, or be involved in research in the basic sciences or in health services. Those in pediatrics strive to optimize the care for children, in part by becoming an expert in child development and behavior, by providing care in the context of families, and by advocating for the health and safety of all children.

**Match**

Most programs participate in the Electronic Residency Application Service and in the National Resident Matching Program.

**Residency Training Requirements**

3 years

Prerequisites-none

**Subspecialties**

Adolescent Medicine, Pediatric Cardiology, Pediatric Critical Care, Pediatric Endocrinology, Pediatric Gastroenterology, Pediatric Hematology/Oncology, Pediatric Infectious Diseases, Neonatal/Perinatal Medicine, Pediatric Nephrology, Pediatric Pulmonology, Pediatric Psychology, Pediatric PM&R, Pediatric Rheumatology, Child Neurology, Genetics, General Academic, Pediatric ER, and Behavioral & Development.

Also, check out the [American Academy of Pediatrics](#).

**Physical Medicine & Rehabilitation (PM&R)**

Physical Medicine and Rehabilitation, also referred to as rehabilitation medicine, is the medical specialty concerned with diagnosing, evaluating, and treating patients with physical disabilities. These disabilities may arise from conditions affecting the musculoskeletal system such as neck and back pain, sports injuries, or other painful conditions affecting the limbs, for example carpal tunnel syndrome. Alternatively, the disabilities may result from neurological trauma or disease such as spinal cord injury, head injury, or stroke. A physician certified in physical medicine and rehabilitation is often called a “Physiatrist”. The primary goal of the Physiatrist is to achieve maximal restoration of physical, psychological, social, and vocational function through comprehensive rehabilitation. Pain management is often an important part of the role of the physiatrist. For diagnosis and evaluation, a physiatrist may include the techniques of electromyography to supplement the standard history, physical, X-ray, and laboratory examinations. The physiatrist has expertise in the appropriate use of therapeutic exercise, prosthetics (artificial limbs), orthotics, and mechanical and electrical devices.

**Match**

Most programs participate in the Electronic Residency Application Service and in the National Resident Matching Program.

**Residency Training Requirements**

4 years, including a PGY-1 year.

The PGY-1 year can be completed through an accredited transitional year, or in a preliminary year of internal medicine, pediatrics or surgery.

**Subspecialties**

Types of fellowships or subspecialties: Spine, NIH Research Fellowships

Also, check out the [American Academy of Physical Medicine and Rehabilitation](#).

## **Psychiatry**

A psychiatrist specializes in the prevention, diagnosis, and treatment of mental, addictive, and emotional disorders such as schizophrenia and other psychotic disorders, mood disorders, anxiety disorders, substance-related disorders, sexual and gender identity disorders, and adjustment disorders. The psychiatrist is able to understand the biological, psychological, and social components of illness, and therefore is uniquely prepared to treat the whole person. A psychiatrist is qualified to order diagnostic laboratory tests and to prescribe medications, evaluate and treat psychological and interpersonal problems, and to intervene with families who are coping with stress, crises, and other problems in living.

Psychiatric disorders are now recognized the world over as major causes of disability and premature death. Both the World Health Organization and the Department of Health and Human Services recognize major depressive disorder as the predominant public health problem in the world, with anxiety disorders, bipolar disorder, schizophrenia and substance abuse all high on the list. Psychiatrists treat these disorders in a variety of settings, including private offices, multispecialty group practices, community mental health clinics, hospital-based clinics, hospital consultation services, and inpatient units. Many psychiatrists work in collaboration with primary care and specialty physicians in several of these settings concurrently. The psychiatrist's role includes patient evaluation, supervisions of a multidisciplinary treatment team, medication management and psychotherapy.

### **Match**

Most programs participate in the Electronic Residency Application Service and in the National Resident Matching Program.

### **Residency Training Requirements**

4 years, including a PGY-1 year.

PGY-1 year can either be a clinical year of training in internal medicine, family practice, or pediatrics; a transitional year program; or one year of residency in a clinical specialty requiring comprehensive and continuous patient care.

### **Subspecialties**

Addiction, Forensics, Adolescent Child, Pain Medicine and Geriatrics

Also, check out the [American Psychiatric Association](#)

## **Plastic Surgery**

A plastic surgeon deals with the repair, reconstruction, or replacement of physical defects of form or function involving the skin, musculoskeletal system, craniomaxillofacial structures, hand, extremities, breast and trunk, and external genitalia or cosmetic enhancement of these areas of the body. Cosmetic surgery is an essential component of plastic surgery. The plastic surgeon uses cosmetic surgical principles to both improve overall appearances and to optimize the outcome of reconstructive procedures as well.

