

# **Anesthesia Technician/Technologist**

## **SUMMARY OF PROFESSION**

Anesthesia is administered by either injection or inhalation and used on patients undergoing surgical procedures to cause unconsciousness or inability to feel pain. The anesthesia technician/technologist functions as an important member of an anesthesia team in a surgical setting, assisting anesthesiologists and nurse anesthetists. They may provide support by assisting in the preparation and maintenance of patient equipment and anesthesia delivery systems before and during anesthesia.

The anesthesia technician/technologist may also clean, sterilize, disinfect, stock, order and maintain the routine anesthesia equipment.

## **EDUCATIONAL REQUIREMENTS**

Many anesthesia techs are trained on the job, but post-secondary training is growing increasingly valuable to employers. Post-secondary training may also be required for some positions as the demand for anesthesia techs and specialized skills continues to grow. Students can earn a certificate or diploma from a 1-year program or an associate's degree from a two-year program in Anesthesia Technology. Upon graduation, students may sit for the National Certification Examination in Anesthesia Technology, administered by the American Society of Anesthesia Technologists and Technicians, and earn the title Certified Anesthesia Technician (Cer A.T.). After obtaining a minimum of 2-years of work experience as a Certified Anesthesia Technician, the Cer A.T. can sit for the Technologists exam and earn the title Certified Anesthesia Technologist.

## **SALARY INFORMATION**

According to the Salary.com, the median annual salary for an anesthesia tech working in the United States is \$42,945. The average salary range is \$33,694 - \$54,884.

## **CAREER OUTLOOK**

Employment of all surgical techs, including anesthesia technicians and technologists, is expected to grow faster than average through 2029, due to increased demand for surgical services as more people gain access to health care.

## **FOR MORE INFORMATION**

American Society of Anesthesia Technologists and Technicians  
7044 South 13th Street.  
Oak Creek, WI 53154-1429  
(414) 908-4942 ext 450  
Web site: [www.asatt.org](http://www.asatt.org)

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## Art Therapists

### SUMMARY OF PROFESSION

Art therapists are professionals trained in both art and therapy for treating the developmentally, medically, educationally, socially or psychologically impaired. Art therapy integrates the fields of human development, visual art (drawing, painting, sculpture, and other art forms), and the creative process with models of counseling and psychotherapy. Art therapists work with people of all ages and backgrounds who are seeking personal growth or who may be struggling with a variety of difficulties. They may provide services to individuals, couples, family groups and communities.

Art therapists may work in a variety of settings including hospitals, clinics, residential treatment centers, shelters, schools, and elder care facilities. They may also work in private practice. If the idea of offering guidance and support using a wide variety of art materials appeals to you, art therapy may be the career for you.

### EDUCATIONAL REQUIREMENTS

Entry into the profession of art therapy is at the master's level. Students wishing to become an art therapist must first obtain a master's degree in a program accredited by the Education Committee of the American Art Therapy Association and the Accreditation Council for Art Therapy Education. Upon completion of a master's program and postgraduate supervised experience, art therapists may apply for registration to earn the Registered Art Therapist credentialing (ATR). Registered art therapists can then take and pass a written examination to become Board Certified (ATR-BC). Some art therapists may choose to complete their credentialing by demonstrating substantial supervision qualifications to earn the Certified Supervisor Credential (ATCS).

### SALARY INFORMATION

According to Payscale.com, the median salary for an art therapist is \$46,128 with a range of \$37,000- \$63,000.

### CAREER OUTLOOK

Art therapy is a growing field. Employment is expected to increase as professionals and clients recognize the benefits of this therapy. Those art therapists who are registered and board certified have a distinct advantage in gaining employment.

### FOR MORE INFORMATION

American Art Therapy Association, Inc.  
11160-C1 South Lakes Drive, Suite 813  
Reston, VA 20191  
1-888-290-0878  
Web site: [www.arttherapy.org](http://www.arttherapy.org)

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# Athletic Trainer

## SUMMARY OF PROFESSION

Behind virtually every star athlete who makes the winning point on a Saturday afternoon, a dedicated athletic trainer stands on the sidelines. As health care professionals who focus specifically on athletes and other physically active people, athletic trainers play an integral role in helping people meet their physical fitness goals.

Athletic trainers are skilled in all phases of an athlete's medical care, including the prevention of injuries through proper conditioning, recognition and evaluation of injuries, emergency care and rehabilitation. They may also organize nutritional diets and meals for athletes in training. Some athletic trainers do work on the professional level, but the majority are employed by high schools, colleges and universities, sports medicine clinics and businesses. If you have leadership skills, dedication and an interest in sports and physical fitness, you may enjoy an exciting career as an athletic trainer.

## EDUCATIONAL REQUIREMENTS

A bachelor's degree in athletic training, exercise science or physical education is usually the minimum requirement. Certified programs include academic courses such as anatomy, physiology, biomechanics and psychology, as well as 1,500 hours of supervised clinical experience. Graduates who pass the National Athletic Trainers' Associations Board of Certification examination are awarded the Certified Athletic Trainer credential (ATC). Those interested in college teaching positions, orthopedics and physical therapy can pursue a master's degree.

## SALARY INFORMATION

The salary of an athletic trainer depends on experience and job responsibilities, and varies by job setting. Because some work with teams during sport events, they might be required to work evenings or weekends, and travel often. Median annual earnings for athletic trainers were \$48,440 in 2019, according to the US Department of Labor's Bureau of Labor Statistics. The lowest 10 percent earned less than \$31,300, and the highest 10 percent earned more than \$73,470.

## CAREER OUTLOOK

The Bureau of Labor Statistics projected employment of athletic trainers is expected to grow much faster than the average for all occupations from 2019 to 2029, at a rate of 16%.

## FOR MORE INFORMATION

The National Athletic Trainers' Association  
2952 Stemomons Freeway  
Dallas, TX 75247-6196  
(214) 637-6282  
Web site: [www.nata.org](http://www.nata.org)

# Audiologists

## SUMMARY OF PROFESSION

Audiologists are educated in the study of normal hearing processes and hearing loss. They determine if a person has hearing loss, what type of loss it is, and how to make the best use of remaining hearing. They use audiometers, computers, and other testing devices to measure the person's hearing and balance ability, ability to distinguish between sounds, and the nature and extent of hearing loss.

Audiologists evaluate various factors that could affect a person's hearing, including patients' psychological health, trauma at birth, viral infections, genetic disorders, environmental factors, and aging. Treatment may include cleaning the ear canal, use of hearing aids, or use of cochlear implants. Audiologists work in a variety of settings including schools, hospitals, hearing centers and private practice.

## EDUCATIONAL REQUIREMENTS

Audiologists are required to have a doctoral degree in audiology (Au.D.) Coursework includes anatomy, physiology, genetics, communication development, and usually includes clinical experience.

All 50 states now require licensure, although the requirements for licensure vary by state. Audiologists can earn the Certificate of Clinical Competence in Audiology (CCC-A). To earn the title CCC, a person must have a graduate degree and 375 hours of supervised clinical experience, complete a 36-week postgraduate clinical fellowship, and pass a written examination.

## SALARY INFORMATION

In 2019, a typical audiologist working in the United States earned a median base salary of \$77,600, according to the United States Department of Labor's Bureau of Labor Statistics. The lowest 10 percent earned less than \$54,010, and the highest 10 percent earned more than \$120,750.

## CAREER OUTLOOK

Employment of audiologists is expected to grow much faster than the average for all occupations through the year 2029. Because hearing loss is strongly associated with aging, rapid growth in the population age 55 and over will cause the number of persons with hearing impairment to increase markedly.

## FOR MORE INFORMATION

The American Speech-Language-Hearing Association  
2200 Research Boulevard, Rockville, Maryland 20850  
Phone: (301) 296-5700  
Website: [www.asha.org](http://www.asha.org)

## Biomedical Engineering

### SUMMARY OF PROFESSION

Biomedical engineering or bioengineering, combines biology, chemistry, physics, technology, science, and medicine to solve biological and medical problems. A biomedical engineer should first plan to become a good engineer who then acquires a working understanding of the life sciences. These professionals design and develop technology and devices that are responsible for improvements in healthcare. Biomedical engineers may work in a number of capacities including; designing machines that save lives, such as defibrillators or heart-rate monitors; work to solve health problems related to the workplace; they may design better protection against radiation, or design artificial body parts or; develop medical and surgical instrumentation systems. They may also carry out research in the medical field providing ideas for innovative projects.

In this field there is continual change and creation of new areas due to rapid advancement in technology. Some of the well-established specialty areas within the field of biomedical engineering are: bioinstrumentation, biomaterials, biomechanics, clinical engineering, medical imaging, rehabilitation engineering and bioenvironmental engineering. Often these specialists work together on projects sharing information, techniques and ideas.

The biomedical engineer may work in hospitals, research facilities, industry, and government agencies. The field requires analytical and critical-thinkers who are willing to solve difficult problems in the healthcare field.

### EDUCATIONAL REQUIREMENTS

The minimum education requirement for biomedical engineering is a bachelor's degree from an accredited program. However, unlike other engineering specialties, a graduate degree is recommended and often required for many entry-level jobs.

### SALARY INFORMATION

According to the United States Department of Labor's Bureau of Labor Statistics, the median salary for a biomedical engineer was \$92,620 in 2020. The lowest 10 percent earned less than \$56,590, and the highest 10 percent earned more than \$149,440.

### CAREER OUTLOOK

Employment of biomedical engineers is expected to increase as fast as the average for all occupations through 2029, at a rate of 5%, according to the Bureau of Labor Statistics. The aging of the population and the focus on health issues will drive demand for better medical devices and equipment designed by biomedical engineers.

### FOR MORE INFORMATION

Biomedical Engineering Society  
8401 Corporate Dr., Suite 225, Landover, MD 20785-2224  
Ph: 301.459.1999 Website: [www.bmes.org](http://www.bmes.org)

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# Biomedical Equipment Technician

## SUMMARY OF PROFESSION

With increasing advances in medical technology, the need for health professionals to evaluate, inspect, repair, install and manage biomedical equipment and instruments is on the rise. Biomedical equipment technicians are responsible for maintaining this equipment for use by health professionals, as well as for scientists and engineers who research sicknesses and diseases. Types of biomedical equipment include cardiac monitors, electrocardiographs, blood gas analyzers, x-ray units and anesthesia apparatus.

Biomedical equipment technicians should enjoy mechanical, electrical and electronic work. Communication skills are critical for these professionals to instruct others on the proper use of such sophisticated equipment and to describe breakdowns to manufacturers. A good bedside manner is also valuable, as many technicians will come in contact with patients on a regular basis. Courses in anatomy and physiology, biology, physics, algebra and trigonometry will prepare you for this cutting-edge, high-tech career.

## EDUCATIONAL REQUIREMENTS

Students interested in becoming biomedical equipment technicians must earn a minimum of an associate's degree in biomedical equipment technology or biomedical engineering. However, a bachelor's degree in either program is ideal. Certification is not required, but may lead to higher earning potential. Candidates can earn certification by successfully passing a national exam and meeting the educational and experience requirements. Certification credentials include Certified Biomedical Equipment Technician (CBET), Certified Radiology Equipment Specialist (CRES), or Certified Laboratory Equipment Specialist (CLEB).

## SALARY INFORMATION

According to the United States Department of Labor's Bureau of Labor Statistics, the median salary for a typical biomedical equipment technician is \$51,610. The lowest 10 percent earned less than \$31,180 and the highest 10 percent earned more than \$84,720, with the remaining 80% of earners falling somewhere in between.

## CAREER OUTLOOK

According to the Bureau of Labor Statistics, employment of biomedical equipment technicians is expected to grow as fast as the average of all careers through 2029.

## FOR MORE INFORMATION

Association for the Advancement of Medical Instrumentation (AAMI)  
1110 N. Glebe Road, Suite 220  
Arlington, VA 22201-4795  
(703) 525-4890  
Web site: [www.aami.org](http://www.aami.org)

# Cardiovascular Technician

## SUMMARY OF PROFESSION

Every surgeon who must investigate potential vascular defects or perform heart surgery needs a qualified team of professionals for support. The cardiovascular technologist, trained in a variety of invasive and noninvasive procedures to diagnose and treat ailments of the heart and blood vessels, is an integral member of this team.

