



MEDICAL & HEALTH CAREER INFORMATION

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SUNY Cobleskill Career Development Center

CHIROPRACTOR

DESCRIPTION: Chiropractors diagnose and treat patients with ailments associated with the muscular, nervous, and skeletal systems caused or affected by misalignment or dysfunction of the spinal column. Chiropractors treat patients primarily by manual manipulation of parts of the body, especially the spinal column. Adjustment of the spinal column relieves related muscle, nerve, and circulatory disturbances.

EDUCATION: All state licensing boards require completion of a 4-year chiropractic college course following at least 2 years of undergraduate education. An increasing number are requiring a 4-year Bachelor's Degree. During the first two years, most chiropractic programs emphasize classroom and laboratory work in basic science subjects such as anatomy, physiology, public health, microbiology, pathology and biochemistry. The last two years stress courses in manipulation and spinal adjustments, and provide clinical experience in physical and laboratory diagnosis, neurology, orthopedics, geriatrics, physiotherapy and nutrition.

Four-Year College in New York State:
New York Chiropractic College

CREDENTIALS: In most states, applicants must show that they have graduated from a chiropractic college accredited by the Council on Chiropractic Education. Applicants must pass a state board examination in order to get a license to practice and can practice only in states where they are licensed.

SALARY: The Bureau of Labor Statistics reports that the median annual earnings of salaried chiropractors were \$65,220 in 2006. The middle 50 percent earned between \$45,710 and \$96,500 a year. In chiropractic, as in other types of independent practice, earnings are relatively low in the beginning and increase as the practice grows. Geographic location and the characteristics and qualifications of the practitioner also may influence earnings.

EMPLOYMENT OUTLOOK: There is a definite demand for chiropractors because of the growing public acceptance of this branch of health care. Hundreds of towns could support a chiropractor, and few cities have enough. Job prospects are, therefore, expected to be good for persons who enter the practice of chiropractic. Employment of chiropractors is expected to **grow faster than average** for all occupations through the year 2014 as consumer demand for alternative health care grows. Because chiropractors emphasize the importance of healthy lifestyles and do not prescribe drugs or perform surgery, chiropractic care is appealing to many health-conscious Americans. Chiropractic treatment of the back, neck, extremities, and joints has become more accepted as a result of research and changing attitudes about alternative, noninvasive health care practices. The rapidly expanding older population, with its increased likelihood of mechanical and structural problems, also will increase demand for chiropractors.

EMT-PARAMEDIC

DESCRIPTION: The paramedic is a rapidly expanding medical role that is gaining in demand. People's lives often depend on the quick reaction and competent care of emergency medical technicians (EMTs) and paramedics. Incidents as varied as automobile accidents, heart attacks, slips and falls, childbirth, and gunshot wounds all require immediate medical attention. As an allied healthcare provider, and the most highly trained EMS provider in the pre-hospital setting, the paramedic responds to medical and traumatic emergencies to provide the critical medical care necessary to support, sustain and restore life. Paramedics may administer drugs orally and intravenously, interpret electrocardiograms (EKGs), perform endotracheal intubations, and use monitors and other complex equipment.

EDUCATION: A high school diploma is usually required to enter a formal emergency medical technician training program. Training is offered at progressive levels. The most advanced level of training is EMT-Paramedic. At this level, the caregiver receives training in anatomy and physiology as well as advanced medical skills. Most commonly, the training is conducted in community colleges and technical schools over 1 to 2 years and may result in an associate's degree. Extensive related coursework and clinical and field experience is required. Paramedic education includes advanced skills in patient assessment, advanced airway management including intubation, cardiac care including ECG monitoring and 12-lead ECG, advanced cardiac life support including defibrillation, advanced medical care including IV therapy, medication administration, and much more. Such education prepares the graduate to take the NREMT examination and become certified as a Paramedic.

Two-Year Colleges in New York State:

SUNY Cobleskill
Herkimer County Community College
Broome County Community College
Dutchess Community College
Hudson Valley Community College
Monroe Community College
SUNY Ulster

CREDENTIALS: The National Registry of Emergency Medical Technicians (NREMT) certifies emergency medical service providers at five levels: First Responder; EMT-Basic; EMT-Intermediate, which has two levels called 1985 and 1999; and Paramedic. What paramedics are permitted to do varies by State.