Special knowledge and skill in the design and surgery of grafts, flaps, and free tissue transfer and replantation is necessary. Competence in the management of complex wounds, the use of implantable materials, and in tumor surgery is required. Plastic surgeons have been prominent in the development of innovative techniques such as microvascular and craniomaxillofacial surgery, liposuction, and tissue transfer. Anatomy, physiology, pathology, and other basic sciences are fundamental to the specialty.

Competency in plastic surgery implies an amalgam of basic medical and surgical knowledge, operative

judgment, technical expertise, ethical behavior, and interpersonal skills to achieve problem resolution and patient satisfaction. With innovative technologies continuously emerging, plastic surgery is constantly reinventing itself, evolving into new clinical areas. This specialty is the perfect place for creative problem-solvers who enjoy thinking “out of the box”.

### **Match**

Most Integrated programs (those that offer PGY1 positions) participate in the Electronic Residency Application Service. For Independent programs, individuals normally apply through the Centralized Application Service. For combined programs, individuals may apply for the General Surgery PGY1 position through ERAS.

Check with program; PGY-1 programs participate in the National Resident Matching Program, most PGY-2 programs participate in the San Francisco Match Program.

### **Residency Training Requirements**

2 Years

Requires successful completion of a residency program in neurological surgery, orthopedic surgery, otolaryngology, or urology.

### **Subspecialties**

Craniofacial, Microsurgery, Hand, Breast, Oncology

Also, check out the [American Society of Plastic Surgeons](http://www.asps.org/).

## **Preventative Medicine**

<http://www.acoem.org/>

<http://www.asma.org/>

A preventive medicine specialist focuses on the health of individuals and defined populations in order to protect, promote and maintain health and well-being, and to prevent disease, disability and pre-mature death.

The distinctive components of preventive medicine include:

1. Biostatistics and the application of biostatistical principles and methodology;
2. Epidemiology and its application to population-based medicine and research;
3. Health services management and administration including: developing, assessing, and assuring health policies; planning, implementing, directing, budgeting, and evaluating population health and disease management programs; and utilizing legislative and regulatory processes to enhance health;
4. Control of environmental factors that may adversely affect health;
5. Control and prevention of occupational factors that may adversely affect health safety;
6. Clinical preventive medicine activities, including measures to promote health and prevent the occurrence, progression, and disabling effects of disease and injury; and
7. Assessment of social, cultural, and behavioral influences on health.

A preventive medicine physician may be a specialist in general preventive medicine, public health, occupational medicine, or aerospace medicine. This specialist works with large population groups as well as with individual patients to promote health and understand the risks of disease, injury, disability, and death, seeking to modify and eliminate these risks.

### **Match**

Individuals must apply directly to the desired program. Most residency programs are not affiliated with a matching program.

## **Residency Training Requirements**

3 years; no prerequisites required.

## **Subspecialties**

Medical Toxicology

Also, check out the [American College of Occupational and Environmental Medicine \(ACOEM\)](#) or the [Aerospace Medical Association](#).

## **Radiology-Diagnostic**

[www.apdr.org](http://www.apdr.org)

Nearly all physicians examine patients, obtain medical histories, diagnose illnesses, or prescribe and administer treatment for people suffering from injury or disease. According to American Medical Association statistics, however, 1.2 % of physicians specialize in radiology (compared with 16.7% who specialize in internal medicine). Generally, the radiologist is different from other physicians because he or she diagnoses diseases by obtaining and interpreting medical images. Some images are obtained by using x-rays or radioactive substances, others by means of sound waves or the body's natural magnetism. A radiologist correlates medical image findings with other examinations and tests, recommends further examinations or treatments, and confers with referring physicians. Radiologists also treat some diseases by means of radiation (radiation oncology) or minimally invasive, image-guided surgery (interventional radiology).

## **Match**

Most programs participate in the Electronic Residency Application Service and in the National Resident Matching Program.

## **Residency Training Requirements**

5 years, including a PGY-1 year. PGY-1 year must consist of training in internal medicine, pediatrics, surgery or surgical specialties, obstetrics and gynecology, neurology, family practice, emergency medicine, or any combination of these, or an ACGME or equivalent accredited transitional year.

