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# Surgical Technologists

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## Significant Points

- Employment is expected to grow much faster than average.
- Job opportunities will be best for technologists who are certified.
- Training programs last 9 to 24 months and lead to a certificate, diploma, or associate degree.
- Hospitals will continue to be the primary employer, although much faster employment growth is expected in other health care industries.

## Nature of the Work

Surgical technologists, also called scrubs and surgical or operating room technicians, assist in surgical operations under the supervision of surgeons, registered nurses, or other surgical personnel. Surgical technologists are members of operating room teams, which most commonly include surgeons, anesthesiologists, and circulating nurses.

Before an operation, surgical technologists help prepare the operating room by setting up surgical instruments and equipment, sterile drapes, and sterile solutions. They assemble both sterile and nonsterile equipment, as well as check and adjust it to ensure it is working properly. Technologists also get patients ready for surgery by washing, shaving, and disinfecting incision sites. They transport patients to the operating room, help position them on the operating table, and cover them with sterile surgical drapes. Technologists also observe patients' vital signs, check charts, and help the surgical team put on sterile gowns and gloves.

During surgery, technologists pass instruments and other sterile supplies to surgeons and surgeon assistants. They may hold retractors, cut sutures, and help count sponges, needles, supplies, and instruments. Surgical technologists help prepare, care for, and dispose of specimens taken for laboratory analysis and help apply dressings. Some operate sterilizers, lights, or suction machines, and help operate diagnostic equipment.

After an operation, surgical technologists may help transfer patients to the recovery room and clean and restock the operating room.

Certified surgical technologists with additional specialized education or training also may act in the role of the surgical first assistant or circulator. The surgical first assistant, as defined by the American College of Surgeons (ACS,) provides aid in exposure, hemostasis (controlling blood flow and stopping or preventing hemorrhage), and other technical functions under the surgeon's direction that help the surgeon carry out a safe operation. A circulating technologist is the "unsterile" member of the surgical team who interviews the patient before surgery; prepares the patient; helps with anesthesia; obtains and opens packages for the "sterile" people to remove the sterile contents during the procedure; keeps a written account of

the surgical procedure; and answers the surgeon's questions about the patient during the surgery.

**Work environment.** Surgical technologists work in clean, well-lighted, cool environments. They must stand for long periods and remain alert during operations. At times, they may be exposed to communicable diseases and unpleasant sights, odors, and materials.

Most surgical technologists work a regular 40-hour week, although they may be on call or work nights, weekends, and holidays on a rotating basis.

## Training, Other Qualifications, and Advancement

Training programs last 9 to 24 months and lead to a certificate, diploma, or associate degree. Professional certification can help in getting jobs and promotions.

**Education and training.** Surgical technologists receive their training in formal programs offered by community and junior colleges, vocational schools, universities, hospitals, and the military. In 2006, the Commission on Accreditation of Allied Health Education Programs (CAAHEP) recognized more than 400 accredited training programs. Programs last from 9 to 24 months and lead to a certificate, diploma, or associate degree. High school graduation normally is required for admission. Recommended high school courses include health, biology, chemistry, and mathematics.

Programs provide classroom education and supervised clinical experience. Students take courses in anatomy, physiology, microbiology, pharmacology, professional ethics, and medical terminology. Other topics covered include the care and safety of patients during surgery, sterile techniques, and surgical procedures. Students also learn to sterilize instruments; prevent and control infection; and handle special drugs, solutions, supplies, and equipment.

**Certification and other qualifications.** Most employers prefer to hire certified technologists. Technologists may obtain voluntary professional certification from the Liaison Council on Certification for the Surgical Technologist by graduating from a CAAHEP-accredited program and passing a national certification examination. They may then use the Certified Surgical Technologist (CST) designation. Continuing education or reexamination is required to maintain certification, which must be renewed every 4 years.