All 50 States require certification for each of the EMT levels. In most States and the District of Columbia registration with the NREMT is required at some or all levels of certification. Other States administer their own certification examination or provide the option of taking either the NREMT or State examination. To maintain certification, EMTs

and paramedics must recertify, usually every 2 years. Generally, they must be working as an EMT or paramedic and meet a continuing education requirement.

SALARY: The employment opportunities for paramedics vary by region; the national average starting salary in 2008 was \$38,000 (range \$32,909 to \$41,809) according to J.E.M.S. Salary Survey and is approximately \$10,000 more than an Emergency Medical Technician.

EMPLOYMENT OUTLOOK: Employment for paramedics is expected to grow faster than the average for all occupations through 2016. Job prospects should be good, particularly in cities and private ambulance services. Full-time paid paramedics will be needed to replace unpaid volunteers. It is becoming increasingly difficult for emergency medical services to recruit and retain unpaid volunteers because of the amount of training and the large time commitment these positions require. As a result, more paid paramedics are needed. Furthermore, as a large segment of the population—aging members of the baby boom generation—becomes more likely to have medical emergencies, demand will increase for paramedics.

HISTOTECHNICIAN

DESCRIPTION: Histotechnicians prepare tissue samples for microscopic examination by a pathologist or other medical scientist to determine whether a patient has a disease, dysfunction or malignancy. They freeze and cut tissue samples and then mount the samples on slides and stain them with special dyes to make them visible under the microscope.

EDUCATION: Histotechnicians must obtain an associate degree with a clinical practice. Studies include biology, anatomy, physiology, microbiology, organic or inorganic chemistry, biochemistry and math. High school students should take biology, chemistry, and math.

Two-Year College in New York State:

SUNY Cobleskill

CREDENTIALS: To be licensed, histotechnicians must meet qualifications educationally and must pass an examination both practical and written by the Board of Registry of the American Society of Clinical Pathologists. Then they may use the initials HTL (ASCP).

SALARY: According to the U.S. Bureau of Labor Statistics, median annual wage-and-salary earnings of medical and clinical laboratory technicians were \$32,840 in May 2006. The middle 50 percent earned between \$26,430 and \$41,020. Median annual earnings in the industries employing the largest numbers of medical and clinical laboratory technicians were:

General medical and surgical hospitals	34,200
Colleges, universities, and professional schools	33,440
Offices of physicians	31,330
Medical and diagnostic laboratories	30,240
Other ambulatory health care services	29,560

EMPLOYMENT OUTLOOK: There are more jobs for histotechnicians than educated people to fill those jobs. Rapid employment growth may occur in independent laboratories serving hospitals and physician's offices, which send them a large share of their testing.

MESSAGE THERAPIST/ACUPRESSURE

DESCRIPTION: Massage therapists manipulate soft tissues of the body by stroking, rubbing, kneading, or tapping to relax muscles, improve blood circulation and joint mobility, and reduce stress and anxiety. The practice of massage to relieve pain and promote healing is thousands of years old. Reflexology (acupressure) is pressure applied to specific points on the feet and hands, which are thought to correspond to other areas of the body. The goal of reflexology is to induce a state of relaxation in the associated body part and to increase blood circulation.

EDUCATION: Over half of the states and the District of Columbia regulate Massage Therapists. For licensure or certification, most of these regulatory agencies require a minimum of 500 hours or more of classroom training in massage and related subjects, such as anatomy, physiology, business ethics, first aid, and CPR from an accredited school, and the passing of an exam. The National Certification Board for Therapeutic Massage and Bodywork certifies massage therapists who pass an exam testing their knowledge and ability to perform competently.

Two-Year Colleges in New York State:

Columbia Greene Community College
North Country Community College

Vocational Schools in New York State:

Finger Lakes School of Massage
Center For Natural Wellness Science of Massage Therapy

CREDENTIALS: About one fourth of the states require massage therapists to have a license. Licensing requirements may include a written test and a demonstration of massage therapy techniques. An applicant must file an application for licensure/registration with the New York State Education Department, Office of the Professions, to practice as a licensed massage therapist in New York State.

SALARY: The U.S. Bureau of Labor Statistics reports the median wage and salary hourly earnings of massage therapists, including gratuities, were \$16.06 in May 2006. The middle 50 percent earned between \$10.98 and \$24.22. Generally, massage therapists earn 15 to 20 percent of their income as gratuities. For those who work in a hospital or other clinical setting, however, tipping is not common.

