
Which
Medical
Specialist
For
You
Research & Education Foundation
The American Board of Medical Specialties

Which Medical Specialist For You

- Allergist/Immunologist
- Anesthesiologist
- Colon & Rectal Surgeon
- Dermatologist
- Emergency Physician
- Family Physician
- Internist
- Medical Geneticist
- Neurological Surgeon
- Neurologist
- Nuclear Medicine Physician
- Obstetrician & Gynecologist
- Ophthalmologist
- Orthopaedic Surgeon
- Otolaryngologist
- Pathologist
- Pediatrician
- Physical Medicine & Rehabilitation Physician
- Plastic Surgeon
- Preventive Medicine Physician
- Psychiatrist
- Radiologist
- Surgeon
- Thoracic Surgeon
- Urologist

The American Board of Medical Specialties

Research & Education Foundation

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ABMS Approved Specialties and Subspecialties (Effective March 2002)

Specialty Board/ Specialty Certificates	Subspecialty Certificates
Allergy & Immunology	
Allergy & Immunology	Clinical & Laboratory Immunology
Anesthesiology	
Anesthesiology	Critical Care Medicine Pain Medicine
Colon & Rectal Surgery	
Colon & Rectal Surgery	
Dermatology	
Dermatology	Clinical & Laboratory Dermatological Immunology Dermatopathology Pediatric Dermatology
Emergency Medicine	
Emergency Medicine	Medical Toxicology Pediatric Emergency Medicine Sports Medicine Undersea & Hyperbaric Medicine
Family Practice	
Family Practice	Geriatric Medicine Sports Medicine
Internal Medicine	
Internal Medicine	Adolescent Medicine Cardiovascular Disease Clinical Cardiac Electrophysiology Clinical & Laboratory Immunology Critical Care Medicine Endocrinology, Diabetes & Metabolisim Gastroenterology Geriatric Medicine Hematology Infectious Disease Interventional Cardiology Medical Oncology Nephrology Pulmonary Disease Rheumatology Sports Medicine

Specialty Board/ Specialty Certificates	Subspecialty Certificates
Medical Genetics	
Clinical Biochemical Genetics	
Clinical Cytogenetics	Molecular Genetic Pathology
Clinical Genetics (MD)	
Cllinical Molecular Genetics	
Ph.D. Medical Genetics	
NeurologicalSurgery	
Neurological Surgery	
Nuclear Medicine	
Nuclear Medicine	
Obstetrics & Gynecology	
Obstetrics & Gynecology	Critical Care Medicine
	Gynecologic Oncology
	Maternal-Fetal Medicine
	Reproductive Endocrinology
Ophthalmology	
Ophthalmology	
Orthopaedic Surgery	
Orthopaedic Surgery	Hand Surgery
Otolaryngology	
Otolaryngology	Otology/Neurotology
	Pediatric Otolaryngology
	Plastic Surgery within the Head and Neck
Pathology	
Pathology	Blood Banking/Transfusion Medicine
Anatomic Pathology	Chemical Pathology
& Clinical Pathology	Cytopathology
Anatomic Pathology	Dermatopathology
Clinical Pathology	Forensic Pathology
	Hematology
	Medical Microbiology
	Molecular Genetic Pathology
	Neuropathology
	Pediatric Pathology
Pediatrics	
Pediatrics	Adolescent Medicine
	Clinical & Laboratory Immunology
	Developmental-Behavioral Pediatrics
	Medical Toxicology
	Neonatal-Perinatal Medicine
	Neurodevelopmental Disabilities
	Pediatric Cardiology
	Pediatric Critical Care Medicine
	Pediatric Emergency Medicine
	Pediatric Endocrinology

Specialty Board/ Specialty Certificates	Subspecialty Certificates
	Pediatric Gastroenterology Pediatric Hematology-Oncology Pediatric Infectious Diseases Pediatric Nephrology Pediatric Pulmonology Pediatric Rheumatology Sports Medicine
Physical Medicine & Rehabilitation	
Physical Medicine & Rehabilitation	Pain Medicine Pediatric Rehabilitation Medicine Spinal Cord Injury Medicine
Plastic Surgery	
Plastic Surgery	Plastic Surgery Within the Head and Neck Surgery of the Hand
Preventive Medicine	
Aerospace Medicine Occupational Medicine Public Health & General Preventive Medicine	Medical Toxicology Undersea & Hyperbaric Medicine
Psychiatry & Neurology	
Psychiatry Neurology Neurology with Special Qualifications in Child Neurology	Addiction Psychiatry Child & Adolescent Psychiatry Clinical Neurophysiology Forensic Psychiatry Geriatric Psychiatry Neurodevelopmental Disabilities Pain Medicine
Radiology	
Diagnostic Radiology Radiation Oncology Radiological Physics Radiology	Neuroradiology Nuclear Radiology Pediatric Radiology Vascular & Interventional Radiology
Surgery	
Surgery	Pediatric Surgery Surgery of the Hand Surgical Critical Care Vascular Surgery
Thoracic Surgery	
Thoracic Surgery	
Urology	
Urology	

Introduction

Everyone knows that a "medical doctor" is a physician who has had years of training to understand the diagnosis, treatment, and prevention of disease. The basic training for a physician specialist includes four years of premedical education in a college or university, four years of medical school, and after receiving the M.D. degree, at least three years of specialty training under supervision (called a "residency"). Training in subspecialties can take an additional one to three years.

The process most widely used by physicians to tell whether and why you are sick is to ask you, and/or family members, questions about your health and past medical history. This process, "taking a history," is usually followed by an appropriate physical examination of your body to determine how well it is functioning and whether there are signs of disease. Doctors also use a variety of tests such as lab tests, x-rays, other imaging techniques, and additional procedures to evaluate your health and identify any diseases or other health problems which may be present. Some of these diagnostic procedures (e.g., cardiac catheterization, CT scans, biopsy of internal tissues) are very complicated. They require many years of training in order to use them safely and accurately.