Cardiovascular technologists operate sophisticated equipment during complicated and delicate procedures such as heart catheterization and balloon angioplasty to help physicians diagnose and treat patients. They monitor patients' blood pressure and heart rate using electrocardiogram equipment, and can also prepare and monitor patients during open-heart surgery and pacemaker implantation. These professionals must be reliable, have mechanical aptitude to efficiently operate ultrasound instrumentation and electrocardiograph equipment, and be able to follow detailed instructions. They also must be caring and compassionate when working with patients to perform tests or prepare them for surgery. Many of these patients have severe heart problems that may be life threatening.

## EDUCATIONAL REQUIREMENTS

Cardiovascular technologists usually complete a 2-year training program. One year is dedicated to core courses, followed by a year of specialized instruction in invasive, noninvasive or noninvasive peripheral cardiology. Professionals already trained in a health career only require the year of specialized instruction. Occasionally, these professionals can be trained on the job if they have other health care-related experience. Graduates from accredited programs can register with the American Registry of Diagnostic Medical Sonographers or Cardiovascular Credentialing International.

## SALARY INFORMATION

Median annual earnings of cardiovascular technologists was \$59,100 in 2020. The lowest 10 percent earned less than \$30,140, and the highest 10 percent earned more than \$96,790, with most cardiovascular technologists making something in between.

## CAREER OUTLOOK

Employment of cardiology technologists is expected to grow much faster than the average for all occupations through 2029 in part because of an aging population, which has a higher incidence of heart problems. The field is a small one, however, so the actual number of available jobs will continue to be smaller than average.

## FOR MORE INFORMATION

Alliance of Cardiovascular Professionals  
PO Box 2007  
Midlothian, VA 23113  
(804) 632-0078 (804) 639-9212 fax  
Web site: [www.acp-online.org](http://www.acp-online.org)

# Chiropractor

## SUMMARY OF PROFESSION

At a time when people want more natural treatments for their health concerns, more are seeking chiropractic care. Chiropractors diagnose and treat patients with health problems associated with the body's muscular, nervous, and skeletal systems. Chiropractors generally believe that problems with these systems can lead to disorders throughout the body, such as chronic pain or headaches, and treat these disorders by manipulating the joints, spine and surrounding tissues by hand. Chiropractors also counsel their patients in lifestyle issues such as nutrition, exercise and stress management. They differ from physicians in that they do not prescribe medication or perform surgery.

Most chiropractors are in solo practice, although some are in group practice or work for other chiropractors. A small number teach, conduct research, or work in hospitals and clinics.

## EDUCATIONAL REQUIREMENTS

A chiropractor must be licensed in the state where he or she practices. Training typically includes at least 3 years of undergraduate education and completion of a 4-year Doctor of Chiropractic (D.C.) degree program accredited by the Council on Chiropractic Education. After graduating, prospective chiropractors are required to pass an examination administered by the National Board of Chiropractic Examiners.

## SALARY INFORMATION

According to the US Department of Labor's Bureau of Labor Statistics, the median annual salary for chiropractors in the US was \$70,340 in May 2019. The lowest 10 percent earned less than \$35,290, and the highest 10 percent earned more than \$147,480. As in other types of independent practice, earnings are relatively low in the beginning but typically increase as the practice grows.

## CAREER OUTLOOK

Employment of chiropractors is expected to grow as fast as average for all occupations through the year 2026, at a rate of 4%, as consumer demand for alternative health care grows. The rapidly expanding older population, with their greater incidence of health problems relating to body structure, will also increase demand.

## FOR MORE INFORMATION

The American Chiropractic Association  
1701 Clarendon Boulevard, Suite 200  
Arlington, Virginia 22209  
Phone: (703) 276-8800  
Website: [www.acatoday.org](http://www.acatoday.org)

# Cytotechnologist

## SUMMARY OF PROFESSION

A cytotechnologist is a clinical laboratory/medical technologist who specializes in the study of cells (cytology). Using microscopes and other high-tech equipment, cytotechnologists can detect cancer and other diseases by analyzing cells for subtle differences in color, size, shape and structure. They compare their findings to those in normal cells, judge the significance when abnormal cells are detected, and work with pathologists to make a final diagnosis.

These professionals may work in hospitals, laboratories, clinics, public health facilities and industry. To prepare for a career as a cytotechnologist, you should have a solid foundation in high school sciences – biology, chemistry, math and computer science. If you are self-motivated, patient and precise -- and have good eyesight – you can become a cytotechnologist and make a difference in the lives of patients you will never personally meet.

## EDUCATIONAL REQUIREMENTS

After receiving a bachelor's degree, cytotechnologists usually complete post-baccalaureate training in the university and/or laboratory setting from a program accredited by the Commission on Accreditation of Allied Health Education Programs. Graduates can then obtain board certification by taking an examination given by the American Society for Clinical Pathology. Cytologists who pass this exam are given the credential Certified Cytotechnologist (CT). Cytologists can also obtain additional credentialing, the specialist in cytotechnology (SCT) or molecular biology (MB).

## SALARY INFORMATION

According to Salary.com, the average salary for cytotechnologists is about \$88,246 per year. The average salary range is \$66,208-\$94,476.

## CAREER OUTLOOK

The US Department of Labor estimates that in general, employment medical laboratory technologists is expected to grow at faster rate than average through the year 2029

## FOR MORE INFORMATION

American Society for Clinical Pathology  
33 W. Monroe, Suite 1600  
Chicago, IL 60603  
312-541-4999  
Web site: [www.ascp.org/careerlinks/](http://www.ascp.org/careerlinks/)

American Society of Cytopathology  
400 W. 9th St., Suite 201  
Wilmington, DE 19801  
302-429-8802  
[asc@cytopathology.org](mailto:asc@cytopathology.org)

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# Dental Assistant

## SUMMARY OF PROFESSION

Dental assistants often work at the chairside as the dentist's "third hand," passing instruments and materials during the procedure and keeping the patient's mouth dry and clear. Assistants also obtain dental records and prepare the patient before the procedure. Afterward, they clean and sterilize the instruments and may instruct the patient in self-care.

Some assistants perform additional tasks under the direction of the dentist, such as removing sutures, applying anesthetics to the teeth and gums, exposing radiographs and processing X-ray film. In the laboratory, dental assistants make casts of the teeth from impressions and temporary crowns. Those with office duties receive patients, schedule appointments, and manage payments.

## EDUCATIONAL REQUIREMENTS

Dental assistants may receive formal training through trade schools, technical institutes, vocational schools, community colleges and universities or dental schools. These are typically completed in one year or less and lead to a certificate or diploma. There are also two-year programs leading to an associate degree. Programs are accredited through the Commission on Dental Accreditation. Graduates of accredited training programs or those with at least two years of full-time experience can choose to take the Dental Assisting National Board Certification Examination.

## SALARY INFORMATION

In 2019, a typical Dental Assistant working in the United States earned a median base salary of \$40,080, according to the US Department of Labor's Bureau of Labor Statistics. The lowest 10 percent earned less than \$27,980, and the highest 10 percent earned more than \$56,930.

## CAREER OUTLOOK

Employment of dental assistants is expected to grow much faster than the average for all occupations through the year 2029 according to the Bureau of Labor Statistics. The proportion of workers leaving the occupation and who must be replaced is above average. Many opportunities are for entry-level positions offering on-the-job training.

## FOR MORE INFORMATION

Commission on Dental Accreditation  
American Dental Association  
211 E. Chicago Ave., Suite 1814  
Chicago, IL 60611  
312-440-2500  
Web site: [www.ada.org](http://www.ada.org)

# Dental Hygienists

## SUMMARY OF PROFESSION

Dental hygienists work together with dentists to provide dental care to patients. Dental Hygienists clean teeth and provide other preventative dental care, as well as teach patients how to practice good oral hygiene. Hygienists examine patients' teeth and gums, record the presence of disease or abnormalities, take and develop dental x-rays, apply cavity preventing agents, and remove calculus, stains and plaque from teeth. In some states, dental hygienists administer local anesthetics and anesthetic gas.

Dental hygienists also help patients develop and maintain good oral health. For example, they may explain the relationship between diet and oral health, inform patients how to select toothbrushes, and show patients how to brush and floss their teeth.

## EDUCATIONAL REQUIREMENTS

An associate degree is required for practice in a private dental office. A bachelor's or master's degree is usually required for research, teaching, or clinical practice in public or school health programs. Schools offer laboratory, clinical, and classroom instruction in subjects such as anatomy, physiology, chemistry, microbiology, pharmacology, nutrition, radiography, histology, periodontology, pathology, dental materials, clinical dental hygiene, and social and behavioral sciences. Dental hygienists must be licensed by the State in which they practice.

## SALARY INFORMATION

Earnings vary by geographic location, employment setting, and years of experience. Hygienists may be paid on an hourly, daily, salary, or commission basis. In 2019, a typical dental hygienist working in the United States earned a median salary of \$76,220, according to the US Department of Labor's Bureau of Labor Statistics. The lowest 10 percent earned less than \$53,130, and the highest 10 percent earned more than \$103,340.

## CAREER OUTLOOK

Employment of dental hygienists is expected to grow faster than the average for all occupations through 2029, at a rate of 6%. Growth is due to a number of factors including ongoing research linking oral health and general health, and increasing demand for cosmetic dentistry, according to the Bureau of Labor Statistics.

## FOR MORE INFORMATION

American Dental Hygienists' Association  
444 N. Michigan Avenue, Suite 400  
Chicago, Illinois 60611  
Phone: (312) 440-8900  
Web site: [www.adha.org](http://www.adha.org)

# Dentists

## SUMMARY OF PROFESSION

Dentists diagnose, prevent and treat teeth and tissue problems. They remove decay, fill cavities, examine x-rays, place protective plastic sealants on children's teeth, straighten teeth, and repair fractured teeth. They also perform corrective surgery on gums and supporting bones to treat gum diseases. Dentists extract teeth and make models and measurement for dentures to replace missing teeth. They also administer anesthetics and write prescriptions for antibiotics and other medications.

Most dentists are general practitioners, handling a variety of dental needs. Other dentists practice in specialty areas. Orthodontists, the largest group of specialists, straighten teeth by applying pressure to the teeth with braces or retainers. Other specialty areas include oral and maxillofacial surgeons, periodontists, prosthodontists, endodontists, public health dentists, and oral pathologists.

## EDUCATIONAL REQUIREMENTS

Dental schools require usually at least a bachelor's degree, with coursework including biology and chemistry. Dental school usually lasts 4 academic years and award the degree of Doctor of Dental Surgery (DDS) or Doctor of Dental Medicine (DMD). All states require dentists to be licensed by passing a written and practical examination.

## SALARY INFORMATION

In 2019, a typical Dentist working in the United States earns a median salary of \$159,200 according to the US Department of Labor, Bureau of Labor Statistics. The lowest 10 percent earned less than \$79,670, and the highest 10 percent earned more than \$208,000. Earnings vary according to number of years in practice, location, hours worked, and specialty. Self-employed dentists in private practice tend to earn more than do salaried dentists.

## CAREER OUTLOOK

Employment of dentists is projected to as grow fast as than average for all occupations through 2029. As the aging population increases, a large number will need maintenance on complicated dental work. In addition, elderly people today are more likely to retain their teeth than were their predecessors, so they will require much more care than in the past. However, the employment of dentists is not expected to grow as rapidly as the demand for dental services. As their practices expand, dentists are likely to hire more dental hygienists and dental assistants to handle routine services.

## FOR MORE INFORMATION

American Dental Association  
211 E. Chicago Avenue  
Chicago, IL 60611  
Web site: [www.ada.org](http://www.ada.org)

## Diagnostic Medical Sonographer

### SUMMARY OF PROFESSION

Diagnostic medical sonographers use high-frequency sound waves, called ultrasound, and special camera equipment to produce images of the inner human body called sonographs. The sonographer then analyzes these images for signs of abnormality and shares his or her findings with the physician, who makes a diagnosis.