EMPLOYMENT OUTLOOK: The employment outlook for massage therapists is good. The field of massage is growing rapidly. The interest in fitness and wellness has made people more aware of the value of massage. Massage fits in with the holistic approach in health care.

NURSE

DESCRIPTION: Nurses work to promote health, prevent disease, and help patients who are ill. They provide direct care by observing, assessing, and recording symptoms and patient progress. They work closely with doctors to treat and examine patients, administer medications, and help with healing and rehabilitation. Nursing involves many specialties practiced in a wide range of settings. In general, all nurses perform the same basic duties.

EDUCATION: All entrants to nursing programs must be high school graduates. Most nursing programs expect students to have completed courses in algebra and science, such as biology and chemistry.

There are three major educational paths to registered nursing: a bachelor's of science degree in nursing (BSN), an associate degree in nursing (ADN), and a diploma. BSN programs, offered by colleges and universities, take about 4 years to complete. ADN programs, offered by community and junior colleges, take about 2 to 3 years to complete. Diploma programs, administered in hospitals, last about 3 years. Generally, licensed graduates of any of the three types of educational programs qualify for entry-level positions.

In recent years, there has been a movement to raise the minimum educational requirements for an RN license to a bachelor's degree. Prospective students should keep this in mind when considering which nursing program. Although an associate degree is required for a staff position in a hospital or nursing home, a bachelor's degree is usually necessary for advancement to administrative positions in a hospital. Nursing specialties such as nurse practitioner, nurse anesthetist, and nurse-midwife requires a graduate degree.

All nursing education programs include classroom instruction and supervised clinical experience in hospitals and other health care facilities. Students take courses in anatomy, physiology, microbiology, chemistry, nutrition, psychology and other behavioral sciences, and nursing. Coursework also includes the liberal arts for ADN and BSN students. Students complete supervised clinical experiences in hospital departments such as pediatrics, psychiatry, maternity, and surgery, learning to care for patients with a wide range of illnesses or injuries. A growing number of programs include courses and clinical practice in gerontological nursing.

Two-Year Colleges in New York State: *There are 55 two-year colleges with programs in New York State. Some local programs are:*

- Adirondack Community College
- Columbia Greene Community College
- Ellis Hospital School of Nursing
- Fulton Montgomery Community College
- Hudson Valley Community College

Maria College
Samaritan Hospital School of Nursing
SUNY Morrisville
SUNY Delhi

Four-Year Colleges in New York State: *There are 32 four-year programs in New York State. Some local programs are:*

Binghamton University
Hartwick College
Russell Sage College
SUNY at New Paltz
SUNY at Plattsburgh
SUNY Institute of Technology Utica/Rome
Syracuse University
Upstate Medical University
Utica College of Syracuse

CREDENTIALS: To become licensed to practice as a registered nurse, individuals must graduate from an approved school of nursing and pass a national examination. Periodic renewal of the license is mandatory, and some states require continuing education as a condition of renewal.

SALARY: The U.S. Bureau of Labor Statistics reports that the average starting salary was \$57,280 in 2006 for a Registered Nurse. The middle 50 percent earned between \$47,710 and \$69,850.

EMPLOYMENT OUTLOOK: Overall job opportunities for registered nurses are expected to be excellent, but may vary by employment and geographic setting. Employment of RNs is expected to grow much faster than the average for all occupations through 2016 and, because the occupation is very large, many new jobs will result. In fact, registered nurses are projected to generate 587,000 new jobs, among the largest number of new jobs for any occupation. Additionally, hundreds of thousands of job openings will result from the need to replace experienced nurses who leave the occupation.

OCCUPATIONAL THERAPIST

DESCRIPTION: Occupational Therapists plan and supervise productive activities to help enable individuals with physical, psychological, or developmental disabilities to develop, recover, or maintain skills, or adjust to handicaps for daily living, work, and leisure. They also plan and utilize meaningful and purposeful activities to prevent future impairments or challenges that may interfere with a patient's ability to function on a daily basis.

EDUCATION: Preparation for occupational therapy requires four years of college study leading to a bachelor's degree and completion of a master's program in occupational therapy. High school students should have a B or higher in biology, chemistry, and other science courses. Volunteer work in a health care center can offer valuable exposure.