After the diagnostic process is completed, the doctor will recommend treatment if it is needed. Treatment may involve medication, surgery (there are many types of surgical specialists), or other complex procedures.

Some specialists are primary care doctors, such as family physicians, general internists, and general pediatricians. Other specialists concentrate on certain body systems, specific age groups, or complex scientific techniques developed to diagnose or treat certain types of disorders. Specialties in medicine developed because of the rapidly expanding body of knowledge about health and illness and the constantly evolving new treatment techniques for disease.

A subspecialist is a physician who has completed training in a general medical specialty and then takes additional training in a more specific area of that specialty called a subspecialty. This training increases the depth of knowledge and expertise of the specialist in that particular field.

For example, cardiology is a subspecialty of internal medicine and pediatrics, pediatric surgery is a subspecialty of surgery, and child and adolescent psychiatry is a subspecialty of psychiatry. The training of a subspecialist within a specialty requires an additional one or more years of full-time education.

Training of a Specialist: The training of a specialist begins after the doctor has received the M.D. degree from a medical school, in what is called a residency. Resident physicians dedicate themselves for three to seven years to full-time experience in hospital and/or ambulatory care settings, caring for patients under the supervision of experienced specialists. Educational conferences and research experience are often part of that training. In years past, the first year of post-medical school training was called an internship, but is now called residency.

Licensure, the legal privilege to practice medicine, is governed by state law and is not designed to recognize the knowledge and skills of a trained specialist. A physician is licensed to practice general medicine and surgery by a state board of medical examiners after passing a state or national licensure examination. Each state or territory has its own procedures to license physicians, and sets the general standards for all physicians in that state or territory.

Who Credentials a Specialist and/or Subspecialist? Specialty boards certify physicians as having met certain published standards. There are 24 specialty boards that are recognized by the American Board of Medical Specialties (ABMS) and the American Medical Association (AMA). All of the specialties and subspecialties recognized by the ABMS and the AMA are listed in the brief descriptions that follow. Remember, a subspecialist first must be trained and certified as a specialist.

In order to be certified as a medical specialist by one of these recognized boards, a physician must complete certain requirements. Generally, these include:

(1) Completion of a course of study leading to the M.D. or D.O. (Doctor of Osteopathy) degree from a recognized school of medicine.

(2) Completion of three to seven years of full-time training in an accredited residency program designed to train specialists in the field.

(3) Many specialty boards require assessments and documentation of individual performance from the residency training director, or from the chief of service in the hospital where the specialist has practiced.
(4) All of the ABMS Member Boards require that a person seeking certification have an unrestricted license to practice medicine in order to take the certification examination.
(5) Finally, each candidate for certification must pass a written examination given by the specialty board. Fifteen of the 24 specialty boards also require an oral examination conducted by senior specialists in that field. Candidates who have passed the exams and other requirements are then given the status of "Diplomate" and are certified as specialists. A similar process is followed for specialists who want to become subspecialists.

All of the ABMS Member Boards now, or will soon, issue only time-limited certificates which are valid for six to ten years. In order to retain certification, diplomates must become "recertified," and must periodically go through an additional process involving continuing education in the specialty, review of credentials and further examination. Boards that may not yet require recertification have provided voluntary recertification with similar requirements.

How to Determine if a Physician is a Certified Specialist: Certified specialists are listed in *The Official ABMS Directory of Board Certified Medical Specialists* published by Marquis Who's Who. The *ABMS Directory* can be found in most public libraries, hospital libraries, university libraries and medical libraries, and is also available on CD-ROM. Alternatively, you could ask for that information from your county medical society, the American Board of Medical Specialties, or one of the specialty boards (see list at the back of this brochure).

The ABMS also arranges for the publication of lists of certified specialists/subspecialists and operates a toll-free phone line (1-866-ASK-ABMS) to verify the certification status of individual physicians. Additionally, information about the ABMS organization and links to an electronic directory of certified specialists can be accessed through the ABMS Web site at **www.abms.org**.

Almost all board certified specialists are also members of their medical specialty societies. These societies are dedicated to furthering standards, practice, and professional and public education within individual medical specialties. Some, such as the American College of Surgeons and the American College of Obstetricians and Gynecologists, require board certification for full membership. A physician who has attained full membership is called a "Fellow" of the society and is entitled to use this designation in all formal communications, such as certificates, publications, business cards, stationery and signage. Thus, "John Doe, M.D., F.A.C.S. (Fellow of the American College of Surgeons) is a board certified surgeon. Similarly, F.A.A.D. (Fellow of the American Academy of Dermatology) following the M.D. or D.O. in a physician's title would likely indicate board certification in that specialty.

An ABMS Policy Statement

The Purpose of Certification*

The intent of the certification process, as defined by the member boards of the American Board of Medical Specialties, is to provide assurance to the public that a certified medical specialist has successfully completed an approved educational program and an evaluation, including an examination process designed to assess the knowledge, experience and skills requisite to the provision of high quality patient care in that specialty.

*Approved by the ABMS Assembly, 3/19/87.

DESCRIPTION OF RECOGNIZED SPECIALTIES AND SUBSPECIALTIES

Allergy and 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 is widening.

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.

Certification in the following subspecialty requires additional training and examination.

Clinical & Laboratory Immunology: A subspecialist who utilizes various laboratory procedures to diagnose and treat disorders characterized by defective responses of the body's immune system. These results are used for patient management.

Anesthesiology

An anesthesiologist is trained to provide pain relief and maintenance, or restoration, of a stable condition during and immediately following an operation, an obstetric or diagnostic procedure. The anesthesiologist assesses the

risk of the patient undergoing surgery and optimizes the patient's condition prior to, during, and after surgery. In addition to these management responsibilities, the anesthesiologist provides medical management and consultation in pain management and critical care medicine. Anesthesiologists diagnose and treat acute, long-standing and cancer pain problems; diagnose and treat patients with critical illnesses or severe injuries; direct resuscitation in the care of patients with cardiac or respiratory emergencies, including the need for artificial ventilation; and supervise post anesthesia recovery.