Sonographers can specialize in such areas as vascular sonography (blood flow), echocardiosonography (the heart) or obstetrics/gynecology (female anatomy and pregnancy). From working with pregnant women and ensuring the health of their babies, to diagnosing diseases in their early stages, sonographers make a direct impact in the lives of patients. If you have strong interpersonal and technical skills and enjoy scientific investigation, you could succeed in this rewarding career.

### EDUCATIONAL REQUIREMENTS

Students can enter a two-year program that awards an associate's degree or a four-year program that awards a bachelor's degree. Because many employers prefer hiring registered sonographers, graduates from an accredited program may sit for a national examination offered by the American Registry of Diagnostic Medical Sonographers to become certified.

### SALARY INFORMATION

According to the US Department of Labor's Bureau of Labor Statistics, the median base salary for a diagnostic medical sonographer working in the US was \$71,320 in 2019. The lowest 10 percent earned less than \$52,770, and the top 10 percent earned more than \$102,600.

### CAREER OUTLOOK

Employment of diagnostic medical sonographers is expected to grow much faster than the average for all occupations through 2029 as the population ages and the sonograph becomes an increasingly attractive alternative to radiologic procedures.

### FOR MORE INFORMATION

Society of Diagnostic Medical Sonographers  
2745 Dallas Pkwy Ste 350  
Plano, TX 75093-8730  
(214) 473-8057  
Web site: [www.sdms.org](http://www.sdms.org)

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# Nutrition & Dietetic Technician

## SUMMARY OF PROFESSION

Health, nutrition and fitness have become a way of life. These changes mean increased opportunities in the field of dietetics. Nutrition and dietetic technicians work in a number of different settings, such as hospitals, public nutrition programs, long-term care facilities, child nutrition and school lunch programs, nutrition programs for the elderly, and in food service management.

Under the supervision of a dietitian, a nutrition and dietetic technician may screen patients to identify nutrition problems, provide patient education and counseling to individuals or groups, develop menus and recipes, supervise food-service personnel, purchase food, and monitor inventory. Computer skills are a plus.

## EDUCATIONAL REQUIREMENTS

To become a nutrition and dietetic technician, you can enroll in a program accredited by the Academy of Nutrition and Dietetics (at least a two year associate's degree) that combines classroom and 450 hours of practical experience. After you complete your program, you will need to take a registration exam for dietetic technicians administered by the Accreditation Council for Education in Nutrition and Dietetics. After you complete the program, you are eligible to take the credentialing examination for dietetic technicians, which is administered by the Commission on Dietetic Registration. Passing the exam allows you to use the credentials "NDTR" for Nutrition and Dietetic Technician, Registered.

## SALARY INFORMATION

According Salarys.com, the median salary for a nutrition and dietetic technician is \$40,949 in 2020, with the lowest 10% averaging \$29,4112 and the top 10% averaging \$52,914.

## CAREER OUTLOOK

While employment of NDTRs vary based on geographical location, the job market for registered nutrition and dietetic technicians is assumed to be similar to that for dietitians and nutritionist, according to the Academy of Nutrition and Dietetics. Outlook for NDTRs is expected to be faster than average due to an increased emphasis on disease prevention and wellness.

## FOR MORE INFORMATION

Academy of Nutrition and Dietetics  
120 South Riverside Plaza, Suite 2000  
Chicago, Illinois 60606-6995  
Phone: (800) 877-1600  
Website: [www.eatright.org](http://www.eatright.org)

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# **Electroneurodiagnostic Technologist**

## **SUMMARY OF PROFESSION**

Electroneurodiagnostic (END) Technologists measure electrical activity of a patient's brain waves and nervous system using a variety of techniques and instruments. The most common procedure is the electroencephalogram or EEG. This procedure measures brain waves to help diagnosis brain and nervous system disorders such as brain tumors, strokes, or epilepsy. Results are recorded by the END technologist for physician interpretation.

Electroneurodiagnostic technologists typically work in neurology laboratories of hospitals. Other work areas include offices and clinics of neurologists and neurosurgeons, sleep centers, and psychiatric facilities. If you are independent, science and technology oriented, and like to work with people, electroneurodiagnostic technology may be the allied health field for you.

## **EDUCATIONAL REQUIREMENTS**

Training programs are typically offered in hospitals and community colleges, are one to two years in length, and culminate in an associate degree or certificate. However, as of 2005, all END Technologists must graduate from a training program accredited by the Commission on Accreditation of Allied Health Education Programs, and earn an associate degree or higher. Because many employers prefer hiring registered END technologists, graduates from an accredited program may sit for a national examination offered by the American Board of Registration of Electroencephalographic Technologists.

## **SALARY INFORMATION**

According to Salary.com, the median base salary for an electroneurodiagnostic technologist working in the US was \$56,800 in 2020. The lowest 10 percent earned less than \$43,421, and the top 10 percent earned more than \$69,982.

## **CAREER OUTLOOK**

There is a continuous need for well-educated electroneurodiagnostic technologists, and the demand grows as new labs open and existing labs expand.

## **FOR MORE INFORMATION**

The American Society of Electroneurodiagnostic Technologists  
426 West 42nd Street  
Kansas City, MO 64111  
816.931.1120  
[www.aset.org](http://www.aset.org)

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## Emergency Medical Technician (EMT)

### SUMMARY OF PROFESSION

Whether the emergency is a car accident, a heart attack or an unscheduled childbirth, emergency medical technicians (EMTs) are usually the first on the scene. They arrive in specially equipped vehicles to provide immediate medical care and to transport victims safely and quickly to a medical facility. All EMTs may open airways, restore breathing, control bleeding, treat for shock, administer oxygen, stabilize fractures, bandage wounds, and manage emotionally disturbed patients in the field. EMT-Intermediates can administer IV fluids and use advanced techniques to start a stopped heart or assist a patient's breathing. EMT-Paramedics may also administer drugs, interpret electrocardiograms, perform intubations, and use monitors or other complex equipment. EMTs need to be quick thinkers with the emotional and physical strength to calm patients, react to unpredictable environmental factors, and diagnose and treat victims in a variety of situations. If you thrive on daily challenge, you may have what it takes to be a successful EMT.

### EDUCATIONAL REQUIREMENTS

Students entering an EMT training program must be 18 years old, have a high school diploma or GED and a driver's license (as well as a good driving record). Programs usually last from under 1 year to up to 2 years. They are offered by technical institutes, community colleges, and other facilities, and are accredited by the Commission on Accreditation of Allied Health Education Programs. EMT-Basic training includes 110 to 120 hours of class and a 10-hour internship in an emergency room. To advance to the next level, EMT-Intermediate, students must complete an additional 35 to 55 hours of study. The highest level of responsibility is EMT-Paramedic, which requires completion of 750 to 2000 additional hours of classroom instruction and clinical training. All states require EMTs to be certified, and they must re-register every two years by showing proof of employment as an EMT and completion of a certain number of hours of continuing education.

### SALARY INFORMATION

The median annual salary for EMTs and paramedics in 2019 was \$35,400. Those working in hospital and government settings made more (\$37,570) than those working in ambulance services (\$32,730). According to the Bureau of Labor Statistics, about one-third of EMTs and paramedics work more than 40 hours per week, and many work overnight and on weekends, in 12- or 24-hour shifts.

### CAREER OUTLOOK

Employment of EMTs and paramedics is projected to grow faster than the average for all occupations through 2029, according to the Bureau of Labor Statistics.

### FOR MORE INFORMATION

National Association of Emergency Medical Technicians  
132-A East Northside Dr. Clinton, MS 39056  
Ph: (601) 924-7744  
Web site: [www.naemt.org](http://www.naemt.org)

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# Forensic Science Technician

## SUMMARY OF PROFESSION

Forensic science is the application of science to the law. These scientists search for and examine evidence during crime scene investigations. They may analyze blood, saliva, drugs, tire marks, shoeprints, hair fibers, speech analysis, ballistics, handwriting, and fingerprints. Most specialize in areas such as DNA analysis, crash or accident analysis, entomology (problems relating to time of death), crime scene investigation, criminalistics (interpreting physical evidence), polygraph examination and document examination. The forensic science technician provides information and expert opinion to investigators and often testifies as an expert witness in a court of law. The goal of this professional is to determine the facts and, subsequently, the truth.

Forensic science technicians work for federal, state, and local government, laboratories, medical examiners offices, hospitals, universities, police departments and coroner offices, or as independent consultants. If you are good with details, have sound reason and problem- solving skills, forensic science may be for you.

## EDUCATIONAL REQUIREMENTS

Most forensic science positions require a bachelor's degree in forensic science or a degree in a natural science, such as chemistry, biology, or physics. Some programs offer subspecialty areas of study such as criminalistics, pathology, or toxicology. Many forensic science technicians have a bachelor's degree in a physical science and a master's degree in forensic science. While there are no mandatory licensing requirements, most forensic science technicians receive certification from one or more of the specialty boards such as the American Board of Criminalistics, the American Board of Forensic Entomology, or the American Board of Forensic Document Examiners.

## SALARY INFORMATION

Forensic science technicians typically earn a median salary of about \$60,590, with the lowest 10 percent earned less than \$36,630, and the highest 10 percent earned more than \$100,910, according to the US Department of Labor's Bureau for Labor Statistics.

## CAREER OUTLOOK

Jobs for forensic science technicians are expected to increase faster than the average, at a rate of about 17%. Technological advances in forensics are expected to increase the availability of forensic information used as evidence in trial, which means forensic science technicians' services will be of even higher value.

## FOR MORE INFORMATION

American Academy of Forensic Sciences  
410 North 21st Street  
Colorado springs, CO 80904-2798  
719.636.1100  
Web site: [www.aafs.org](http://www.aafs.org)

# Genetic Counseling

## SUMMARY OF PROFESSION

Genetics is science that deals with understanding the role that heredity plays in diseases and birth defects. The genetic counselor works as a member of the health care team providing counseling and support to patients and their families. They identify families at risk, investigate the problem present in the family, interpret information about the disorder, and analyze inheritance patterns and risks of recurrence and work with the family so that informed decisions can be made. Genetic counselors also serve as educators to other healthcare professionals and to the general public.

Genetic counselors work in a variety of health care settings including medical centers, prenatal, pediatric, or adult programs, private practice, laboratories, government agencies, and specialty clinics for specific genetic disorders.

## EDUCATIONAL REQUIREMENTS

Genetic counselors generally need a master's degree in genetics or genetic counseling from a program accredited by the Accreditation Council for Genetic Counseling. Students enter genetic counseling training programs with a variety of backgrounds, including biology, genetics, nursing, and psychology. After completing their master's program, which typically takes about 2 years, graduates are eligible to take an examination administered by the American Board of Genetic Counseling to become certified.

## SALARY INFORMATION

A typical genetic counselor working in the United States earns a median annual salary of \$81,880. Most genetic counselors (80%) earn between \$61,3100 and \$114,750. Genetic counselors working in physician offices and hospitals typically earn more than those working in colleges or universities.

## CAREER OUTLOOK

As the field of genetics grows, with advancing technology, developments in genomics, and wider availability of genetic testing, the demand for genetic counseling is also expected to grow. However, genetic counseling is still a relatively small occupation, so while employment of genetic counselors is growing much faster than average, this will only mean an increase of about 600 new jobs over the next 10 years.

## FOR MORE INFORMATION

National Society of Genetic Counselors  
401 N. Michigan Avenue  
Chicago, IL 60611  
312-321-6834  
Web site: [www.nsgc.org](http://www.nsgc.org)

# Health Information Manager

## SUMMARY OF PROFESSION

One of the most valuable tools physicians, nurses and other practitioners use to treat patients is the medical record, organized comprehensively and accurately by the health information manager (HIM). These professionals ensure that all necessary forms are present, properly identified and signed. They code each diagnosis and procedure, and use special computer programs to determine insurance reimbursement. Health information managers also use computers to tabulate and analyze data obtained from medical records in order to improve patient care, control costs, and assist in surveys and research studies. HIM professionals may advance into management or specialize in such areas as medical coding (affecting how a hospital is reimbursed for expenses related to providing care) and tumor registry (tracking records of cancer patients for use by physicians and researchers). There is a broad selection of job opportunities and options for professional growth based on your skills, education, and interests, and a multitude of settings throughout the healthcare industry, from hospitals to insurance agencies. the education requirements here.