Four-Year Colleges in New York State

Ithaca College
Russell Sage College
SUNY at Buffalo
SUNY at Stony Brook
SUNY Downstate Medical Center (Health Science Center Brooklyn)
SUNY Health Science Center at Stony Brook
Utica College of Syracuse University

CREDENTIALS: All states require a license to practice occupational therapy. Applicants must have a degree from an accredited educational program and pass a national certification examination given by the American Occupational Therapy Certification Board.

SALARY: According to the U.S. Bureau of Labor Statistics, the median annual earnings of occupational therapists were \$60,470 in May 2006. The middle 50 percent earned between \$50,450 and \$73,710. Median annual earnings in the industries employing the largest numbers of occupational therapists in May 2006 were:

Home health care services	67,600
Nursing care facilities	64,750
Offices of physical, occupational and speech therapists, and audiologists	62,290
General medical and surgical hospitals	61,610
Elementary and secondary schools	54,260

EMPLOYMENT OUTLOOK: Job opportunities for occupational therapists are excellent. Part of the reason for this demand is an aging population. Medical advances now make it possible for more clients with critical illness or injury to survive. Federal legislation requiring special education programs for children with disabilities will also create a need for occupational therapists to serve these children.

OPTOMETRIST

DESCRIPTION: Optometrists, also known as *doctors of optometry*, or ODs, are the main providers of vision care. They examine people's eyes to diagnose vision problems, such as nearsightedness and farsightedness, and they test patients' depth and color perception and ability to focus and coordinate the eyes. Optometrists may prescribe eyeglasses or contact lenses, or they may prescribe or provide other treatments, such as vision therapy or low-vision rehabilitation.

Optometrists also test for glaucoma and other eye diseases and diagnose conditions caused by systemic diseases such as diabetes and high blood pressure, referring patients to other health practitioners as needed. They administer drugs to patients to aid in the diagnosis of vision problems and to treat eye diseases. Optometrists often provide preoperative and postoperative care to cataract patients, as well as to patients who have had laser vision correction or other eye surgery.

EDUCATION: The Doctor of Optometry degree requires the completion of a 4-year program at an accredited optometry school, preceded by at least 3 years of preoptometric study at an accredited college or university. In 2006, there were 16 colleges of optometry in the U.S. and 1 in Puerto Rico that offered programs accredited by the Accreditation Council on Optometric Education of the American Optometric Association.

Graduate School in New York State:

SUNY State College of Optometry

CREDENTIALS: All States and the District of Columbia require that optometrists be licensed. Applicants for a license must have a Doctor of Optometry degree from an accredited optometry school and must pass both a written National Board examination and a National, regional, or State clinical examination. The written and clinical examinations of the National Board of Examiners in Optometry usually are taken during the student's academic career. Many States also require applicants to pass an examination on relevant State laws. Licenses must be renewed every 1 to 3 years and, in all States, continuing education credits are needed for renewal.

SALARY: According to the U.S. Bureau of Labor Statistics, median annual earnings of salaried optometrists were \$91,040 in May 2006. The middle 50 percent earned between \$66,530 and \$118,490. Median annual earnings of salaried optometrists in offices of optometrists were \$86,760. Salaried optometrists tend to earn more initially than do optometrists who set up their own practices. In the long run, however, those in private practice usually earn more.

EMPLOYMENT OUTLOOK: The Bureau of Labor Statistics predicts that job openings for employment of optometrists is expected to grow **as fast as average** for all occupations through 2016, in response to the vision care needs of a growing and aging population. Greater recognition of the importance of vision care, along with growth in employee vision care plans, will also spur job growth.

PHARMACIST

DESCRIPTION: Pharmacists dispense drugs and medicines prescribed by physicians, podiatrists, dentists and other health practitioners and provide information to patients about medications and their uses. Pharmacists advise physicians and other health practitioners on the selection, proper dosages, interactions and potential side effects of medicines.

EDUCATION: Pharmacists must earn a Pharm.D. degree from an accredited college or school of pharmacy. The Pharm.D. degree has replaced the Bachelor of Pharmacy degree, which is no longer being awarded. To be admitted to a Pharm.D. program, an applicant must have completed at least 2 years of postsecondary study, although most applicants have completed 3 or more years. Other entry requirements usually include courses in mathematics and natural sciences, such as chemistry, biology, and physics, as well as courses in the humanities and social sciences. In 2007, 92 colleges and schools of pharmacy were accredited to confer degrees by the Accreditation Council for Pharmacy Education (ACPE). About 70 percent of Pharm.D. programs require applicants to take the Pharmacy College Admissions Test (PCAT).