Training required: Four years

Certification in one of the following subspecialties requires additional training and examination.

Critical Care Medicine: An anesthesiologist who specializes in critical care medicine diagnoses, treats and supports patients with multiple organ dysfunction. This specialist may have administrative responsibilities for intensive care units and may also facilitate and coordinate patient care among the primary physician, the critical care staff, and other specialists.

Pain Medicine: An anesthesiologist who provides a high level of care, either as a primary physician or consultant, for patients experiencing problems with acute, chronic and/or cancer pain in both hospital and ambulatory settings. Patient care needs may also be coordinated with other specialists.

Colon and Rectal Surgery

A colon and rectal surgeon is trained to diagnose and treat various diseases of the intestinal tract, colon, rectum, anal canal, and perianal area by medical and surgical means. This specialist also deals with other organs and tissues (such as the liver, urinary, and female reproductive system) involved with primary intestinal disease.

Colon and rectal surgeons have the expertise to diagnose and often manage anorectal conditions such as hem-

orrhoids, fissures (painful tears in the anal lining), abscesses and fistulae (infections located around the anus and rectum) in the office setting.They also treat problems of the intestine and colon, and perform endoscopic procedures to evaluate and treat problems such as cancer, polyps (precancerous growths), and inflammatory conditions.

Training required: Six years (including general surgery)

Dermatology

A dermatologist is trained 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 of the skin such as hair loss and scars, and the skin changes associated with aging.

Training required: Four years

Certification in one of the following subspecialties requires additional training and examination.

Clinical and Laboratory Dermatological Immunology: A dermatologist who utilizes various specialized laboratory procedures to diagnose disorders characterized by defective responses of the body's immune system. Immunodermatologists also may provide consultaion in the management of these disorders and administer specialized forms of therapy for these diseases.

Dermatopathology: A dermatopathologist has the expertise to diagnose and monitor diseases of the skin

including infectious, immunologic, degenerative, and neoplastic diseases. This entails the examination and interpretation of specially prepared tissue sections, cellular scrapings, and smears of skin lesions by means of routine and special (electron and fluorescent) microscopes.

Pediatric Dermatology: A pediatric dermatologist has, through additional special training, developed expertise in the treatment of specific skin disease categories with emphasis on those diseases which predominate in infants, children and adolescents.

Emergency Medicine

An emergency physician focuses on the immediate decision making and action necessary to prevent death or any further disability both in the pre-hospital setting by directing emergency medical technicians and in the emergency department. The emergency physician provides immediate recognition, evaluation, care, stabilization and disposition of a generally diversified population of adult and pediatric patients in response to acute illness and injury.

Training required: Three years

Certification in one of the following subspecialties requires additional training and examination.

Medical Toxicology: An emergency physician who has special knowledge about the evaluation and management of patients with accidental or purposeful poisoning through exposure to prescription and nonprescription medications, drugs of abuse, household or industrial toxins, and environmental toxins.

Areas of medical toxicology include acute pediatric and adult drug ingestion; drug abuse, addiction and withdrawal; chemical poisoning exposure and toxicity; hazardous materials exposure and toxicity; and occupational toxicology.

Pediatric Emergency Medicine: An emergency physician who has special qualifications to manage emergencies in infants and children.

Sports Medicine: An emergency physician with special knowledge in sports medicine is responsible for continuous care in the field of sports medicine, not only for the enhancement of health and fitness, but also for the prevention and management of injury and illness. A sports medicine physician has knowledge and experience in the promotion of wellness and the role of exercise in promoting a healthy lifestyle. Knowledge of exercise physiology, biomechanics, nutrition, psychology, physical rehabilitation and epidemiology is essential to the practice of sports medicine.

Undersea & Hyperbaric Medicine: An emergency medicine physician who, with additional and specialized training, has expertise in the treatment of decompression illness and diving accident cases and uses hyperbaric oxygen therapy treatment for conditions such as carbon monoxide poisioning, gas gangrene, non-healing wounds, tissue damage from radiation and burns, and bone infections. This specialist also serves as consultant to other physicians in all aspects of hyperbaric chamber operations, and assesses risks and applies appropriate standards to prevent disease and disability in divers and other persons working in altered atmospheric conditions.

Family Practice

A family physician is concerned with the total health care of the individual and the family, and is trained to diagnose and treat a wide variety of ailments in patients of all ages. The family physician receives a broad range of training that includes internal medicine, pediatrics, obstetrics and gynecology, psychiatry, and geriatrics. Special emphasis is placed on prevention and the primary care of entire families, utilizing consultations and community resources when appropriate.

Training required: Three years

Certification in one of the following subspecialties requires additional training and examination.

Geriatric Medicine: A family physician with special knowledge of the aging process and special skills in the diagnostic, therapeutic, preventive, and rehabilitative aspects of illness in the elderly. This specialist cares for geriatric patients in the patient's home, the office, long-term care settings such as nursing homes, and the hospital.

Sports Medicine: A family practice physician who is trained to be responsible for continuous care in the field of sports medicine, not only for the enhancement of health and fitness, but also for the prevention of injury and illness. A sports medicine physician must have knowledge and experience in the promotion of wellness and the prevention of injury. Knowledge about special areas of medicine such as exercise physiology, biomechanics, nutrition, psychology, physical rehabilitation, epidemiology, physical evaluation, injuries (treatment and prevention and referral practice), and the role of exercise in promoting a healthy life style are essential to the practice of sports medicine. The sports medicine physician requires special education to provide the knowledge to improve the healthcare of the individual engaged in physical exercise (sports) whether as an individual or in team participation.

Internal Medicine

A personal physician who 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.

Training required: Three years

Certification in one of the following subspecialties requires additional training and examination.

Adolescent Medicine: An internist who specializes in adolescent medicine is a multi-disciplinary health care specialist trained in the unique physical, psychological, and social characteristics of adolescents, their health care problems and needs.