## EDUCATIONAL REQUIREMENTS

Students looking to work in health information can do so with almost any level of post-secondary education. Graduates with an associate's degree in health information can go on to careers as health data or insurance claims analysts, medical records technicians, or coding specialists. However, most health information managers have at least a bachelor's degree, although it's common to find health information managers that have master's degrees. Graduates with either a bachelor's or a master's degree can go on to become department directors, system managers, or data quality managers. Upon graduating with an associate's degree or a bachelor's degree from an accredited program, health information managers can take an examination to earn the credentials Registered Health Information Administrator (RHIA) when holding a bachelor's degree, and Registered Health Information Technician (RHIT) with an associate's degree.

## SALARY INFORMATION

New health information managers graduating with an associate degree can be expected to earn between \$30,200 and \$50,000 according to the US Department of Labor, Bureau of Labor Statistics. Health information management directors earned between \$42,000 and \$86,000 according to Payscale.com

## CAREER OUTLOOK

Employment of HIM's is expected to grow faster than the average for all occupations through 2029, due to rapid growth in the number of medical tests, treatments, and procedures which will be increasingly scrutinized by third-party payers, regulators, courts, and consumers.

## FOR MORE INFORMATION

American Health Information Management Association  
233 N. Michigan Ave. Suite 2150  
Chicago, IL 60601  
(312) 233-1100  
Web site: [www.ahima.org](http://www.ahima.org)

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## Histologic Technician

### SUMMARY OF PROFESSION

Using a variety of high-tech equipment and detailed procedures, histologic technicians prepare slides of tissues for microscopic examination by a pathologist or other medical scientist. A histologic technician is a medical laboratory technician who specializes in cutting and staining tissues for use on laboratory slides. The histologic technician is an important part of the team that helps diagnose disease. They must work quickly and accurately, often while patients are still in surgery. Hand-eye coordination and manual dexterity are crucial for working with delicate instruments and equipment.

Histologic technicians have an unlimited choice of practice settings. They may work in hospitals, laboratories, clinics, public health facilities, industry, research, and forensic pathology. If you are interested in the field of histology, high school courses in biology, chemistry, math and computer science are recommended.

### EDUCATIONAL REQUIREMENTS

Histologic technicians complete a one-year certificate program or a two-year associate degree program at a community or junior college. Both education tracks include practical laboratory experience. Certification as a histologic technician, or HT, is available after completing all requirements. These requirements include successful completion of the American Society of Clinical Pathologists examination.

### SALARY INFORMATION

According to Salary.com, the median salary in 2020 for a histology technician was \$55,834. Histology technicians can generally expect to earn somewhere between \$44,831 and \$66,463.

### CAREER OUTLOOK

Employment of clinical laboratory workers is expected about as fast as the average for all occupations through the year 2029, as the volume of laboratory tests increases with population growth and the development of new types of tests.

### FOR MORE INFORMATION

National Society for Histotechnology  
10320 Little Patuxent Parkway  
Columbia, MD 21044  
(443) 535-4060  
Web site: <http://www.nsh.org>

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# Medical Laboratory Technician/ Clinical Science

## SUMMARY OF PROFESSION

Clinical laboratory science is crucial in the detection, diagnosis and treatment of disease. The medical laboratory technician (MLT's) works under the supervision of a clinical laboratory scientist/medical technologist to help to analyze body fluids, tissues and cells. Their many responsibilities include preparing specimens for examination, operating sophisticated automated equipment that can perform many tests at once, and performing manual tests according to detailed instructions. With the increasing use of computer technology and automation, the work of the technician has become less hands-on and more analytical.

Specialty areas include clinical, chemical, microbiology, immunology and blood bank technologies. About half the jobs held by medical laboratory technicians are found in hospitals. Most of the remaining jobs are found in medical laboratories or offices, clinics of physicians, blood banks, and research and testing laboratories. If you have strong analytical and technical skills and can work well on your own, you may discover a rewarding career by assisting in the detection and diagnosis of disease as a medical laboratory technician.

## EDUCATIONAL REQUIREMENTS

Most technicians complete a two-year associate degree program offered by community colleges. One-year certificate programs are also available; these are offered by hospitals and vocational-technical schools. Some technicians choose to advance to clinical laboratory scientists/medical technologists by pursuing a four-year degree in medical technology

## SALARY INFORMATION

The median annual wage of medical laboratory technicians was \$54,180 in May 2020. The lowest 10 percent earned less than \$31,450, and the highest 10 percent earned more than \$83,700.

## CAREER OUTLOOK

Employment of clinical laboratory workers is expected to grow faster than the average for all occupations through the year 2029, as the volume of laboratory tests increases with both population growth and the development of new types of tests. Currently there is a shortage of these professionals in many parts of the country guaranteeing employment and higher salaries for graduates, according to the American Society for Clinical Laboratory Science.

## FOR MORE INFORMATION

American Society for Clinical Laboratory Science  
6701 Democracy Boulevard, Suite 300  
Bethesda, MD 20817  
(301) 657-2768  
Web site: [www.ascls.org](http://www.ascls.org)

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## Licensed Practical Nurse (LPN)

### SUMMARY OF PROFESSION

Licensed practical nurses (LPNs) or licensed vocational nurses (LVNs) care for the sick, injured, convalescent, and disabled under the direction of physicians and registered nurses.

Most LPNs provide basic bedside care. They take vital signs such as temperature, blood pressure, pulse, and respiration. They also prepare and give injections and enemas, apply dressings, ice packs and hot water bottles, and insert catheters. LPNs in nursing homes, in addition to providing routine bedside care, may also help evaluate residents' needs, develop care plans, and supervise nursing aides. In doctors' offices and clinics, including health maintenance organizations, they may also make appointments, keep records, and perform other clerical duties.

Licensed practical nurses may work in nursing homes, hospitals, physicians' offices and clinics. They may also work for home healthcare services, residential care facilities, schools, and government agencies. If you are compassionate, self-confident, use good judgment and have decision-making skills, you may have what it takes to be a licensed practical nurse.

### EDUCATIONAL REQUIREMENTS

All states require LPNs to pass a licensing examination after completing a state-approved practical nursing program. A high school diploma, or equivalent, usually is required for entry. Most practical nursing programs last about 1 year and include both classroom study and supervised clinical practice (patient care). The licensing exam is given to graduates and is called the National Council Licensure Examination (NCLEX-PN).

### SALARY INFORMATION

In 2019, the median annual salary for LPNs was \$47,480, with the lowest 10 percent earned less than \$35,560, and the highest 10 percent earned more than \$63,360.

### CAREER OUTLOOK

Employment of LPNs is expected to grow faster than the average through 2029, at a rate of 9%. Jobs are created as the need for health care services increases. LPNs willing to work in rural and medically underserved areas will have favorable job prospects, according to the US Bureau of Labor Statistics.

### FOR MORE INFORMATION

The National Federation of Licensed Practical Nurses, Inc.  
605 Poole Drive  
Garner, NC 27529  
(919) 779-0046  
Web site: [www.nflpn.org](http://www.nflpn.org)

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# Massage Therapist

## SUMMARY OF PROFESSION

Massage is a healing art as well as a science requiring academic and technical knowledge, clinical skills, manual dexterity, sensitivity, and awareness. A massage therapist uses this knowledge to manipulate the soft tissue of people's bodies to help them relax and to treat a variety of ailments. Research shows that massage can reduce heart rate, lower blood pressure, increase blood circulation, and relax muscles; and, to promote health and wellness. There is a growing trend of offering therapeutic massage in the workplace to increase employee productivity and morale.

Massage therapists need to have a sound working knowledge of anatomy and the body's musculoskeletal structure. Places of employment include: health service centers and athletic clubs, private spas, beauty and tanning salons, hotel and resorts, cruise ships, and private practices.

## EDUCATIONAL REQUIREMENTS

Professional massage therapists are regulated in 45 states, with most states requiring a minimum of 500 hours of training from a state-recognized program. Training programs generally require a high school diploma. Upon graduation, students can sit for a state-specific licensure exam or the Massage and Bodywork Licensing Examination (MBLEx), according to the US Department of Labor's Bureau of Labor Statistics.

## SALARY INFORMATION

A typical Massage Therapist working in the United States earns a median annual salary of \$42,820 according to the US Department of Labor, Bureau of Labor Statistics. The lowest 10 percent earned less than \$21,810, and the highest 10 percent earned more than \$80,630.

## CAREER OUTLOOK

The field of massage therapy is expected to increase faster than the average for all occupations through 2029, at a rate of 21%. As more states adopt licensing requirements and standards for massage therapists, the practice of massage is likely to be respected and accepted by more people as a way to treat pain and to improve overall wellness.

## FOR MORE INFORMATION

American Massage Therapy Association  
500 Davis Street, Suite 900  
Evanston, IL 60201-4695  
Phone: (847) 864.0123  
Web site: [www.amtamassage.org](http://www.amtamassage.org)

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## Medical Laboratory Technologists

### SUMMARY OF PROFESSION

Clinical Laboratory Scientists, also known as a medical technologist, play a major role in the detection, diagnosis and treatment of diseases. Acting as health detectives, they use sophisticated laboratory equipment to analyze body fluids, tissues and cells. Their many responsibilities include looking for microorganisms and abnormal cells, testing drug levels in the blood to show how a patient is responding to treatment, and matching blood for transfusions.

Specialty areas include clinical chemical, microbiology, immunology and blood bank technologies. If you have strong analytical and problem-solving skills, an interest in advanced technology, and the ability to work well on your own, you will find a rewarding, challenging career in exploring one of the last frontiers: the human body.

### EDUCATIONAL REQUIREMENTS

A bachelor's degree in medical technology or one of the life sciences, including approximately three years of course work and a year of clinical experience, is the most widely accepted level of education. A master's degree in medical technology is available for those wishing to work in specialized areas, education, administration or research. Graduates can become certified by agencies such as the Board of Registry of the American Society of Clinical Pathologists (ASCP), and the National Credentialing Agency for Laboratory Personnel (NCA). Credentials are highly desirable to employers. Those who pass the exams use the initials MT (ASCP) or CLS (NCA). Some states require medical technologists to be licensed or registered.

### SALARY INFORMATION

The median annual wage of medical laboratory technologists was \$54,180 in May 2020, according to the US Department of Labor, Bureau of Labor Statistics. The lowest 10 percent earned less than \$31,450, and the highest 10 percent earned more than \$83,700.

### CAREER OUTLOOK

Employment for medical laboratory technologists is projected to grow faster than the average for all occupations. Employment of medical laboratory technicians is expected to grow much faster than the average for all occupations through 2029.

### FOR MORE INFORMATION

American Society for Clinical Laboratory Science  
6701 Democracy Boulevard, Suite 300  
Bethesda, MD 20817  
(301) 657-2768  
Web site: [www.ascls.org](http://www.ascls.org)

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# Medical Records Technician/Health Information Technician

## SUMMARY OF PROFESSION

Every time a patient receives healthcare, a record is maintained of the observations, medical surgical interventions, and treatment outcomes. This record includes medical history, symptoms, examination results, x-ray reports, lab tests diagnoses and treatment plans. Medical records and health information technicians organize and evaluate these records for completeness and accuracy.

## EDUCATIONAL REQUIREMENTS

Medical records and health information technicians generally have an associate degree. Typical coursework in health information technology includes medical terminology, anatomy and physiology, health data requirements and standards, clinical classification and coding systems, data analysis, healthcare reimbursement methods, database security and management, and quality improvement methods. Applicants can improve their chances of admission into a postsecondary program by taking biology, math, chemistry, health, and computer science courses in high school.

Most employers prefer to hire credentialed medical record and health information technicians. A number of organizations offer credentials typically based on passing a credentialing exam. Most credentialing programs require regular recertification and continuing education to maintain the credential. Many coding credentials require an amount of time in coding experience in the work setting.

## SALARY INFORMATION

The median annual wage of medical records and health information technicians was \$42,630 in May 2019, according to the US Department of Labor, Bureau of Labor Statistics. The lowest 10 percent earned less than \$27,820, and the highest 10 percent earned more than \$71,150.

## CAREER OUTLOOK

Employment of medical records and health information technicians is expected to grow faster than the average for all occupations through 2029 due to rapid growth in the number of medical tests, treatments, and procedures.