In the 2006–07 academic year, 70 colleges of pharmacy also awarded the master-of-science degree or the Ph.D. degree. Both degrees are awarded after the completion of a Pharm.D. degree and are designed for those who want additional clinical, laboratory, and research experience.

Courses in pharmacy colleges include organic and medicinal chemistry, biochemistry, physics, pharmaceuticals, physiology, pathophysiology, pharmacology, and pharmacotherapeutics. Others are laboratory and clinical practice, pharmacy law, and communication skills.

Colleges and Universities in New York State:

Albany College of Pharmacy
Long Island University Brooklyn Center
SUNY at Buffalo

CREDENTIALS: All states require pharmacists have a license to practice. Individuals applying for a license must be graduates of accredited pharmacy degree programs and must pass a series of examinations. All States, U.S. territories, and the District of Columbia require the North American Pharmacist Licensure Exam (NAPLEX), which tests pharmacy skills and knowledge. Forty-four States and the District of Columbia also require the Multistate Pharmacy Jurisprudence Exam (MPJE), which tests pharmacy law. Both exams are administered by the National Association of Boards of Pharmacy (NABP). Each of the eight States and territories that do not require the MJPE has its own pharmacy law exam. In addition to the NAPLEX and MPJE, some States and territories require additional exams that are unique to their jurisdiction.

SALARY: According to the U.S. Bureau of Labor Statistics, the median annual earnings of pharmacists in May 2006 were \$94,520. The middle 50 percent earned between \$83,180 and \$108,140 a year. Median annual earnings in the industries employing the largest numbers of pharmacists in May 2006 were: department stores, \$99,050; grocery stores, \$95,600; pharmacies and drug stores, \$94,640; and general medical and surgical hospitals, \$93,640.

EMPLOYMENT OUTLOOK: The outlook for pharmacists is very good. Scientific advances that will make more drug products available for prevention, diagnosis, and treatment of diseases will also cause some growth in employment. The growing number of middle-aged and older people is an important factor because this segment of the population uses twice as many prescription drugs, on average, as young people.

PHYSICAL THERAPIST

DESCRIPTION: Physical Therapists offer services that restore function, improve mobility, relieve pain, and prevent or limit impairment and disability for patients suffering from illness or injuries. They use heat, electricity, light, ultrasound, traction, deep tissue massage, and exercise to help people overcome or adapt to change in their physical condition.

EDUCATION: According to the American Physical Therapy Association, there were 209 accredited physical therapist education programs in 2007. Of the accredited programs, 43 offered master's degrees and 166 offered doctoral degrees. Only master's degree and doctoral degree programs are accredited, in accordance with the Commission on Accreditation in Physical Therapy Education. A doctoral degree will now be the required entry-level degree. The "professional" DPT is the current degree conferred upon successful completion of a physical therapist professional (entry-level) education program in the United States. This program prepares the graduate to enter the practice of physical therapy. The entry-level DPT Program is designed for individuals just entering the field of physical therapy. This three-year program prepares students holding a bachelor's degree in a field other than physical therapy to become a licensed physical therapist.

Some Colleges and Universities in New York State:

- Clarkson University
- College of Staten Island
- Columbia University
- Daemen College
- D'Youville College
- Hunter College
- Ithaca College
- Nazareth College
- New York University
- Russell Sage College
- SUNY Downstate Medical Center (Health Science Center Brooklyn)
- SUNY Health Science Center Stony Brook
- SUNY Upstate Medical University
- Utica College of Syracuse University

CREDENTIALS: All states require Physical Therapists to pass a licensure examination after graduating from an accredited physical therapy program before they can practice. A number of states require continuing education to maintain licensure.

SALARY: According to the U.S. Bureau of Labor Statistics, median annual earnings of physical therapists were \$66,200 in May 2006. The middle 50 percent earned between \$55,030 and \$78,080.

EMPLOYMENT OUTLOOK: Job opportunities will be good for licensed physical therapists in all settings. Job opportunities should be particularly good in acute hospital, rehabilitation, and orthopedic settings, where the elderly are most often treated. Physical therapists with specialized knowledge of particular types of treatment also will have excellent job prospects.