Cardiovascular Disease: An internist who specializes in diseases of the heart, lungs, and blood vessels and manages complex cardiac conditions such as heart attacks and life-threatening, abnormal heartbeat rhythms.

Clinical Cardiac Electrophysiology: A field of special interest within the subspecialty of cardiovascular disease which involves intricate technical procedures to evaluate heart rhythms and determine appropriate treatment for them.

Clinical & Laboratory Immunology: An internist who uses laboratory tests and complex procedures to diagnose and treat disorders characterized by defective responses of the body's immune system.

Critical Care Medicine: An internist who diagnoses, treats and supports patients with multiple organ dysfunction. This specialist may have administrative responsibilities for intensive care units and may also facilitate and coordinate patient care among the primary physician, the critical care staff, and other specialists.

Endocrinology, Diabetes and Metabolism: An internist who concentrates on disorders of the internal (endocrine) glands such as the thyroid and adrenal glands. This specialist also deals with disorders such as diabetes, metabolic and nutritional disorders, pituitary diseases, and menstrual and sexual problems.

Gastroenterology: An internist who specializes in diagnosis and treatment of diseases of the digestive organs including the stomach, bowels, liver, and gallbladder. This specialist treats conditions such as abdominal pain, ulcers, diarrhea, cancer, and jaundice and performs complex

diagnostic and therapeutic procedures using endoscopes to see internal organs.

Geriatric Medicine: An internist with special knowledge of the aging process and special skills in the diagnostic, therapeutic, preventive, and rehabilitative aspects of illness in the elderly. This specialist cares for geriatric patients in the patient's home, the office, long-term care settings such as nursing homes, and the hospital.

Hematology: An internist with additional training who specializes in diseases of the blood, spleen, and lymph glands. This specialist treats conditions such as anemia, clotting disorders, sickle cell disease, hemophilia, leukemia, and lymphoma.

Infectious Disease: An internist who deals with infectious diseases of all types and in all organs. Conditions requiring selective use of antibiotics call for this special skill. This physician often diagnoses and treats AIDS patients and patients with fevers which have not been explained. Infectious disease specialists may also have expertise in preventive medicine and conditions associated with travel.

Interventional Cardiology: An area of medicine within the subspecialty of cardiology which uses specialized imaging and other diagnostic techniques to evaluate blood flow and pressure in the coronary arteries and chambers of the heart and technical procedures and medications to treat abnormalities that impair the function of the heart.

Medical Oncology: An internist who specializes in the diagnosis and treatment of all types of cancer and other benign and malignant tumors. This specialist decides on and administers chemotherapy for malignancy, as well as consulting with surgeons and radiotherapists on other treatments for cancer.

Nephrology: An internist who treats disorders of the kidney, high blood pressure, fluid and minera l balance, and dialysis of body wastes when the kidneys do not function. This specialist consults with surgeons about kidney transplantation.

Pulmonary Disease: An internist who treats diseases of the lungs and airways. The pulmonologist diagnoses and treats cancer, pneumonia, pleurisy, asthma, occupational diseases, bronchitis, sleep disorders, emphysema, and other complex disorders of the lungs.

Rheumatology: An internist who treats diseases of joints, muscle, bones, and tendons.This specialist diagnoses and treats arthritis, back pain, muscle strains, common athletic injuries, and "collagen" diseases.

Sports Medicine: An internist trained to be responsible for continuous care in the field of sports medicine, not only for the enhancement of health and fitness, but also for the prevention of injury and illness. A sports medicine physician must have knowledge and experience in the promotion of wellness and the prevention of injury. Knowledge about special areas of medicine such as exercise physiology, biomechanics, nutrition, psychology, physical rehabilitation, epidemiology, physical evaluation, injuries (treatment and prevention and referral practice), and the role of exercise in promoting a healthy life style are essential to the practice of sports medicine. The sports medicine physician requires special education to provide the knowledge to improve the health care of the individual engaged in physical exercise (sports) whether as an individual or in team participation.

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.

Training required: Two or four years

The Board issues multiple general certificates in the following areas of genetics:

Clinical Biochemical Genetics: A clinical biochemical geneticist demonstrates competence in performing and interpreting biochemical analyses relevant to the diagnosis and management of human genetic diseases, and is a consultant regarding laboratory diagnosis of a broad range of inherited disorders.

Clinical Cytogenetics: A clinical cytogeneticist demonstrates competence in providing laboratory diagnostic and clinical interpretive services dealing with cellular components, particularly chromosomes, associated with heredity.

Clinical Genetics (M.D.): A clinical geneticist demonstrates competence in providing comprehensive diagnostic, management, and counseling services for genetic disorders.

Clinical Molecular Genetics: A clinical molecular geneticist demonstrates competence in performing and interpreting molecular analyses relevant to the diagnosis and management of human genetic diseases, and is a consultant regarding laboratory diagnosis of a broad range of inherited disorders.

Ph.D. Medical Genetics: A medical geneticist works in association with a medical specialist, is affiliated with a clinical genetics program, and serves as a consultant to medical and dental specialists.

Certification in the following subspecialty requires one year additional training and examination.

Molecular Genetic Pathology: A molecular genetic pathologist is expert in the principles, theory, and technologies of molecular biology and molecular genetics. This expertise is used to make or confirm diagnoses of Mendelian genetic disorders, of human development, infectious diseases and malignancies, and to assess the natural his-

tory of those disorders. A molecular genetic pathologist provides information about gene structure, function, and alteration and applies laboratory techniques for diagnosis, treatment, and prognosis for individuals with related disorders.

Neurological Surgery

A neurological surgeon provides the operative and non-operative management (i.e., prevention, diagnosis, evaluation, treatment, critical care, and rehabilitation) of disorders of the central, peripheral, and autonomic nervous systems, including their supporting structures and vascular supply; the evaluation and treatment of pathological processes which modify function or activity of the nervous system; and the operative and non-operative management of pain. A neurological surgeon treats patients with disorders of the nervous system; disorders of the brain, meninges, skull, and their blood supply, including the extracranial carotid and vertebral arteries; disorders of the pituitary gland; disorders of the spinal cord, meninges, and vertebral column, including those which may require treatment by spinal fusion or instrumentation; and disorders of the cranial and spinal nerves throughout their distribution.