## FOR MORE INFORMATION

American Health Information Management Association  
233 N. Michigan Avenue, 21st Floor  
Chicago, IL 60601-5809  
(312)-233-1100

[www.ahima.org](http://www.ahima.org)  
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## Medical Illustrator

### SUMMARY OF PROFESSION

Medical illustrators combine art with the knowledge of biology or other sciences to produce illustrations of human anatomy and surgical procedures. They are highly trained artists who choose medicine as their subject matter. Medical illustrators must have both a demonstrated artistic ability and a detailed knowledge of living organisms, surgical and medical procedures, and human and animal anatomy. Illustrations produced by these professionals are used in medical and scientific publications and in audiovisual presentations for teaching purposes. Medical illustrators also work for lawyers, producing exhibits for court cases. Although the majority of illustrations are for print and projection media, medical illustrators also work in three dimensions, creating anatomical teaching models for medical procedures and prosthetic parts for patients.

Medical illustrators are employed by medical schools, dental schools, and schools of veterinary medicine as well as commercial and private multimedia production studios. Illustrators may work independently on a freelance basis for medical publishers, pharmaceutical houses, and advertising agencies.

### EDUCATIONAL REQUIREMENTS

A four-year bachelor's degree combining art and premedical courses is required, but a master's degree in medical illustration is preferred and recommended. Presently this degree is offered in only four accredited schools in North America. The designation of Certified Medical Illustrator (CMI) is available to illustrators who have passed an examination administered by The Board of Certification of Medical Illustrators.

### SALARY INFORMATION

According to the Association of Medical Illustrators, a medical illustrator's salary is largely based on education and type of employment, but the median annual salary is \$70,650 and can range up to \$173,000. A medical illustrator in a supervisory position has the potential to earn more, with a median salary of \$85,000. The Association of Medical Illustrators also states that about 48% of illustrators supplement their income with freelance work.

### CAREER OUTLOOK

The employment outlook for medical illustrators is good due to the relatively few medical illustrators who graduate each year as well as growth in medical technologies that require medical illustrations.

### FOR MORE INFORMATION

The Association of Medical Illustrators  
P.O. Box 1897  
Lawrence, KS 66044  
1-866-393-4264  
Web site: [www.ami.org](http://www.ami.org)

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# Medical Administrative Assistant/Secretary

## SUMMARY OF PROFESSION

A medical secretary is an office secretary with knowledge of medical terms, medical procedures, health care laws, including HIPAA, and insurance policies and billing. Medical secretaries combine office and computer skills to provide support to physicians and other medical staff. Some positions in which medical administrative assistants work include medical receptionists, patient scheduling, transcription, unit or admissions clerk, and insurance biller. They may also work in positions dealing with medical records.

Medical secretaries and medical administrative assistants may find employment in individual physician's offices, clinics, outpatient clinics, health insurance companies, laboratories, medical supplies and equipment companies, nursing homes, and public health departments.

## EDUCATIONAL REQUIREMENTS

A high school diploma or equivalent is recommended, as many employers require completion of a formal education program. Programs can last from several months to two years and lead to a certificate, diploma, and associate degree.

## SALARY INFORMATION

In 2020, the median annual salary for medical secretaries and administrative assistants was \$37,350, with the lowest 10 percent earned less than \$26,880, and the highest 10 percent earned more than \$67,510.

## CAREER OUTLOOK

With an aging population and more people gaining access to health care, demand for health care services will cause employment of medical secretaries to grow at the average rate from 2019 to 2029. However, employment of medical secretaries is largely dependent on overall growth of the health care industry. A variety of factors can influence this growth and cause employment to be higher or lower than expected.

## FOR MORE INFORMATION

International Association of Administrative Professionals  
10502 NW Ambassador Drive PO Box 20404  
Kansas City, Missouri 64195-0404  
Phone: (816) 891-6600  
Website: [www.iaap-hq.org](http://www.iaap-hq.org)

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# Nuclear Medicine Technologist

## SUMMARY OF PROFESSION

People have dealt with life-threatening diseases throughout history, but nuclear medicine technologists today help detect and stop such diseases in their early stages. Nuclear medicine technologists administer drugs with small amounts of radioactive material and use special cameras to track the signals these drugs emit from the patient's body. The resulting photographs or images reveal the characteristics and functioning of the inner organs, allowing physicians to detect abnormalities and make a diagnosis.

Successful nuclear medicine technologists demonstrate knowledge of test procedures and complex radioactive materials, as well as the ability to interact with patients. If you enter the cutting-edge field of nuclear medicine, you can take pride in the knowledge that your personal compassion and professional skills offer hope in the successful treatment of serious illness.

## EDUCATIONAL REQUIREMENTS

Nuclear medicine technologists typically need an associate's degree in nuclear medicine technology from a program accredited by the Joint Review Committee on Educational Programs in Nuclear Medicine Technology. It is also common for nuclear medicine technologists to pursue bachelor's degrees.

Graduates can then become certified by the American Registry of Radiologic Technologists or the Nuclear Medicine Technology Certification Board. In addition to general certification, specialty certifications are also available for those who show proficiency with certain equipment or procedures. Only about half of all states require nuclear medicine technologists to be licensed.

## SALARY INFORMATION

In 2020, nuclear medicine technologists have a median annual salary of \$79,950, according to the US Department of Labor's Bureau of Labor Statistics. The lowest 10 percent earned less than \$57,830, and the highest 10 percent earned more than \$109,070.

## CAREER OUTLOOK

Employment for nuclear medicine technologists is projected to grow at a faster rate than average from 2019 to 2029, according to the Bureau of Labor Statistics. To improve job prospects in a competitive job market, nuclear medicine technologists can complete a bachelor's degree from an accredited program or earn a specialty certification.

## FOR MORE INFORMATION

American Society of Radiologic Technologists  
15000 Central Ave. SE  
Albuquerque, NM 87123-3909  
Phone: (800) 444-2778 ext. 5  
Website: [www.asrt.org](http://www.asrt.org)

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## Nurse Anesthetist

### SUMMARY OF PROFESSION

Because of advances in anesthesia, millions of patients undergo surgery or give birth each year with minimal pain. The nurse anesthetist, an expert in this delicate science, is present before, during and after the procedure as a crucial member of the surgical team. As an advanced practice nurse, they work with a high degree of autonomy and professional respect. Nurse anesthetists are the sole anesthesia providers in many rural hospitals in the United States. These professionals carry a heavy load of responsibility and are compensated accordingly.

Nurse anesthetists evaluate patients beforehand, administer the anesthesia and monitor the patient's pulse, respiration and blood pressure during the procedure to make sure the anesthesia is working effectively and safely. They also oversee the patient's recovery from anesthesia. In addition to practice in hospitals, clinics and office settings, nurse anesthetists play major roles in health care management, education, research and legislation. If you are responsible, analytical and precise, you may enjoy a career in this highly respected profession.

### EDUCATIONAL REQUIREMENTS

In order to enter a nurse anesthesia program, students must first complete a four-year bachelor's degree in nursing and obtain licensure as a Registered Nurse (RN). They also need at least one year of nursing experience in acute critical care. Nurse anesthesia programs last from two to three years, including both classroom and clinical experience, and award a master's degree. Graduates then receive certification by passing a national examination to become a Certified Registered Nurse Anesthetist (CRNA).

### SALARY INFORMATION

According to the Salary.com, the average annual salary for Certified Nurse Anesthetists in Pennsylvania is \$188,343, with the lowest 10% of earners making less than \$159,2030 in 2021 and the highest 10% of earners making more than \$221,044.

### CAREER OUTLOOK

The employment of nurse anesthetists is expected grow at a rate of 45% through 2029, much higher than the average for all occupations. This growth is due in part due to expanded health insurance access, and greater need for services for the growing elderly population.

### FOR MORE INFORMATION

American Association of Nurse Anesthetists  
222 South Prospect Avenue  
Park Ridge, IL 60068  
Ph: (847) 692-7050  
Website: [www.aana.com](http://www.aana.com)

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## Nurse Midwife

### SUMMARY OF PROFESSION

Nurse midwives are registered nurses (RNs) with advanced education that qualifies them to help women with all stages of pregnancy and delivery. They monitor the health of the pregnant women and their unborn babies, address questions and concerns, attend and help with the birth process, and provide follow-up, or post-partum care and normal newborn care. They emphasize the natural aspects of pregnancy without high-tech interventions.

Nurse-midwives may be found in private practice with a physician, hospitals, health maintenance organizations, public health departments, family planning centers, birthing centers and homes. Nurse-midwives work in conjunction with a physician.

### EDUCATIONAL REQUIREMENTS

Nurse midwives are known as advanced practice registered nurses (APRNs). In order to become a nurse midwife, candidates must first obtain a bachelor's degree in nursing and pass the exam to earn the Registered Nurse (RN) credentialing. Then, candidates must earn a master's degree from an accredited program, where they will learn skills more specific to their specialty. After graduating with a master's degree, nurse midwives can earn the credentials Certified Nurse Midwife (CNM) from the American Midwifery Certification Board.

### SALARY INFORMATION

A Certified Nurse Midwife (CNM) working in the United States earns a median base salary of \$111,959 according to Salary.com. The lowest 10 percent earned less than \$94,7440, and the highest 10 percent earned more than \$140,463.

### CAREER OUTLOOK

The employment of nurse midwives is expected to grow 45% between 2019 and 2029, which is much faster than average. Additionally, the employment of advanced practice registered nurses in general is expected to grow at a rate of 31%, which is also much faster than average.

### FOR MORE INFORMATION

American College of Nurse-Midwives  
8403 Colesville Rd  
Suite 1550  
Silver Spring, MD 20910  
240-485-1800  
[www.midwife.org](http://www.midwife.org)

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## Nurse Practitioner

### SUMMARY OF PROFESSION

Nurse practitioners are registered nurses (RNs) with advanced education (APRNs- Advanced Practice RNs) that qualifies them to perform many of the duties carried out by physicians. They serve as regular primary care providers for both children and adults, giving regular examinations, ordering and performing tests, diagnosing and treating health problems, and educating patients on how to maintain a healthy lifestyle. Nurse practitioners are also able to prescribe medications in every state.

Nurse practitioners are usually certified in one or more specialty areas, such as family practice, children's health, women's health, elderly care, mental health or emergency care. In addition to clinical practice, nurse practitioners also play major roles in health care education, management, research and legislation. If you are a caring and responsible person who can gather information and make informed decisions, you could make a difference in this challenging and exciting career.

### EDUCATIONAL REQUIREMENTS

In order to enter a nurse practitioner program, you must be a Registered Nurse (RN) and have a 4-year degree in nursing (BSN). Nurse practitioners must earn a master's degree in the field of nursing (MSN) from a program accredited by the Commission on Collegiate Nursing Education. After earning an MSN degree, nurse practitioners must become certified by the American Nurses Credentialing Center or another professional organization that offers credentialing. The certification process includes supervised clinical hours and a comprehensive exam.

### SALARY INFORMATION

According to Salary.com, the median annual salary for Certified Registered Nurse Practitioners (CRNPs) is \$111,281. The lowest 10 percent earned less than \$95,962, and the highest 10 percent earned more than \$129,640.

### CAREER OUTLOOK

The employment of APRNs is expected to grow much, much faster than the average for all occupations through 2029, at a rate of about 45%, according to the Bureau of Labor Statistics. APRNs will be increasingly utilized in team-based models of care, particularly in hospitals, offices of physicians, clinics, and other ambulatory care settings, where they will be needed to provide preventive and primary care.

### FOR MORE INFORMATION

American Academy of Nurse Practitioners  
Capitol Station B LBJ Building  
PO Box 12846  
Austin, TX 78711  
(512) 442-4262  
Web site: [www.aanp.org](http://www.aanp.org)

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## Nursing Assistant/Aide

### SUMMARY OF PROFESSION

By providing routine patient care, nurse aides, also known as nurse assistants, play a vital role in healthcare delivery. Working under the direction of a registered nurse or licensed practical nurse, they answer patient call lights, serve meals, help patients to dress and bathe, and take blood pressure, temperature, and pulse. Nurse aides have a great deal of patient contact and are important in developing patient relationships that foster trust. Their observations of a patient's physical, emotional, and mental status allows them the opportunity to report any changes to the medical or nursing staff. Nurse aides work in hospitals, nursing homes, physician's offices, home health agencies, private homes, and mental health institutions.