Employment of physical therapists is expected to grow 27 percent from 2006 to 2016, much faster than the average for all occupations. The impact of proposed Federal legislation imposing limits on reimbursement for therapy services may adversely affect the short-term job outlook for physical therapists, however, the long-term demand for physical therapists should continue to rise. The rapidly growing elderly population is particularly vulnerable to chronic debilitating conditions that require therapeutic services. The survival rate of newborns with severe defects will create a demand for physical therapists. Opportunities will arise as medical developments save a higher percentage of trauma victims who will require rehabilitation. The baby boom generation is now entering the age of heart attacks and strokes. They will require cardiac and physical rehabilitation.

Private practice is becoming common. Many rural hospitals are adding physical therapy services. Sports physical therapy and occupational health physical therapy are growing fields.

PHYSICIAN

DESCRIPTION: Physicians are licensed practitioners of medicine who examine patients, obtain medical histories, and order, perform and interpret tests. They diagnose illnesses, prescribe medications, and administer treatment for people suffering from injury or disease. Physicians also advise and counsel patients on good health practices. Most physicians specialize in one branch of medicine. Medical specialties for which there is training include internal medicine, pediatrics, obstetrics and gynecology, radiology, surgery, anesthesiology, pathology, ophthalmology, or family medicine. Pediatricians, general and family practitioners, and general internists are often called primary care physicians.

EDUCATION: Physicians go through three stages of education and training: college, medical school, and hospital residency. They go from medical school to a residency in a specialty such as surgery or internal medicine. Required studies in premedical school are physics, biology, and inorganic and organic chemistry. Medical school applicants take the Medical College Admission Test (MCAT) about a year before they apply to medical school. Students spend the first two years of medical school in classrooms and laboratories. They take anatomy, pharmacology, microbiology, pathology, medical ethics, and law relating to medicine. They learn how to take case histories, do physical examinations and recognize symptoms. In the last two years, students work in hospitals and clinics under supervision. They learn to care for patients and diagnose and treat illnesses. They rotate through departments. After completing medical school, most M.D.'s go on to three to seven years of graduate medical education (residency).

Some New York State Colleges of Medicine:

Albany Medical College
SUNY University at Buffalo
SUNY at Stony Brook
SUNY Upstate Medical University
University of Rochester

CREDENTIALS: All physicians must have a license to practice medicine. A board of medical examiners of the state in which the physician plans to practice gives the licensing examinations.

SALARY: Earnings of physicians and surgeons are among the highest of any occupation. According to the U.S. Bureau of Labor Statistics, the Medical Group Management Association's Physician Compensation and Production Survey reports that median total compensation for physicians in 2005 varied by specialty as shown below for less than two years in specialty and over one year in specialty:

<u>Specialty</u>	<u>Less than two</u>	<u>Over one</u>
Anesthesiology	259,948	321,686
Surgery: General	228,839	282,504
Obstetrics/gynecology (General)	203,270	247,348
Psychiatry: General	173,922	180,000
Internal medicine (General)	141,912	166,420
Pediatrics: General	132,953	161,331
Family practice (without obstetrics)	137,119	156,010

Self-employed physicians—those who own or are part owners of their medical practice—generally have higher median incomes than salaried physicians. Earnings vary according to number of years in practice, geographic region, hours worked, skill, personality, and professional reputation. Self-employed physicians and surgeons must provide for their own health insurance and retirement.

EMPLOYMENT OUTLOOK: The greatest demand is for physicians in family practice, pediatrics, psychiatry, geriatrics and internal medicine. Physicians will always be in demand for the growing fields of public health, rehabilitation, and industrial medicine. Some reasons for the need for physicians are population growth, aging, public awareness of the importance of health care, and higher standards of medical care. New treatments and procedures, and the ability of patients to pay for treatment with insurance and Medicare will create a demand for more physicians.

PHYSICIAN ASSISTANT

DESCRIPTION: Physician assistants are health professionals licensed to practice medicine with physician supervision. They serve patients by performing routine diagnostic, therapeutic, and preventive medical procedures under the supervision of a physician. Physician assistants interview patients, take medical histories, perform physical examinations, order laboratory tests and x-rays and make preliminary diagnoses. They treat minor injuries by suturing, splinting, and casting. Physician Assistants also treat cuts, burns, lacerations, abrasions, and other minor problems. They assist physicians in specialty areas, such as general and thoracic surgery, emergency medicine, and pediatrics.