Training required: Seven years (including general surgery).

Neurology/ Child Neurology

A neurologist specializes in the diagnosis and treatment of all types of disease or impaired function of the brain, spinal cord, peripheral nerves, muscles, and autonomic nervous system, as well as the blood vessels that relate to these structures. A child neurologist has special skills in the diagnosis and management of neurologic disorders of the neonatal period, infancy, early childhood, and adolescence.

Training required: Four years

Certification in one of the following subspecialties requires additional training and examination.

Clinical Neurophysiology: A neurologist who specializes in the diagnosis and management of central, peripheral, and autonomic nervous system disorders using a combination of clinical evaluation and electrophysiologic testing such as electroencephalography (EEG), electromyography (EMG), and nerve conduction studies (NCS), among others.

Neurodevelopmental Disabilities: A pediatrician or neurologist who specializes in the diagnosis and management of chronic conditions that affect the developing and mature nervous system such as cerebral palsy, mental retardation, and chronic behavioral syndromes, or neurologic conditions.

Pain Medicine: A neurologist or child neurologist who provides a high level of care, either as a primary physician or consultant, for patients experiencing problems with acute, chronic or cancer pain in both hospital and ambulatory settings. Patient care needs may also be coordinated with other specialists.

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 fundementals of the physical sciences and the principles and operation of radiation detection and imaging instrumentation systems.

Training required: Three years

Obstetrics and Gynecology

An obstetrician/gynecologist possesses special knowledge, skills, and professional capability in the medical and surgical care of the female reproductive system and associated disorders. This physician serves as a consultant to other physicians, and as a primary physician for women.

Training required: Four years plus two years in clinical practice before certification is complete.

Certification in one of the following subspecialties requires additional training and examination.

Critical Care Medicine: An obstetrician-gynecologist who specializes in critical care medicine diagnoses, treats and supports female patients with multiple organ dysfunction. This specialist may have administrative responsibilities for intensive care units and may also facilitate and coordinate patient care among the primary physician, the critical care staff, and other specialists.

Gynecologic Oncology: An obstetrician/gynecologist who provides consultation and comprehensive management of patients with gynecologic cancer, including those diagnostic and therapeutic procedures necessary for the total care of the patient with gynecologic cancer and resulting complications.

Maternal-Fetal Medicine: An obstetrician/gynecologist who cares for, or provides consultation on, pa-

tients with complications of pregnancy. This specialist has advanced knowledge of the obstetrical, medical, and surgical complications of pregnancy, and their effect on both the mother and the fetus. He/she also possesses expertise in the most current diagnostic and treatment modalities used in the care of patients with complicated pregnancies.

Reproductive Endocrinology: An obstetrician/gynecologist who is capable of managing complex problems relating to reproductive endocrinology and infertility.

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 sturctures, the eyelids, the orbit and the visual pathways. In so doing, an ophthalmologist prescribes vision services, including glasses and contact lenses.

Training required: Four years

Orthopaedic Surgery

An orthopaedic surgeon is trained in the preservation, investigation and restoration of the form and function of the extremities, spine, and associated structures by medical, surgical, and physical means.

An orthopaedic surgeon is involved with the care of patients whose musculoskeletal problems include congenital deformities, trauma, infections, tumors, metabolic disturbances of the musculoskeletal system, deformities, injuries, and degenerative diseases of the spine, hands, feet, knee, hip, shoulder, and elbow in children and adults. An orthopaedic surgeon is also concerned with primary and secondary muscular problems and the effects of central or

peripheral nervous system lesions of the musculoskeletal system.

Training required: Five years (including general surgery training) plus two years in clinical practice before final certification is achieved.

Certification in the following subspecialty requires additional training and examination.

Hand Surgery: A specialist trained in the investigation, preservation and restoration by medical, surgical, and rehabilitative means of all structures of the upper extremity directly affecting the form and function of the hand and wrist.

Otolaryngology

An otolaryngologist-head and neck surgeon provides comprehensive medical and surgical care for patients with diseases and disorders that affect the ears, nose, throat, the respiratory and upper alimentary systems and related structures of the head and neck.

An otolaryngologist diagnoses and provides medical and/or surgical therapy or prevention of diseases, allergies, neoplasms, deformities, disorders and/or injuries of the ears, nose, sinuses, throat, respiratory and upper alimentary systems, face, jaws, and the other head and neck systems. Head and neck oncology, facial plastic and reconstructive surgery, and the treatment of disorders of hearing and voice are fundamental areas of expertise.

Training required: Five years

Certification in one of the following subspecialties requires additional training and examination.

Otology/Neurotology: An otolaryngologist who treats diseases of the ear and temporal bone, including disorders of hearing and balance. The additional training in otology and neurotology emphasizes the study of embryology,

anatomy, physiology, epidemiology, pathophysiology, pathology, genetics, immunology, microbiology, and the etiology of diseases of the ear and temporal bone.

Pediatric Otolaryngology: A pediatric otolaryngologist has special expertise in the management of infants and children with disorders that include congenital and acquired conditions involving the aerodigestive tract, nose and paranasal sinuses, the ear, and other areas of the head and neck. The pediatric otolaryngologist has special skills in the diagnosis, treatment, and management of childhood disorders of voice, speech, language, and hearing.

Plastic Surgery within the Head and Neck: An otolaryngologist with additional training in plastic and reconstructive procedures within the head, face, neck and associated structures, including cutaneous head and neck oncology and reconstruction, management of maxillofacial trauma, soft tissue repair and neural surgery.

The field is diverse and involves a wide age range of patients, from the newborn to the aged. While both cosmetic and reconstructive surgery are practiced, there are many additional procedures which interface with them.