Home health aides help elderly, convalescent, or disabled persons live in their own homes instead of in a health facility. They often work in patients homes providing health-related services such as checking the patient's pulse, temperature, respiration, administer oral medications and help patients move from bed, bathe, dress, and groom.

### EDUCATIONAL REQUIREMENTS

Most employers of nurse aides and home health aides require a high school diploma or the equivalent. Training is offered informally, on-the-job or in high schools, vo-tech and career and technology centers, and some nursing homes and community colleges. State certification is available to nurse aides by passing an exam to earn the title Certified Nurses Assistant (CNA). The National Association for Home Care offers national certification for home health aides. Training programs vary depending upon state regulations

### SALARY INFORMATION

A typical Nursing Assistant working in the United States earns a median base salary of \$30,850, according to the US Department of Labor, Bureau of Labor Statistics. The lowest 10 percent earned less than \$22,750, and the highest 10 percent earned more than \$42,100.

### CAREER OUTLOOK

Overall employment of nursing assistants and home health aides is projected to grow faster than the average through the year 2029. Job prospects for nursing aides with formal training should be excellent, particularly in long-term care facilities.

### FOR MORE INFORMATION

National Council of State Boards of Nursing  
111 East Wacker Drive  
Suite 2900  
Chicago, IL 60601  
Phone: 312.525.3600  
Web Site: [www.ncsbn.org](http://www.ncsbn.org)

National Association for Home Care  
228 7th Street, SE  
Washington, DC 20003  
Phone: 202.547.7424  
Web Site: [www.nahc.org](http://www.nahc.org)

# Orthotic & Prosthetic Technician

## SUMMARY OF PROFESSION

Orthotics is the designing, fitting and manufacturing of orthoses (braces) and splints for individuals with disabling conditions of the spine and extremities such as spina bifida and cerebral palsy. The orthotic technician works under the guidance of an orthotist in providing the patient maximum fit and function of the device.

Prosthetics is the designing, fitting and manufacturing of artificial limbs for people with limb loss. The technician works with people who have amputations due to accidents, congenital birth problems, or disabling diseases. The prosthetic technician works under the supervision of the prosthetist.

Both orthotics and prosthetics help people with physical challenges regain mobility and lead more independent lives.

## EDUCATIONAL REQUIREMENTS

Programs for orthotic and prosthetic technicians range from six months to two years resulting in a certificate or associate degree. Training may involve the use of tools and equipment for making or repairing braces and for making and finishing artificial limbs. The student may work with metals, plastics, wood and leather. Both orthotics and prosthetics may be studied separately or combined. Upon completion of an accredited program, technicians are eligible to sit for the technical exam administered by the American Board for Certification in Orthotics and Prosthetics to become certified.

## SALARY INFORMATION

According to Salary.com the median annual salary for orthotic and prosthetic technicians is \$50,500, with 80% of all orthotic and prosthetic technicians earning between \$40,184 and \$59,670 yearly.

## CAREER OUTLOOK

Employment in the field of orthotics is expected to grow through 2029, however, the overall number of new jobs will be limited as orthotics is not a large field. This growth, however, is due to increased demand for services due to the growing number of older individuals who require these services.

## FOR MORE INFORMATION

American Association of Colleges of Pharmacy  
1727 King Street  
Alexandria, VA 22314  
(703) 739-2330  
Web site: [www.aacp.org](http://www.aacp.org)

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# Occupational Therapist Assistant

## SUMMARY OF PROFESSION

Occupational therapist assistants help disabled people improve their quality of life by teaching them ways to overcome their limitations. Assistants directly carry out the rehabilitation program designed in collaboration with the occupational therapist to teach the patient how to handle the activities of daily living. The program consists of using a variety of manual and creative “occupations,” such as cooking, crafts and games, or showing someone in a wheelchair easier ways to bathe and dress.

The occupational therapist assistant helps restore independence to physically, mentally and emotionally impaired people. By sharing a sense of accomplishment with patients, occupational therapy assistants can find great satisfaction and fulfillment in their work. If you are caring, patient and energetic, you may enjoy a career as an occupational therapy assistant.

## EDUCATIONAL REQUIREMENTS

Those who wish to become occupational therapy assistants can complete either a two-year associate degree program or a one-year certificate program offered by community colleges and vocational-technical schools. The certificate program is usually for students who have had several years of related health care experience or education. Graduates of an accredited program who pass the national certification examination earn the Certified Occupational Therapy Assistant credential (COTA). Certification is required by most states.

## SALARY INFORMATION

A typical Certified Occupational Therapist Assistant working in the United States earns a median base salary of \$62,940, according to the US Department of Labor, Bureau of Labor Statistics. The lowest 10 percent earned less than \$43,180, and the highest 10 percent earned more than \$84,090.

## CAREER OUTLOOK

Employment of occupational therapist assistants is expected to grow much faster than the average for all occupations through 2029, by a rate of about 35%, according the Department of Labor. The aging population, as well as medical advances that help people with critical health problems survive longer, both attribute to this significant growth.

## FOR MORE INFORMATION

The American Occupational Therapy Association  
4720 Montgomery Lane  
PO Box 31220  
Bethesda, MD 20824-1220  
(301) 652-2682  
Web site: [www.aota.org](http://www.aota.org)

## Occupational Therapist

### SUMMARY OF PROFESSION

The occupational therapist helps disabled people to develop or regain an active, fulfilling lifestyle by helping them understand and compensate for their limitations. These professionals concentrate on restoring independence and self-esteem by teaching the patient new ways to perform the activities of daily living. Through careful observation and evaluation, the occupational therapist develops a rehabilitation program using a variety of manual and creative activities or “occupations.”

Their patients include those who have survived serious injuries, those with permanent conditions such as cerebral palsy or muscular dystrophy, people with mental or emotional disorders, and children with developmental difficulties. Occupational Therapists may work in hospitals, clinics, school systems, home health agencies, nursing homes, or in private practice. Successful occupational therapists need strong interpersonal skills to understand and motivate their patients. If you are patient, energetic and creative, consider a career in one of the fastest growing fields today - occupational therapy.

### EDUCATIONAL REQUIREMENTS

Most occupational therapists enter the occupation with a master’s degree in occupational therapy. A small number of programs offer doctoral degrees in occupational therapy. Admission to occupational therapy programs generally requires a bachelor’s degree and specific coursework, including biology and physiology. Many programs also require applicants to have volunteered or worked in an occupational therapy setting. All states require occupational therapists to graduate from an accredited program and pass the American Occupational Therapy Certification Board examination.

### SALARY INFORMATION

A typical Occupational Therapist working in the United States earns a median base salary of \$86,280, according to the US Department of Labor, Bureau of Labor Statistics. The lowest 10 percent earned less than \$57,330, and the highest 10 percent earned more than \$122,670.

### CAREER OUTLOOK

Employment of occupational therapists is expected to increase much faster than the average for all occupations through 2029. Factors attributed to this increase are the aging population and medical advances that help people with critical health problems to survive longer.

### FOR MORE INFORMATION

The American Occupational Therapy Association  
4720 Montgomery Lane  
PO Box 31220  
Bethesda, MD 20824-1220  
(301) 652-2682  
Web site: [www.aota.org](http://www.aota.org)

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## Pharmacist

### SUMMARY OF PROFESSION

The pharmacist's advanced knowledge of medications and therapies make this professional a valued advisor of physicians and patients alike. Although providing medications prescribed by physicians is still a major responsibility, pharmacists are becoming more involved in drug therapy decision-making and patient counseling. Pharmacists advise physicians and other practitioners on drug dosages, interactions and side effects, and they provide patients with information about medications and their use. In addition to clinical practice, pharmacists may educate pharmacy students and technicians, own and/or manage community pharmacies, and conduct pharmacological research. Pharmacists work in retail pharmacies, hospitals, clinics, personal care facilities, home health care agencies and managed care organizations. If you have a scientific personality and pay close attention to details and accuracy, you may enjoy the growing responsibilities of this respected profession.

### EDUCATIONAL REQUIREMENTS

The currently degree requirement for a pharmacist is a Doctor of Pharmacy (Pharm.D.), which usually takes at least six years to complete, and includes two years of undergraduate coursework and four years of graduate-level pharmacy work. After graduating with as a Pharm.D., prospective pharmacists must become licensed by taking two exams: the North American Pharmacist Licensure Exam (NAPLEX), which tests pharmacy skills and knowledge, and the Multistate Pharmacy Jurisprudence Exam (MPJE), which tests pharmacy law. Additional certification may be required to administer vaccinations and immunizations. Finally, if a pharmacist wishes to specialize in a certain area, they can become certified by the Board of Pharmacy Specialties.

### SALARY INFORMATION

A typical Pharmacist working in the United States earns a median base salary of \$128,710, according to the US Department of Labor, Bureau of Labor Statistics. The lowest 10 percent earned less than \$85,210, and the highest 10 percent earned more than \$164,980.

### CAREER OUTLOOK

Employment of pharmacists is projected to decline by 3% from 2019 through 2029. Although overall demand for pharmacy services is increasing, so has the number of pharmacy schools in recent years. The growing number of pharmacy school graduates is expected to cause more competition for jobs.

### FOR MORE INFORMATION

American Association of Colleges of Pharmacy  
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Alexandria, VA 22314  
(703) 739-2330  
Web site: [www.aacp.org](http://www.aacp.org)

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## Pharmacy Technician

### SUMMARY OF PROFESSION

As the right hand of the pharmacist, the pharmacy technician plays an important role in providing medications to patients. Under the supervision of licensed pharmacists, pharmacy technicians work in a variety of settings, including hospitals, clinics, nursing homes, home health care, retail and mail order prescription pharmacies. Primary duties include ordering, stocking, packaging and preparing medications, maintaining patients' records, preparing insurance claim forms and managing the cash register. In a hospital pharmacy, the pharmacy technician's role often expands to include such responsibilities as preparing sterile intravenous medications, assembling a 24-hour supply of medication for each patient and delivering medications to patients' rooms. Pharmacy technicians need good communication skills to follow instructions. Careful attention to detail is crucial in a job where the lives of patients depend on accuracy and precision.

### EDUCATIONAL REQUIREMENTS

Pharmacy technicians are typically trained on the job, but post-secondary school education is growing increasingly valuable as pharmacies rely more on professional training of employees. Formal training is offered at hospitals, vocational/technical schools and community colleges. Depending on the individual program, the student can earn a certificate, associate degree or diploma in two years or less. Graduates may choose to take the voluntary National Pharmacy Technician Certification Examination, and must be re-certified every three years by completing 20 contact hours through pharmacy associations, colleges, training programs and employers

### SALARY INFORMATION

The median annual salary for pharmacy technicians in the US, according to the US Department of Labor's Bureau for Labor Statistics, was \$35,100 in 2020. The lowest 10 percent earned less than \$25,400, and the highest 10 percent earned more than \$50,430.

### CAREER OUTLOOK

Employment of pharmacy technicians is expected to grow at a rate of about 4% through 2029, about as fast the average for all occupations. This is due to the increased pharmaceutical needs of a larger and older population, and growing use of medications by all age groups. With advances in science, more medications are becoming available to treat more conditions.

### FOR MORE INFORMATION

Pharmacy Technician Educators Council  
C/O AACP  
1727 Kings Street  
Alexandria, VA 22314  
(703) 739.2330 x 1034  
Web site: [www.rxptec.org](http://www.rxptec.org)

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# Physician Assistant

## SUMMARY OF PROFESSION

Working under the supervision of a physician, the physician assistant can carry out many aspects of the physician's role, including prevention, diagnosis and treatment of disease. Physician assistants examine patients, take medical histories, order and perform medical tests and order or carry out treatment plans.

Physician assistants are always supervised, but to what extent depend on state laws and the supervising physician. In some cases, they work quite independently, making calls to homes and clinics and reporting to a physician only a few times a week. In other cases, they work side-by-side with physicians in a health care team. Successful physician assistants have the same leadership skills, self-confidence and compassion that physicians need. If this describes you, maybe you will enjoy the responsibilities and rewards of being a physician assistant.

