Public Policy Brief: Patient Safety in the Operating Room

Surgical technologist certification legislation: should surgical technologists be required to hold certification?

**Legislative Intent: Requiring Surgical Technologists to be Certified**

The proposed legislation requires certification as a Certified Surgical Technologist (CST) as a condition of employment for surgical technologists. **To practice surgical technology, a person would have to successfully complete a nationally accredited educational program for surgical technologists and hold and maintain a Certified Surgical Technologist credential administered by the National Board of Surgical Technology and Surgical Assisting.**

The legislation grandfathers persons employed or under contract to practice surgical technology in a health care facility on the effective date of the legislation, and grants exemptions to graduates of U.S. Armed Forces or Public Health Commission Corps surgical technology programs and federal employees.

**The Role of the Surgical Technologist**

**Prior to surgery**, the surgical technologist:
- Prepares the sterile field using sterile technique, setting up surgical instruments, sterile drapes and sterile solutions;
- Assembles surgical equipment and checks it to ensure it is working properly;
- Prepares patients for surgery by washing, shaving and disinfecting incision sites;
- Participates in positioning and draping patients; and
- Observes patients’ vital signs, checks charts and helps the surgical team put on sterile gowns and gloves.

*Skillful pre-surgery technique protects patients from life-threatening surgical site infections, malfunctioning equipment and unneeded delays during the procedure.*
During surgery, the surgical technologist stands next to the surgeon at the operating table, who relies on the surgical technologist every moment of the surgery. The surgical technologist:

- Swiftly passes instruments, fluids and supplies to the surgeon; and
- Operates lasers, robots, sterilizers, lights, suction apparatus, and diagnostic equipment.

The surgical technologist must be able to anticipate the needs of the surgeon because every moment a patient is in surgery the risks related to anesthesia and bleeding increase. The surgical technologist is trained to handle and minimize exposure to hazardous materials, communicable diseases and bloodborne pathogens. The integrity of the sterile field is the surgical technologist’s highest priority.

After surgery, the surgical technologist performs a count of sponges and supplies with another member of the surgical team to assure no sponges or instruments remain inside the patient, which can cause serious infections, disability, and, in rare cases, death. The surgical technologist is the only staff member in the sterile field, near the patient, responsible for counting objects to prevent a foreign object from being retained after surgery.

EDUCATION, CERTIFICATION AND CONTINUING EDUCATION

Surgical Technology Curriculum

Nationwide, there are more than 460 accredited surgical technology programs. Programs are generally twelve to twenty-four months in length resulting in a certificate or an associate’s degree. Curriculum includes anatomy, physiology, microbiology, medical terminology, surgical asepsis, sterilization techniques, assembling and operating surgical equipment including lasers and robotics, medical ethics, basic and advanced surgical techniques and basic and advanced surgical operative procedures.

Certified Surgical Technologists are Taught to Safeguard Surgical Patients by Managing Human Factors

Accredited surgical technology programs incorporate human factors throughout their practice curricula. Long adopted by the airline industry, with proven safety improvements, human factors implementation and management safeguard both patient and surgical team and is recognized by performance experts to reduce medical errors and improve quality of care.¹,²,³

Continuing Education

Continuing education is exceptionally important in an increasingly complex field. Through continuing education, practitioners learn about new techniques, equipment, technologies and new findings regarding patient safety. The proposed legislation requires uncertified, qualifying individuals—such as grandfathered individuals—to earn 15 hours of continuing education per year. Alternatively, individuals may hold the Certified Surgical Technologist credential, which requires continuing education as a condition of renewal.

REQUIRING CERTIFICATION OF SURGICAL TECHNOLOGISTS - EFFECTIVE PUBLIC POLICY WITH BROAD SUPPORT

Surgical Technologists- The Only Member of Surgical Team Not Required To Meet Minimal Requirements

Surgical technologists currently are the only member of the surgical team who are not required to meet minimal threshold educational and certification requirements. No law or regulation exists in Ohio to assure objective evidence of even minimal competence. This legislation ensures all personnel caring for surgical patients are appropriately educated and meet minimum continuing education standards. This legislative model is the least intrusive and invasive level of regulation and oversight. No lesser degree of regulation is available. Surgical patient care is enhanced when all members of the surgical team are appropriately educated.

Certified Surgical Technologists in Ohio

Currently, Ohio health facilities employ approximately 3,470 surgical technologists. The legislation will have no impact either on the currently employed surgical technologists or on future demands. There are currently 27 accredited surgical technology programs in Ohio, producing approximately 375 graduates annually. Accredited distance and online programs are also available for those who qualify. The proposed bill has a grandfathering provision for people currently working as surgical technologists and exempts military graduates and federal facilities.