Pathology

A pathologist deals with the causes and nature of disease and contributes to diagnosis, prognosis, and treatment through knowledge gained by the laboratory application of the biologic, chemical, and physical sciences.

A pathologist uses information gathered from the microscopic examination of tissue specimens, cells, and body fluids, and from clinical laboratory tests on body fluids and secretions for the diagnosis, exclusion, and monitoring of disease.

Training required: Five to seven years

Certification in one of the following subspecialties requires additional training and examination.

Blood Banking/Transfusion Medicine: A physician who specializes in blood banking/transfusion medicine is responsible for the maintenance of an adequate blood supply, blood donor and patient-recipient safety, and appropriate blood utilization. Pretransfusion compatibility testing and antibody testing assure that blood transfusions, when indicated, are as safe as possible. This physician directs the preparation and safe use of specially prepared blood components, including red blood cells, white blood cells, platelets, and plasma constituents.

Chemical Pathology: A chemical pathologist has expertise in the biochemistry of the human body as it applies to the understanding of the cause and progress of disease. This physician functions as a clinical consultant in the diagnosis and treatment of human disease. Chemical pathology entails the application of biochemical data to the detection, confirmation, or monitoring of disease.

Cytopathology: A cytopathologist is an anatomic pathologist trained in the diagnosis of human disease by means of the study of cells obtained from body secretions and fluids, by scraping, washing, or sponging the surface of a lesion, or by the aspiration of a tumor mass or body organ with a fine needle. A major aspect of a cytopathologist's practice is the interpretation of Papanicolaou-stained smears of cells from the female reproductive systems, the "Pap" test. However, the cytopathologist's expertise is applied to the diagnosis of cells from all systems and areas of the body. He/she is a consultant to all medical specialists.

Dermatopathology: A dermatopathologist is expert in diagnosing and monitoring diseases of the skin including infectious, immunologic, degenerative, and neoplastic diseases. This entails the examination and interpretation of specially prepared tissue sections, cellular scrapings, and smears of skin lesions by means of light microscopy, electron microscopy, and fluorescence microscopy.

Forensic Pathology: A forensic pathologist is expert in investigating and evaluating cases of sudden, unexpected, suspicious, and violent death as well as other specific classes of death defined by law. The forensic patholo-

gist serves the public as coroner or medical examiner, or by performing medicolegal autopsies for such officials.

Hematology: A physician who is expert in diseases that affect blood cells, blood clotting mechanisms, bone marrow, and lymph nodes. He/she has the knowledge and technical skills essential for the laboratory diagnosis of anemias, leukemias, lymphomas, bleeding disorders, and blood clotting disorders.

Medical Microbiology: A physician who is expert in the isolation and identification of microbial agents that cause infectious disease. Viruses, bacteria, and fungi, as well as parasites are identified and, where possible, tested for susceptibility to appropriate antimicrobial agents.

Molecular Genetic Pathology: A molecular genetic pathologist is expert in the principles, theory, and technologies of molecular biology and molecular genetics. This expertise is used to make or confirm diagnoses of Mendelian genetic disorders, disorders of human development, infectious diseases and malignancies, and to assess the natural history of those disorders. A molecular genetic patholigist provides information about gene structure, function, and alteration and applies laboratory techniques for diagnosis, treatment, and prognosis for individuals with related disorders.

Neuropathology: A neuropathologist is expert in the diagnosis of diseases of the nervous system and skeletal muscles and functions as a consultant primarily to neurologists and neurosurgeons. The neuropathologist is knowledgeable in the infirmities of humans as they affect the nervous and neuromuscular systems, be they degenerative, infectious, metabolic, immunologic, neoplastic, vascular, or physical in nature.

Pediatric Pathology: A pediatric pathologist is expert in the laboratory diagnosis of diseases that occur during fetal growth, infancy, and child development. The practice requires a strong foundation in general pathology and substantial understanding of normal growth and development, along with extensive knowledge of pediatric medicine.

Pediatrics

A pediatrician is concerned with the physical, emotional, and social health of children from birth to young adulthood. Care encompasses a broad spectrum of health services ranging from preventive health care to the diagnosis and treatment of acute and chronic diseases.

A pediatrician deals with biological, social, and environmental influences on the developing child, and with the impact of disease and dysfunction on development.

Training required: Three years

Certification in one of the following subspecialties requires additional training and examination.

Adolescent Medicine: A pediatrician who specializes in adolescent medicine is a multi-disciplinary health care specialist trained in the unique physical, psychological, and social characteristics of adolescents, their health care problems and needs.

Clinical & Laboratory Immunology: A pediatrician who utilizes laboratory tests and complex procedures to diagnose and treat disorders characterized by defective responses of the body's immune system.

Developmental-Behavioral Pediatrics: A developmental-behavioral specialist is a pediatrician with special training and experience who aims to foster understanding and promotion of optimal development of children and families through research, education, clinical care, and advocacy efforts. This physician assists in the prevention, diagnosis, and management of developmental difficulties and problematic behaviors in children, and in the family dysfunctions that compromise children's development.

Medical Toxicology: A pediatrician who focuses on the evaluation and management of patients with accidental or intentional poisoning through exposure to prescription and non-prescription medications, drugs of abuse, household or industrial toxins, and environmental toxins.

Important areas of medical toxicology include acute pediatric and adult drug ingestion; drug abuse, addiction and withdrawal; chemical poisoning exposure and toxicity; hazardous materials exposure and toxicity; and occupational toxicology.

Neonatal-Perinatal Medicine: A pediatrician who is the principal care provider for sick newborn infants. Clinical expertise is used for direct patient care and for consulting with obstetrical colleagues to plan for the care of mothers who have high-risk pregnancies.

Neurodevelopmental Disabilities: A pediatrician who treats children having developomental delays, or learning disorders, including those associated with visual and hearing impairment, mental retardation, cerebral palsy, spina bifida, autism, and other chronic neurologic conditions. This specialist provides medical consultation and education and assumes leadership in the interdisciplinary management of children with neurodevelopmental disorders. They may also focus on the early identification and diagnosis of neurodevelopmental disabilities in infants and young children as well as on changes that occur as the child with developmental disabilities grows.