## EDUCATIONAL REQUIREMENTS

Most applicants to physician assistant education programs already have a bachelor's degree. Although admissions requirements vary from program to program, most programs require 2 to 4 years of undergraduate coursework with a focus in science. It is also common for applicants to already have some healthcare related work experience. Physician assistant programs accredited by the Accreditation Review Commission on Education for the Physician Assistant, Inc. usually take at least 2 years and offer a master's degree. All states require physician assistants to be licensed. Candidates must take and pass the Physician Assistant National Certifying Examination (PANCE) to earn the credentials Physician Assistant – Certified (PA-C). PA-Cs must complete 100 hours of continuing education every 2 years and retake the examination every 10 years to keep their credentialing current.

## SALARY INFORMATION

The median annual salary for physician assistants is \$115,390, with the lowest 10 percent earning less than \$76,700, and the highest 10 percent earning more than \$162,470. PA-Cs working in outpatient care centers generally make the most, followed closely by hospitals, then physician offices, while those working in educational services and government make a median salary of less than \$110,770.

## CAREER OUTLOOK

The Employment of PAs is expected to grow much faster than the average for all occupations through the year 2029, with a growth rate of 31%.

## FOR MORE INFORMATION

American Academy of Physician Assistant Programs  
950 N. Washington St.  
Alexandria, VA 22314  
(703) 836-2272  
Web site: [www.aapa.org](http://www.aapa.org)

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## Physician

### SUMMARY OF PROFESSION

Nearly all people rely on physicians, who are the health care professionals who hold the primary responsibilities of maintaining health and treating illness. Physicians regularly care for patients, whether they are sick or healthy. They counsel patients on maintaining good health through nutrition, exercise, and stress reduction. They help patients who are ill by diagnosing the problem and administering a plan of treatment.

Physicians may practice general medicine or focus on one of the more than 30 specialty areas, including surgery, psychiatry, pediatrics, and oncology. Additionally, there are two types of physician credentialing and training. Physicians can either be medical doctors (MD) or doctors of osteopathy (DO) which are thought of as “separate, but equal” credentialing. The major difference between the two is that DOs place a higher emphasis on the body’s musculoskeletal system and manipulation, and require an extra year of training to learn this skill.

### EDUCATIONAL REQUIREMENTS

Training for physicians can typically last 10 or more years. Physicians first obtain a bachelor’s degree from a four-year college or university, and then attend a four-year medical school accredited by the Liaison Committee on Medical Education (for MD programs) or the Commission on Osteopathic College Accreditation (for DO programs). Students applying to medical school must first take the Medical College Admission Test (MCAT) before being considered for admission to medical school.

Medical students typically spend time both in the classroom and in clinical settings, like hospitals. Upon graduating, new physicians enter a residency program to practice medicine in their chosen specialty. Residencies can last between 3 to 7 years, depending on the specialty and the setting. Residencies typically take place in hospitals, but can also be completed in clinics or physician offices.

Finally, physicians must be licensed in their state. To obtain their medical license, physicians must pass a standardized exam given by the US Medical Licensing Examination (MD) or the Comprehensive Osteopathic Medical Licensing Examination (DO). Although not required to practice medicine, physicians can also obtain board certification in their chosen specialty.

### SALARY INFORMATION

Physicians have among the highest earnings of any occupation. According to the Bureau for Labor Statistics, compensation for physician varies by specialty, however, the median annual compensation for a primary care physician was \$214,370, while the median compensation for a surgeon was \$251,650.

### CAREER OUTLOOK

Employment of physicians and surgeons is projected to grow as fast as the average for all occupations through the year 2029 due to continued expansion of both health care access and the health care industry.

### FOR MORE INFORMATION

American Medical Association  
515 North State Street  
Chicago, IL 60654  
(312) 464-4624  
Web site: [www.ama-assn.org](http://www.ama-assn.org)

## Psychologist

### SUMMARY OF PROFESSION

Psychologists study mental processes and human behavior by observing, interpreting, and recording how people and other animals relate to one another and the environment. To do this, psychologists often look for patterns that will help them understand and predict behavior using scientific methods, principles, or procedures to test their ideas. Psychologists may perform a variety of duties in a vast number of industries. For example, those working in health service fields may provide mental healthcare in hospitals, clinics, schools, or private settings. Psychologists employed in applied settings, such as business, industry, government, or nonprofit organizations, may provide training, conduct research, design organizational systems, and act as advocates for psychology.

### EDUCATIONAL REQUIREMENTS

A master's or doctoral degree, and a license, are required for most psychologists. A doctoral degree usually is required for independent practice as a psychologist. Psychologists with a Ph.D. or Doctor of Psychology (Psy.D.) qualify for a wide range of teaching, research, clinical, and counseling positions. A doctoral degree generally requires about 5 years of full-time graduate study, culminating in a dissertation based on original research. People with a master's degree in psychology may work as industrial-organizational psychologists or they may work as psychological assistants conducting research under the direct supervision of doctoral-level psychologists. A master's degree in psychology requires at least 2 years of full-time graduate study. A bachelor's degree in psychology qualifies a person to assist psychologists and other professionals in community mental health centers, vocational rehabilitation offices, and correctional programs.

### SALARY INFORMATION

Psychologists' earnings vary by subspecialty and educational level. The median annual wage of psychologists was \$77,030 in May 2017 according to the US Department of Labor's Bureau of Labor Statistics. The lowest 10 percent earned less than \$42,330, and the highest 10 percent earned more than \$124,520.

### CAREER OUTLOOK

Employment of psychologists is expected to grow about as fast as the average for all occupations through 2026. Employment will grow because of increased demand for psychological services in schools, hospitals, social service agencies, mental health centers, substance abuse treatment clinics, consulting firms, and private companies. Job opportunities will be best for those with a doctoral degree in an applied specialty.

### FOR MORE INFORMATION

The National Register of Health Service Providers in Psychology  
1120 G Street, NW  
Suite 330  
Washington, DC 20005  
202-783-7663  
[www.nationalregister.org](http://www.nationalregister.org)

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## Radiologic/MRI Technologist

### SUMMARY OF PROFESSION

Radiologic technologists use X-ray technology to unlock the mysteries of the human body. They work to uncover a wide range of medical conditions by preparing patients for the procedure and taking and developing the radiographs. Physicians then analyze the images to diagnose the patient and plan a course of treatment.

Radiologic technologists may advance to perform more complex imaging techniques, including sonography and magnetic resonance imaging (MRI). Many MRI technologists start out as radiologic technologists and specialize later in their career. They may also administer radiation therapy to cancer patients. The job requires responsibility, precision and the ability to interact compassionately with patients who may be seriously ill. If this describes you, consider radiologic technology a career of continual discovery.

### EDUCATIONAL REQUIREMENTS

Three options are available for an education in radiologic technology:

- A diploma/certificate program offered by vocational-technical schools and hospitals.
- A two-year associate degree offered by community and junior colleges.
- A bachelor's degree offered by four-year colleges and universities.

Programs in radiologic technology should be accredited by the Joint Review Committee on Education in Radiologic Technology. Graduates from accredited radiologic technology can become licensed by passing a certification exam or obtaining certification by either the American Registry of Radiologic Technicians, the American Registry of Radiologic Technologists, or the American Registry of Magnetic Resonance Imaging Technologists.

### SALARY INFORMATION

According to the US Department of Labor, Bureau of Labor Statistics, the median annual wage for radiologic technologists was \$62,980 in May 2020. The lowest 10 percent earned less than \$42,180, and the highest 10 percent earned more than \$92,660. The median annual wage for MRI technologists was \$74,690 in May 2020. The lowest 10 percent earned less than \$52,880, and the highest 10 percent earned more than \$104,210.

### CAREER OUTLOOK

Employment of radiologic technologists is expected to grow faster than the average for all occupations through 2029 as the demand outweighs the supply of qualified workers. Radiologic technologists with multiple certifications will have the best job prospects.

### FOR MORE INFORMATION

American Society of Radiologic Technologists  
15000 Central Ave. SE  
Albuquerque, NM 87123-3909  
(800) 444-2778  
Web site: [www.asrt.org](http://www.asrt.org)

## Recreational Therapist

### SUMMARY OF PROFESSION

Recreational therapy is a treatment option available to patients with physical, mental and behavioral illnesses and/or disabilities. According to the Bureau for Labor Statistics, recreational therapist can help patients to reduce depression, stress and anxiety, as well as recover basic physical and mental abilities, build confidence and socialize effectively. Recreational therapists use activities such as dancing, swimming, art, and theater to help promote health and wellness.

### EDUCATIONAL REQUIREMENTS

The minimum education requirement for recreational therapists is a bachelor's degree in recreational therapy or related field. However, some recreational therapists have more advanced degrees. Following graduation, recreational therapists should become certified by taking an exam offered by the National Council for Therapeutic Recreation. After passing one of the exams, candidates earn the credentials Certified Therapeutic Recreation Specialist (CTRS). Additionally, some states, not including Pennsylvania, require licensure for recreational therapists.

### SALARY INFORMATION

According to the Department of Labor, Bureau of Labor and Statistics, as of May 2020 recreational therapists make a median annual salary of \$47,710. The lowest 10 percent earned less than \$31,450, and the highest 10 percent earned more than \$79,250.

### CAREER OUTLOOK

Employment of recreational therapists is expected to as fast as the average for all occupations, at a rate of about 8% through 2029. As the population grows older, there will be an increased need for recreational therapists to treat age-related injuries and illnesses.

### FOR MORE INFORMATION

The American Recreational Therapy Association  
1130 Sunrise Valley Drive, Suite 350  
Reston, Virginia, 20191  
Ph: (703) 234-4140  
Website: <https://www.atra-online.com>

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# Registered Nurse

### SUMMARY OF PROFESSION

Nurses plan and provide patient care. They educate patients, families and communities. They supervise the delivery of care as managers and administrators. Nurses can be found almost anywhere: hospitals, physician offices and clinics, home health care agencies, long-term care facilities, public health agencies, schools, and workplaces. If you are a sympathetic person who can follow orders, as well as direct others, you will discover endless career opportunities in this challenging and rewarding position.

Nurses plan and provide patient care. They educate patients, families and communities. They supervise the delivery of care as managers and administrators. Nurses can be found almost anywhere: hospitals, offices of physicians and other practitioners, home health care agencies, long-term care facilities, public health agencies, schools and workplaces. If you are a sympathetic and responsible person who can follow orders as well as direct others, you will discover endless career opportunities in this challenging and rewarding profession.

### EDUCATIONAL REQUIREMENTS

Those interested in a nursing education can follow one of three paths:

- A four- to five-year college or university program leading to a Bachelor of Science in Nursing (BSN).
- A two-year associate degree in nursing (ADN) offered by community and junior colleges.
- A two-to-three year diploma program offered through a hospital. (Many of these programs build college credits toward a bachelor's degree into the curriculum).

Graduates must earn the Registered Nurse credential (RN) by passing a national examination. Those who wish to become specialists, nurse practitioners, administrators or educators can pursue a Master of Science in Nursing (MSN) or a doctorate degree in nursing.

### SALARY INFORMATION

The median annual salary for registered nurses is \$75,330. Hospitals and government offer the highest paying median salaries for nurses. The lowest 10 percent earned less than \$53,410, and the highest 10 percent earned more than \$116,230.

### CAREER OUTLOOK

Employment of registered nurses is expected to grow faster than the average for all occupations through 2026. Job opportunities should be excellent, especially in hospitals. To attract and keep qualified nurses, hospitals may offer signing bonuses and subsidized training such as tuition reimbursement or repayment. Nurses face far greater competition in physicians' offices and outpatient care centers because these jobs generally offer more regular working hours and comfortable working conditions. Registered nurses with at least a bachelor's degree in nursing (BSN) will be more competitive than those without one.