EDUCATION: All states require that new Physician Assistants complete an accredited formal education program. Most states require that physician assistants pass a certifying examination that is only open to graduates of an accredited education program. Only those successfully completing the examination may use the credential, Physician Assistant Certified. In order to remain certified physician assistants must have 100 hours of continuing medical education every 2 years and pass a recertification examination every 6 years. Students take courses in biochemistry, nutrition, human anatomy, physiology, microbiology, clinical pharmacology, clinical medicine, physical diagnosis, geriatric and home health care, disease prevention, and medical ethics. Students also complete supervised clinical rotations in family medicine, general surgery, obstetrics and gynecology, geriatrics, emergency medicine, internal medicine, and pediatrics.

Two-Year Colleges in New York State:

Hudson Valley Community College

Four-Year Colleges in New York State:

Rochester Institute of Technology

St. John's University

SUNY at Stony Brook

SUNY Downstate Medical Center (Health Science Center Brooklyn)

SUNY Health Science Center Stony Brook

CREDENTIALS: Physician assistants must be certified by the National Commission on Certification of Physician Assistants before they can practice in most states. Students must be graduates of accredited programs and pass an examination.

SALARY: According to the U.S. Bureau of Labor Statistics, median annual earnings of wage-and-salary physician assistants were \$74,980 in May 2006. The middle 50 percent earned between \$62,430 and \$89,220.

EMPLOYMENT OUTLOOK: The outlook for physician assistants is excellent. The continuing expansion of the health services industry and the increased emphasis on cost containment will enhance the job prospects for these workers. Opportunities will be especially good in locations such as rural and inner city clinics.

PODIATRIST

DESCRIPTION: Podiatrists diagnose and treat disorders, diseases, and injuries of the foot and ankle. They treat the most common foot conditions such as corns, calluses, ingrown toenails, hammertoes, bunions, heel spurs, and arch problems. Other conditions treated include deformities, infections, ankle and foot injuries, and foot complaints associated with diseases such as diabetes. To treat problems, podiatrists prescribe drugs, order physical therapy, set fractures, or perform surgery. They also fit corrective inserts called orthotics, design plaster casts and strappings to correct deformities, and design custom-made shoes. Some podiatrists specialize such as sports medicine.

EDUCATION: Students earn a Doctor of Podiatric Medicine degree after they have successfully completed four years of study at an accredited college of podiatric medicine. There are only seven. Over 95 percent of the students who begin a podiatry program already have a bachelor's degree. The first two years of a podiatric medicine program are devoted to classroom study and laboratory work in anatomy, biochemistry, pathology, microbiology, physiology, and pharmacology. In the third and fourth years, courses are geared to the clinical sciences. The work covers general diagnostic procedures, therapeutics, surgery, anesthesia, and operative podiatric medicine. In the final years of the program, students have clinical rotations, where they gain practical experience through their work in college clinics, community clinics, hospitals, and podiatric offices.

Four-Year College in New York State:

New York College of Podiatric Medicine

CREDENTIALS: All fifty states, the District of Columbia, and Puerto Rico require podiatrists to have a license to practice. To become licensed, most graduates of accredited colleges of podiatric medicine must pass written and oral tests administered by a state board of podiatry examiners.

SALARY: Podiatrists enjoy very high earnings. Median annual earnings of salaried podiatrists were \$108,220 in 2006. Additionally, a survey by *Podiatry Management Magazine* reported median net income of \$114,000 in 2006. Podiatrists in partnerships tended to earn higher net incomes than those in solo practice. A salaried podiatrist typically receives health insurance and retirement benefits from their employer, whereas self-employed chiropractors must provide for their own health insurance and retirement. Also, solo practitioners must absorb the costs of running their own offices.

EMPLOYMENT OUTLOOK: The Bureau of Labor Statistics predicts that job openings for podiatrists will increase. Population growth and the need for health services of all kinds will continue to increase the need for podiatrists. The growing popularity of active sports is causing podiatric injuries that require medical attention. Runners, tennis players, and aerobics enthusiasts are taking their foot injuries to podiatrists.

RADIATION THERAPIST

DESCRIPTION: Radiation Therapists under the supervision of radiologists or oncologists, administer prescribed doses of ionizing radiation to specific parts of the body in order to treat, and sometimes to cure, patients with cancer and other diseases. Radiation therapists use different kinds of equipment to administer doses of radiation. They may work with x-ray machines, high-energy linear accelerators (which discharge subatomic particles), and cobalt machines (that emit gamma rays).