Pediatric Cardiology: A pediatric cardiologist provides comprehensive care to patients with cardiovascular problems. This specialist is skilled in selecting, performing, and evaluating the structural and functional assessment of the heart and blood vessels, and the clinical evaluation of cardiovascular disease.

Pediatric Critical Care Medicine: A pediatrician expert in advanced life support for children from the term or near-term neonate to the adolescent. This competence extends to the critical care management of life-threatening organ system failure from any cause in both medical and surgical patients, and to the support of vital physiological functions.

This specialist may have administrative responsibilities for intensive care units and also facilitate patient care among other specialists.

Pediatric Emergency Medicine: A pediatrician who has special qualifications to manage emergencies in infants and children.

Pediatric Endocrinology: A pediatrician who provides expert care to infants, children and adolescents who have diseases that result from an abnormality in the endocrine glands (glands which secrete hormones). These diseases include diabetes mellitus, growth failure, unusual size for age, early or late pubertal development, birth defects, the genital region, and disorders of the thyroid, the adrenal and pituitary glands.

Pediatric Gastroenterology: A pediatrician who specializes in the diagnosis and treatment of diseases of the digestive systems of infants, children, and adolescents. This specialist treats conditions such as abdominal pain, ulcers, diarrhea, cancer, and jaundice and performs complex diagnostic and therapeutic procedures using lighted scopes to see internal organs.

Pediatric Hematology-Oncology: A pediatrician trained in the combination of pediatrics, hematology and oncology to recognize and manage pediatric blood disorders and cancerous diseases.

Pediatric Infectious Diseases: A pediatrician trained to care for children in the diagnosis, treatment and prevention of infectious diseases.

This specialist can apply specific knowledge to affect a better outcome for pediatric infections with complicated courses, underlying diseases that predispose to unusual or severe infections, unclear diagnoses, uncommon diseases, and complex or investigational treatments.

Pediatric Nephrology: A pediatrician who deals with the normal and abnormal development and maturation of the kidney and urinary tract, the mechanisms by which the kidney can be damaged, the evaluation and treatment of renal diseases, fluid and electrolyte abnormalities, hypertension, and renal replacement therapy.

Pediatric Pulmonology: A pediatrician dedicated to the prevention and treatment of all respiratory diseases affecting infants, children, and young adults. This specialist is knowledgable about the growth and development of the lung, assessment of respiratory function in infants and

children, and experienced in a variety of invasive and noninvasive diagnostic techniques.

Pediatric Rheumatology: A pediatrician who treats diseases of joints, muscle, bones, and tendons. A pediatric rheumatologist diagnoses and treats arthritis, back pain, muscle strains, common athletic injuries, and "collagen" diseases.

Sports Medicine: A pediatrician who is responsible for continuous care in the field of sports medicine, not only for the enhancement of health and fitness, but also for the prevention of injury and illness. A sports medicine physician must have knowledge and experience in the promotion of wellness and the prevention of injury. Knowledge about special areas of medicine such as exercise physiology, biomechanics, nutrition, psychology, physical rehabilitation, epidemiology, physical evaluation, injuries (treatment and prevention and referral practice), and the role of exercise in promoting a healthy life style are essential to the practice of sports medicine. The sports medicine physician requires special education to provide the knowledge to improve the health care of the individual engaged in physical exercise (sports) whether as an individual or in team participation.

Physical Medicine and Rehabilitation

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 (artifical limbs), orthotics, and mechanical and electrical devices.

Training required: Four years plus one year clinical practice.

Certification in one of the following subspecialties requires additional training and examination.

Pain Medicine: A physician who provides a high level of care, either as a primary physician or consultant, for patients experiencing problems with acute, chronic or cancer pain in both hospital and ambulatory settings.

Pediatric Rehabilitation Medicine: A physiatrist who utilizes an interdisciplinary approach and addresses the prevention, diagnosis, treatment, and management of congenital and childhood onset physical impairments including related or secondary medical, physical, functional, psychosocial, and vocational limitations or conditions, with an understanding of the life course of disability.

This physician is trained in the identification of functional capabilities and selection of the best of rehabilitation intervention strategies, with an understanding of the continuum of care.

Spinal Cord Injury Medicine: A physician who addresses the prevention, diagnosis, treatment, and management of traumatic spinal cord injury and non-traumatic etiologies of spinal cord dysfunction by working in an interdisciplinary manner. Care is provided to patients of all ages on a lifelong basis and covers related medical, physical, psychological, and vocational disabilities and complications.

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. He/she uses aesthetic surgical principles not only to improve undesirable qualities of normal structures but in all reconstructive procedures as well.

A plastic surgeon possesses special knowledge and skill in the design and surgery of grafts, flaps, free tissue transfer and replantation. Competence in the management of complex wounds, the use of implantable materials, and in tumor surgery is required.

Training required: Five to seven years

Certification in one of the following subspecialties requires additional training and examination.

Plastic Surgery within the Head and Neck: A plastic surgeon with additional training in plastic and reconstructive procedures within the head, face, neck and associated structures, including cutaneous head and neck oncology and reconstruction, management of maxillofacial trauma, soft tissue repair and neural surgery.

The field is diverse and involves a wide age range of patients, from the newborn to the aged. While both cosmetic and reconstructive surgery are practiced, there are many additional procedures which interface with them.

Surgery of the Hand: A plastic surgeon with additional training in the investigation, preservation, and restoration by medical, surgical, and rehabilitative means, of all structures of the upper extremity directly affecting the form and function of the hand and wrist.

Preventive Medicine

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 premature 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.

Training required: Three years

Certification in one of the following subspecialties requires additional training and examination.

Medical Toxicology: A specialist who is expert in the evaluation and management of patients with accidental or intentional poisoning through exposure to prescription and

nonprescription medications, drugs of abuse, household or industrial toxins, and environmental toxins.