### FOR MORE INFORMATION

National League for Nursing  
61 Broadway  
New York, NY 10006  
(212) 363-5555  
Web site: [www.nln.org](http://www.nln.org)

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## Respiratory Therapy

### SUMMARY OF PROFESSION

We are usually unaware of our own breathing, although it keeps us alive from minute to minute. Respiratory therapists work with those for whom breathing is a challenge. Their patients include heart attack, stroke and near-drowning survivors; people with chronic lung conditions such as asthma and emphysema; and premature infants with underdeveloped lungs.

Respiratory therapists perform special tests to diagnose and help treat breathing and lung problems for patients. Respiratory therapists work in clinical settings, such as hospitals, and may work a variety of shifts, including nights and weekends. Successful respiratory therapists are quick-thinking yet sensitive to the needs of their patients. Because they work with complex machinery and gas ratios, they also need mechanical and mathematical skills. If you think this describes you, consider a field that focuses on bringing the breath of life to patients- respiratory therapy.

### EDUCATIONAL REQUIREMENTS

The standard level of education for a respiratory therapist is a 2-year associate's degree or higher from a respiratory therapy education program accredited by the Commission on Accreditation for Respiratory Care. Graduates must pass an entry-level examination administered by the National Board for Respiratory Care, earning the credential Certified Respiratory Therapist (CRT). After earning CRT credentialing, respiratory therapists with the appropriate level of education and/or clinical experience as a CRT can then take the separate examination that leads to the Registered Respiratory Therapist (RRT) credential.

### SALARY INFORMATION

A typical respiratory therapist working in the United States earns a median annual salary of \$62,810. The lowest 10 percent earned less than \$45,940, and the highest 10 percent earned more than \$89,170.

### CAREER OUTLOOK

Employment of respiratory therapists is expected to increase faster than the average for all occupations through the year 2029, because of substantial growth of the middle-aged and elderly population – a development that will increase the incidence of cardiopulmonary disease. Additionally, increased emphasis on reducing readmissions in hospitals can lead to increased demand for respiratory therapists in doctors' offices and nursing homes.

### FOR MORE INFORMATION

American Assoc. for Respiratory Care  
9425 N. MacArthur Blvd, Suite 100  
Irving, TX 75063-4706  
(972) 243-2272  
Web site: [www.aarc.org](http://www.aarc.org)

National Board Respiratory Care, Inc.  
18000 W. 105th Street  
Olathe, KS 66061-7543  
(913) 895-4900  
Web site: [www.nbrc.org](http://www.nbrc.org)

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## Social Worker

### SUMMARY OF PROFESSION

Social workers help people deal with personal problems relating to the social pressures of family, relationships, the workplace and the community, counseling them to identify the problems, consider solutions, and find resources. Their clients are often in crisis situations such as unemployment, illness, emotional disturbance, addiction, or abuse. In addition to helping individuals, social workers also assist families struggling with coping with a variety of issues.

Social workers are found in all aspects of healthcare, including hospitals, mental health clinics, addiction treatment centers, and long-term care facilities. They also work in schools, public agencies and companies. Some social workers focus on policy and planning, developing programs that address social concerns. If you are flexible, non-judgmental and dedicated to helping people, you will discover countless options in the field of social work.

### EDUCATIONAL REQUIREMENTS

At minimum, social workers must obtain a bachelor's degree from a program accredited by the Council on Social Work Education is a requirement. However, a master's in social work (MSW) has become the standard for many positions. Accredited programs require 900 hours of supervised field experience. Teaching and research positions normally require a doctorate in social work.

Each state has individual laws concerning licensure, certification or registration, which is required for practice in most circumstances. However, some social workers prefer to obtain licensure even if they are not required.

### SALARY INFORMATION

According to the US Department of Labor's Bureau for Labor Statistics, the median salary for all social workers was \$51,760 in 2020. The lowest 10 percent earned less than \$33,020, and the highest 10 percent earned more than \$85,8200. A minimum of a master's degree is necessary for advancement; if you have a Ph.D. you can command a higher salary.

### CAREER OUTLOOK

Employment of social workers is expected to grow faster than the average for all occupations through 2029. Employment is expected to grow at an even higher rate for social workers in health care than social workers overall, due to increased demand for healthcare services.

### FOR MORE INFORMATION

National Association of Social Workers  
750 First Street NE, Suite 700  
Washington, DC 20002-4241  
(202) 408-8600  
Web site: [www.socialworkers.org](http://www.socialworkers.org)

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## Speech Pathologist

### SUMMARY OF PROFESSION

Speech-language pathologists assess, treat and help prevent disorders related to speech, language, voice, fluency and cognitive communication. They may also work with people who have oral motor problems that cause eating and swallowing difficulties. Their patients include those with mental and emotional disabilities, hearing impairment or cleft palate; and victims of brain injury, stroke or degenerative diseases such as cerebral palsy.

Speech-language pathologists work in schools, hospitals, rehabilitation centers, personal care facilities, clinics and private practices. They design individualized treatment plans to help patients develop or recover communication skills and counsel patients and their families in dealing with these disabilities. Successful speech-language pathologists are patient, objective yet supportive, and have good communication skills.

### EDUCATIONAL REQUIREMENTS

A master's degree in speech-language pathology is the minimum educational requirement for speech-language pathologists. Speech pathology programs should be accredited by the American Speech-Language-Hearing Association's Council on Academic Accreditation. Students are often required to graduate from an accredited program in order to obtain licensure. Most states require speech pathologists to be licensed. Licensure requires a minimum of a master's degree and supervised clinical experience, according to the US Department of Labor. Speech pathologists can also become certified in Clinical Competence in Speech-Language Pathology (CCC-SLP), which is a certification offered by the American Speech-Language-Hearing Association. Additionally, speech pathologists who work in schools may need additional teaching certification.

### SALARY INFORMATION

According to the US Department of Labor, the median salary for speech pathologists was \$80,480 in May 2020. The lowest 10 percent earned less than \$50,370, and the highest 10 percent earned more than \$122,790.

### CAREER OUTLOOK

Employment of speech-language pathologists is expected to grow faster than the average for all occupations through the year 2029. The aging of the population, resulting in more hearing impairments and neurological disorders, will play a major role. Increasing survival rates of premature infants and stroke victims, who tend to need those services, are also a factor.

### FOR MORE INFORMATION

American Speech-Language-Hearing Association  
2200 Research Boulevard  
Rockville, MD 20850-3289  
(800) 498-2071  
Web site: [www.asha.org](http://www.asha.org)

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# **Substance Abuse & Addiction Counselors**

## **SUMMARY OF PROFESSION**

Substance abuse and drug addiction has long been a problem in the United States. Addiction is a chronic, relapsing disease that is brought on by a combination of behavioral, environmental and genetic factors. Addiction takes a physical, emotional and financial toll on addicts, their loved ones, and society.

Substance abuse and drug addiction counselors help patients with addictions to alcohol, illicit drugs, and prescription drugs, as well as patients who are addicted to certain behaviors and activities, such as those with gambling addictions, and patients with eating disorders and other mental health problems. Substance abuse counselors evaluate the patients' mental and physical health, problem behavior and their willingness to comply with treatment. They may incorporate treatment programs such as the 12 Steps (Alcoholics/Narcotics Anonymous) and S.M.A.R.T. Recovery.

## **EDUCATIONAL REQUIREMENTS**

Substance abuse counselors generally hold at least bachelor's degree in areas such as social work and psychology. Obtaining a master's degree opens up more options for substance abuse counselors, in terms of job opportunity and treatment options. Substance abuse counselors with more education are able to provide more services for their clients, including private counseling sessions. Additionally, many substance abuse counselors are in recovery from addiction themselves, making up more than a third of all addiction counselors, according to an article published in 2010 in the Journal of Substance Abuse Treatment.

## **SALARY INFORMATION**

The median annual salary for substance abuse counselors in 2020 was \$47,660, with the lowest 10 percent earned less than \$30,590, and the highest 10 percent earned more than \$78,700. Substance abuse counselors working in hospitals and government were paid more than those working in outpatient centers and traditional substance abuse rehabilitation facilities.

## **CAREER OUTLOOK**

Job outlook for substance abuse counselors is expected to grow at a rate that is much faster than average, 23%. The number of positions available for substance abuse counselors is expected to grow due to increased access to treatment and insurance coverage of treatment.

## **FOR MORE INFORMATION**

The National Center on Addiction and Substance Abuse  
633 Third Avenue, 19<sup>th</sup> Floor  
New York, NY 10017-6706  
Ph: (212) 841-5200  
Website: [www.centeronaddiction.org](http://www.centeronaddiction.org)

## Surgical Technician

### SUMMARY OF PROFESSION

Astounding advances in surgical technology save the lives of seriously ill and disabled patients each day. Surgical technologists are important members of the surgical team and work closely with surgeons, anesthesiologists, registered nurses and other health professionals. By minimizing the risk of infection, surgical technologists ensure the success of hundreds of operative procedures each day.

Surgical technologists make preparations by sterilizing and setting up the operating room, disinfecting the site of the patient's incision, and helping the surgical team scrub and dress for the procedure. They pass instruments and supplies, help operate certain equipment during the procedure, and clean and restock the operating room after surgery. If you are calm and quick thinking, with a knack for details and accuracy, this vital career could be for you.

### EDUCATIONAL REQUIREMENTS

Surgical Technologist programs are nine months to two years in length and typically award a certificate, diploma or an associate degree. They are offered by hospitals, the military, vocational-technical schools, community colleges, four-year colleges and universities. Graduates who then pass a voluntary national examination from the Liaison Council of Certification for the Surgical Technologist become Certified Surgical Technologist (CSTs). Continuing education or reexamination is required every six years to maintain certification.

### SALARY INFORMATION

In May of 2020, a typical Surgical Technologist working in the United States earns a median base salary of \$46,710, according to the US Department of Labor, Bureau of Labor Statistics. The lowest 10 percent earned less than \$34,120, and the highest 10 percent earned more than \$73,110.

### CAREER OUTLOOK

Employment of surgical technologists is expected to as fast as the average for all occupations through the year 2029 as the volume of surgery increases due to the aging population and technological advances that can save more lives.

### FOR MORE INFORMATION

Association of Surgical Technologists  
6 West Dry Creek, Suite 200  
Littleton, CO 80120-8031  
(303) 694-9130  
Web site: [www.ast.org](http://www.ast.org)

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# Medical Transcriptionist

## SUMMARY OF PROFESSION

It is up to the medical transcriptionist, also called medical transcribers and medical stenographers, to translate from oral to written the patient's medical history, diagnosis, prognosis, and outcome. This is generally done by listening to audio recordings made by physicians and other healthcare professionals, and transcribing them into medical reports. Medical transcriptionists generally listen to recordings on a special headset, using a foot pedal to pause the recording when necessary, and key the text into a personal computer or word processor. The documents produced include discharge summaries, history and physical examination reports, O.R. reports, and autopsy reports.

Medical transcriptionists must have a good understanding of medical terminology, good English, grammar and punctuation skills, as well as familiarity with computers. The majority work in hospitals, physicians' offices and clinics, laboratories, medical libraries, or at home.

## EDUCATIONAL REQUIREMENTS

Employers prefer to hire transcriptionists who have completed postsecondary training in medical transcription, offered by many vocational schools, community colleges, and distance-learning programs. Programs may be 1 to 2 years in length culminating in a certificate or associate degree. The American Association for Medical Transcription awards the voluntary designation Certified Medical Transcriptionist (CMT) to those who pass the examinations.

## SALARY INFORMATION

According to the Bureau of Labor Statistics, the median annual salary for medical transcriptionists is \$32,270 as of May 2020. The lowest 10 percent earned less than \$21,790, and the highest 10 percent earned more than \$55,220.

## CAREER OUTLOOK

Employment of medical transcriptionists is projected to grow slower than the average for all occupations through 2029. Technological advances in recent years have changed the way medical transcription is done. Many medical documents are prepared with the use of back-end speech recognition technology, in which specialized software automatically prepares an initial draft of a report. The transcriptionist then reviews the draft for accuracy, listening to the original recording as needed. Such technological advances are expected to continue, making the individual transcriptionist far more productive and limiting employment growth overall.

## FOR MORE INFORMATION

Association for Healthcare Documentation Integrity  
4230 Kiernan Avenue  
Modesto, CA 95356  
Phone: 800.982.2182  
Web Site: [www.ahdionline.org](http://www.ahdionline.org)

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