## **Subspecialties**

Musculoskeletal, MRI, Abdominal Imaging (GI or GU), Chest, Pediatrics, Nuclear Medicine, Angiography and Interventional Radiology, Women's Imaging, Neuroradiology.

Also, check out the [Association of Program Directors in Radiology](#)

## **Radiation Oncology**

[www.acro.org/](http://www.acro.org/)

Both pediatric and adult patients are treated in the practice of radiation oncology. The majority of these patients have a malignancy, which may be involving any site or organ system. A limited number of patients are treated for benign conditions. The typical practice setting is a hospital-based community or academic practice. External beam therapy with either a photon beam or an electron beam, focused on the site of the tumor, is most commonly

utilized. Brachytherapy is also employed, and involves the placement of radioactive sources within or adjacent to tumors.

### **Match**

Most programs participate in the Electronic Residency Application Service and in the National Resident Matching Program.

### **Residency Training Requirements**

5 years, including a PGY-1 year. PGY-1 year must be spent in internal medicine, family practice, obstetrics/gynecology, surgery or surgical specialties, pediatrics, a categorical radiation oncology year, or a transitional year program.

### **Subspecialties**

None

Also, check out the [American College of Radiation Oncology](#)

## **Thoracic Surgery**

A thoracic surgeon provides the operative, perioperative care, and critical care of patients with pathologic conditions within the chest. Included is the surgical care of coronary artery disease, cancers of the lung, esophagus and chest wall, abnormalities of the trachea, abnormalities of the great vessels and heart valves, congenital anomalies, tumors of the mediastinum, and diseases of the diaphragm. The management of the airway and injuries of the chest is within the scope of the specialty.

Thoracic surgeons have the knowledge, experience and technical skills to accurately diagnose, operate upon safely, and effectively manage patients with thoracic diseases of the chest. This requires substantial knowledge of cardiorespiratory physiology and oncology, as well as capability in the use of heart assist devices, management of abnormal heart rhythms and drainage of the chest cavity, respiratory support systems, endoscopy, and invasive and noninvasive diagnostic techniques.

### **Match**

Individuals must apply directly to the desired program. Contact the program to confirm. Most programs participate in the National Resident Matching Program

### **Residency Training Requirements**

This fellowship is 2 years in length and requires successful completion of a residency program in general surgery.

Also, check out the [American Association for Thoracic Surgery](#)

## **Urology**

[www.aunet.org](http://www.aunet.org)

Urology is a surgical specialty that deals with diseases of the kidney and bladder of the urinary system in women and the genitourinary system (kidneys, bladder, prostate, testes, urethra) in men. Typical practice setting

is a mixture of office practice and surgery with a substantial opportunity for long-term continuity with patients. This is somewhat unique in a surgical specialty. There is an opportunity for subspecialization in microsurgery, endoscopic surgery, cancer surgery, and pediatric surgery.

### **Match**

Most programs participate in the Electronic Residency Application Service. The early Urology Match is administered by the American Urological Association. Some programs also require participation in the NRMP match for general training required prior to beginning urological training.

### **Residency Training Requirements**

5 years, including a PGY-1 year. PGY-1 year must be spent in general surgery.

### **Subspecialties**

The American Urological Association has identified seven subspecialty areas:

1. Pediatric Urology
2. Urologic Oncology (cancer)
3. Renal Transplantation
4. Male Infertility
5. Calculi (urinary tract stones)
6. Female Urology (urinary incontinence and pelvic outlet relaxation disorders)
7. Neurourology (voiding disorders, urodynamic evaluation of patients, and erectile dysfunction or impotence).

### **Electives**

Electives dealing with various medical subspecialties are also thought to be extremely valuable for students entering urologic training programs. For example, nephrology, hematology, cardiology, pulmonary medicine, infectious disease, and gastroenterology are all very reasonable electives to take. Radiology as well as a subinternship in either medicine or surgery is also good choices for the future urologist. Of course, one should definitely take an elective course in urology to confirm specialty choice.

### **Board Certification**

To qualify for certification by the American Board of Urology (ABU), a candidate must complete an approved urologic residency training program. A minimum of five years of clinical postgraduate education is required; of which 12 months must be spent in general surgery and 36 months must be spent in clinical urology. The remaining 12 months must be spent in general surgery, urology or other clinical disciplines relevant to urology and acceptable to the Board. Irrespective of the training format provided, the final 12 months must be spent as a chief resident in urology with appropriate clinical responsibility under supervision in institutions that are an approved part of the program.

Also, check out the [American Urological Association](#).