Important areas of medical toxicology include acute pediatric and adult drug ingestion; drug abuse, addiction and withdrawal; chemical poisoning exposure and toxicity; hazardous materials exposure and toxicity; and occupational toxicology.

Undersea and Hyperbaric Medicine: A specialist who treats decompression illness and diving accident cases and uses hyperbaric oxygen therapy to treat such conditions as carbon monoxide poisoning, gas gangrene, nonhealing wounds, tissue damage from radiation and burns, and bone infections. This specialist also serves as consultant to other physicians in all aspects of hyperbaric chamber operations, and assesses risks and applies appropriate standards to prevent disease and disability in divers and other persons working in altered atmospheric conditions.

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 biologic, psychologic, 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 psychologic and interpersonal problems, and to intervene with families who are coping with stress, crises, and other problems in living.

Training required: Four years

Certification in one of the following subspecialties requires additional training and examination.

Addiction Psychiatry: A psychiatrist who focuses on the evaluation and treatment of individuals with alcohol, drug, or other substance-related disorders and of individu-

als with the dual diagnosis of substance-related and other psychiatric disorders.

Child and Adolescent Psychiatry: A psychiatrist with additional training in the diagnosis and treatment of developmental, behavioral, emotional, and mental disorders of childhood and adolescence.

Clinical Neurophysiology: A psychiatrist with expertise in the diagnosis and management of central, peripheral, and autonomic nervous system disorders using a combination of clinical evaluation and electrophysiologic testing such as electroencephalography (EEG), electromyography (EMG), and nerve conduction studies (NCS).

Forensic Psychiatry: A psychiatrist who focuses on the interrelationships between psychiatry and civil, criminal, and administrative law. This specialist evaluates individuals involved with the legal system and provides specialized treatment to those incarcerated in jails, prisons, and forensic psychiatry hospitals.

Geriatric Psychiatry: A psychiatrist with expertise in the prevention, evaluation, diagnosis, and treatment of mental and emotional disorders in the elderly. The geriatric psychiatrist seeks to improve the psychiatric care of the elderly both in health and in disease.

Pain Medicine: A psychiatrist who provides a high level of care, either as a primary physician or consultant, for patients experiencing problems with acute, chronic or cancer pain in both hospital and ambulatory settings. Patient care needs may also be coordinated with other specialists.

Radiology

A radiologist utilizes radiologic methodologies to diagnose and treat disease. Physicians practicing in the field of radiology most often specialize in radiology, diagnostic radiology, radiation oncology, or radiological physics.

Diagnostic Radiology: A radiologist who utilizes x-ray, radionuclides, ultrasound, and electromagnetic radiation to diagnose and treat disease.

Radiation Oncology: A radiologist who deals with the therapeutic applications of radiant energy and its modifiers and the study and management of disease, especially malignant tumors.

Radiological Physics: A radiological physicist deals with the diagnostic and therapeutic applications of roentgen rays, gamma rays from sealed sources, ultrasonic radiation, and radio-frequency radiation, as well as the equipment associated with their production and use, including radiation safety.

Training required: Four years

Certification in one of the following subspecialties requires additional training and examination.

Neuroradiology: A radiologist who diagnoses and treats diseases utilizing imaging procedures as they relate to the brain, spine and spinal cord, head, neck, and organs of special sense in adults and children.

Nuclear Radiology: A radiologist who is involved in the analysis and imaging of radionuclides and radiolabeled substances in vitro and in vivo for diagnosis, and the administration of radionuclides and radiolabeled substances for the treatment of disease.

Pediatric Radiology: A radiologist who is proficient in all forms of diagnostic imaging as it pertains to the treatment of diseases in the newborn, infant, child, and adolescent. This specialist has knowledge of both imaging and interventional procedures related to the care and management of diseases of children. A pediatric radiologist must be highly knowledgeable of all organ systems as they relate to growth and development, congenital malformations, diseases peculiar to infants and children, and diseases that begin in childhood but cause substantial residual impairment in adulthood.

Vascular & Interventional Radiology: A radiologist who diagnoses and treats diseases by various radiologic imaging modalities. These include fluoroscopy, digital radiography, computed tomography, sonography and magnetic resonance imaging.

General Surgery

A surgeon manages a broad spectrum of surgical conditions affecting almost any area of the body. The surgeon establishes the diagnosis and provides the preoperative, operative, and postoperative care to surgical patients and is usually responsible for the comprehensive management of the trauma victim and the critically ill surgical patient.

The surgeon uses a variety of diagnostic techniques, including endoscopy, for observing internal structures, and may use specialized instruments during operative procedures. A general surgeon is expected to be familiar with the salient features of other surgical specialties in order to recognize problems in those areas and to know when to refer a patient to another specialist.

Training required: Five years

Certification in one of the following subspecialties requires additional training and examination.

Pediatric Surgery: A surgeon with expertise in the management of surgical conditions in premature and newborn infants, children, and adolescents.

Surgery of the Hand: A surgeon with expertise in the investigation, preservation, and restoration by medical, surgical, and rehabilitative means, of all structures of the upper extremity directly affecting the form and function of the hand and wrist.

Surgical Critical Care: A surgeon with expertise in the management of the critically ill and postoperative patient, particularly the trauma victim, who specializes in critical care medicine diagnoses, treats and supports patients with multiple organ dysfunction. This specialist may have

administrative responsibilities for intensive care units and may also facilitate and coordinate patient care among the primary physician, the critical care staff, and other specialists.

Vascular Surgery: A surgeon with expertise in the management of surgical disorders of the blood vessels, excluding the intercranial vessels or the heart.

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.

Training required: Seven to eight years

Urology

A urologist manages benign and malignant medical and surgical disorders of the genitourinary system and the adrenal gland. This specialist has comprehensive knowledge of, and skills in, endoscopic, percutaneous, and open surgery of congenital and acquired conditions of the urinary and reproductive systems and their contiguous structures.

Training required: Five years

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