EDUCATION: There are two-year and four-year degree programs of study. Preparation for a career in radiation therapy consists of classes, laboratory work and supervised clinical experience. Studies in an accredited program include orientation to radiation therapy, methods of patient care and health education, medical ethics and law, medical terminology, human structure and function, pathology, clinical radiation oncology, radiobiology, radiation physics, radiation protection, technical radiation oncology, brachytherapy, medical imaging, clinical dosimetry, quality assurance, and introduction to hyperthermia. Supervised clinical practice is an essential part of all radiation therapy programs.

Two-Year Colleges in New York State:

Adirondack Community College
Hudson Valley Community College

Four-Year Colleges and Universities in New York State:

Long Island University, C W Post
SUNY Downstate Medical Center (Health Science Center Brooklyn)
SUNY Upstate Medical University

CREDENTIALS: Radiation Therapists are certified by the American Registry of Radiologic Technologists (ARRT). Candidates must be graduates of an accredited radiation therapy program and they must pass an examination. Those who pass the examination may call themselves registered radiation therapists and use the letters R.T.(T)(AT). Some States, as well as many employers, require that radiation therapists be certified by ARRT.

SALARY: According to the U.S. Bureau of Labor Statistics, the median annual earnings of wage-and-salary radiation therapists were \$66,170 in May 2006. The middle 50 percent earned between \$54,170 and \$78,550.

EMPLOYMENT OUTLOOK: Employment of Radiation Therapists is projected to grow by 25 percent between 2006 and 2016, which is **much faster than the average** for all occupations. As the U.S. population grows and an increasing share of it is in the older age groups, the number of people needing treatment is expected to increase and to spur demand for radiation therapists. In addition, as radiation technology advances and is able to treat more types of cancer, radiation therapy will be prescribed more often.

RESPIRATORY THERAPIST

DESCRIPTION: Respiratory Therapists evaluate, treat and care for patients with breathing disorders. They test the capacity of the lungs and analyze the oxygen and carbon dioxide concentration and potential of hydrogen (ph), a measure of the acidity or alkalinity level of the blood. Patients range from premature infants whose lungs are not fully developed to the elderly whose lungs are diseased. Therapists give temporary relief to patients with chronic asthma or emphysema, or give emergency care for heart failure, stroke, shock, or drowning

EDUCATION: High School students interested in a career in Respiratory Therapy should take courses in health, biology, mathematics, chemistry and physics. College students need to attend an accredited college or university for a 2-year associate degree or a 4-year bachelor degree. Studies consist of both class study and clinical training. Subjects include human anatomy and physiology, chemistry, physics, microbiology and mathematics. The 2-year associate degree programs prepare students to be Respiratory Therapist Technicians. Positions in intensive care specialties, those that involve supervisory duties and instructors and directors of educational programs require a 4-year bachelor degree.

Some Two-Year Colleges in New York State:

Borough of Manhattan Community College
Genesee Community College
Hudson Valley Community College
Mohawk Valley Community College
Onondaga Community College
Westchester Community College

Four-Year Colleges in New York State:

Long Island University Brooklyn Center
Pace University
SUNY Downstate Medical Center (Health Science Center Stony Brook)
SUNY Upstate Medical University

CREDENTIALS: A license is required to practice as a respiratory therapist, except in Alaska and Hawaii. Also, most employers require respiratory therapists to maintain a cardiopulmonary resuscitation (CPR) certification. Licensure is usually based, in large part, on meeting the requirements for certification from the National Board for Respiratory Care (NBRC).

SALARY: According to the U.S. Bureau of Labor Statistics, median annual earnings of wage-and-salary respiratory therapists were \$47,420 in May 2006. The middle 50 percent earned between \$40,840 and \$56,160.

EMPLOYMENT OUTLOOK: Job opportunities for Respiratory Therapists are excellent because of substantial growth of the middle age and elderly population who are most likely to have cardiopulmonary ailments.

REFERENCE INFORMATION

Occupational Outlook Handbook, 2008-09 Edition, U.S. Bureau of Labor Statistics.

Chronicle Guidance Publications Two-Year College Databook 2001-2002. A directory of accredited two-year colleges with their major programs of study.

Chronicle Guidance Publications Four-Year College Databook 2001-2002. A directory of accredited four-year colleges with their major programs of study.

Chronicle Guidance Publications Occupational Briefs. Career information on occupations. Several authorities have reviewed and edited each brief to insure that the briefs are factual and authentic.

DISCOVER – a computer-based career planning system. ACT, Inc. 2001.