Certification also may be obtained from the National Center for Competency Testing (NCCT). To qualify to take the exam,



*Surgical technologists assemble, check, and adjust both sterile and nonsterile equipment.*

## Projections data from the National Employment Matrix

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-2016	
				Number	Percent
Surgical technologists .....	29-2055	86,000	107,000	21,000	24

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

candidates follow one of three paths: complete an accredited training program; undergo a 2-year hospital on-the-job training program; or acquire 7 years of experience working in the field. After passing the exam, individuals may use the designation Tech in Surgery-Certified, TS-C (NCCT). This certification must be renewed every 5 years through either continuing education or reexamination.

Surgical technologists need manual dexterity to handle instruments quickly. They also must be conscientious, orderly, and emotionally stable to handle the demands of the operating room environment. Technologists must respond quickly and must be familiar with operating procedures in order to have instruments ready for surgeons without having to be told. They are expected to keep abreast of new developments in the field.

**Advancement.** Technologists advance by specializing in a particular area of surgery, such as neurosurgery or open heart surgery. They also may work as circulating technologists. With additional training, some technologists advance to first assistant. Some surgical technologists manage central supply departments in hospitals, or take positions with insurance companies, sterile supply services, and operating equipment firms.

### Employment

Surgical technologists held about 86,000 jobs in 2006. About 70 percent of jobs for surgical technologists were in hospitals, mainly in operating and delivery rooms. Other jobs were in offices of physicians or dentists who perform outpatient surgery and in outpatient care centers, including ambulatory surgical centers. A few technologists, known as private scrubs, are employed directly by surgeons who have special surgical teams, like those for liver transplants.

### Job Outlook

Employment of surgical technologists is expected to grow much faster than the average for all occupations. Job opportunities will be best for technologists who are certified.

**Employment change.** Employment of surgical technologists is expected to grow 24 percent between 2006 and 2016, much faster than the average for all occupations, as the volume of surgeries increases. The number of surgical procedures is expected to rise as the population grows and ages. Older people, including the baby boom generation, who generally require more surgical procedures, will account for a larger portion of the general population. In addition, technological advances, such as fiber optics and laser technology, will permit an increasing number of new surgical procedures to be

performed and also will allow surgical technologists to assist with a greater number of procedures.

Hospitals will continue to be the primary employer of surgical technologists, although much faster employment growth is expected in offices of physicians and in outpatient care centers, including ambulatory surgical centers.

**Job prospects.** Job opportunities will be best for technologists who are certified.

### Earnings

Median annual earnings of wage-and-salary surgical technologists were \$36,080 in May 2006. The middle 50 percent earned between \$30,300 and \$43,560. The lowest 10 percent earned less than \$25,490, and the highest 10 percent earned more than \$51,140. Median annual earnings in the industries employing the largest numbers of surgical technologists were:

Offices of physicians .....	\$37,300
Outpatient care centers .....	37,280
General medical and surgical hospitals.....	35,840
Offices of dentists.....	34,160

Benefits provided by most employers include paid vacation and sick leave, health, medical, vision, dental insurance and life insurance, and retirement program. A few employers also provide tuition reimbursement and child care benefits.

### Related Occupations

Other health occupations requiring approximately 1 year of training after high school include dental assistants, licensed practical and licensed vocational nurses, clinical laboratory technologists and technicians, and medical assistants.

### Sources of Additional Information

For additional information on a career as a surgical technologist and a list of CAAHEP-accredited programs, contact:

► Association of Surgical Technologists, 6 West Dry Creek Circle, Suite 200, Littleton, CO 80120.

Internet: <http://www.ast.org>

For information on becoming a Certified Surgical Technologist, contact:

► Liaison Council on Certification for the Surgical Technologist, 6 West Dry Creek Circle, Suite 100, Littleton, CO 80120. Internet: <http://www.lcc-st.org>

For information on becoming a Tech in Surgery-Certified, contact:

► National Center for Competency Testing, 7007 College Blvd., Suite 705, Overland Park, KS 66211.