Proposed Legislation Does NOT Require Licensure or Registration

The legislation does not require licensure or registration, thereby eliminating the costs and resources of creating new regulatory oversight. In this period of budget challenges, this bill takes advantage of recognized educational institutions and other systems that are in place to assess competency of personnel in the operating room. Hospitals already follow similar procedures for many other allied health care professionals.

Negligible Regulatory Costs to the State

Certification is a minimum competency standard that does not incur the costs associated with registration or licensure. The law is enforced as a part of the regular health care facility licensing process. This procedure is similar to those used for other allied health care professionals. Out of the eight states that have formally reviewed the legislation’s potential impact on the state budget, all eight states have determined the legislation has no fiscal impact. No state’s legislature, or legislative research council, has ever anticipated or determined that this legislation would result in fiscal impact to the state.

Proposed Legislation- Not About Scope of Practice

The proposed legislation is about competency, not scope of practice. The legislation specifically exempts licensed health care professionals acting within the scope of their license.
Other States and Countries Require Certification of Surgical Technologists

Seven states have passed legislation that requires certification as a condition of employment: Idaho, Indiana, New Jersey, South Carolina, Tennessee, Massachusetts and Texas. In addition, Washington, Colorado and Illinois provide for registration of surgical technologists. Other countries also require associate’s degrees or bachelor’s degrees for individuals performing surgical technology tasks and functions, such as the U.K and Sweden.

Hospitals and Health Departments Support Legislation Requiring Certified Surgical Technologists

Hospitals and other health care facilities in Massachusetts, Idaho, Indiana, South Carolina, New Jersey, Tennessee and Texas have been either supportive or neutral about this legislation. According to the Bureau of Labor Statistics data, surgical technologists in states in which this legislation has passed have seen no spike in wages for surgical technologists. Average annual income of surgical technologists correlates strongly with the cost of living in each state, and is market driven.

State health departments in Idaho, Indiana, South Carolina, Tennessee and Texas have been neutral or supportive of the legislation. In addition, the Virginia Board of Health Professions has formally recommended that surgical technologists be certified.

Surgeons Support Surgical Technologist Certification

The American College of Surgeons (ACS) has issued a formal statement supporting accredited education and certification of surgical technologists.

REQUIREING CERTIFICATION OF SURGICAL TECHNOLOGISTS INCREASES QUALITY AND REDUCES COSTS

Surgical Site Infection Rates Continue to Increase

According to the 2009 National Healthcare Quality Report by the Agency for Healthcare Research and Quality, the hospital-acquired infection rates are increasing. The quality measure that is deteriorating fastest is the measure for post-operative sepsis. Post-operative sepsis rates increased by 8% in only one year. The training, education and experience of a Certified Surgical Technologist can only logically serve to arrest and abate this alarming statistic, protect patients and save lives.

Health Care-acquired Infections Significantly Drive Health Care Costs

- Health care-acquired infections incur an estimated $28 to $33 billion in excess healthcare costs each year.4

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The hospital cost is an estimated $25,546 per surgical site infection, and surgical site infections result in an estimated 13,088 deaths nationally per year.\(^5\)

Reduction in surgical site infections would save lives and, indirectly, result in savings to consumers.

**Surgical Technologists- Responsible for Preventing Surgical Site Infections**

The surgical technologist is the professional in the operating room charged with the responsibility of maintaining the integrity of the sterile field. The sterile field refers to surfaces that sterile objects, such as surgical instruments, may contact. The sterile field includes the area immediately around a patient that has been prepared for a surgical procedure. Protecting the sterile field involves carrying out specific procedures using sterile technique.

**Facilities Using Certified Surgical Technologists have Lower Infection Costs**

Empirical data and studies analyzing surgical technologists’ contributions to patient outcomes are rare, due largely to the fact that the profession is unregulated at present. Most studies involving adverse medical and surgical events are not publicly available, making analysis difficult. Nonetheless, some data are available.

Data from Virginia reveal that facilities utilizing only credentialed surgical technologists reduced the costs associated with extended stays due to surgical site infection by 11%.\(^6\)

**Certified Surgical Technologists Advance Health Care Reform Cost and Quality Goals**

The Patient Protection and Affordable Care Act requires health care facilities to meet quality standards, linking Medicare payment to positive quality outcomes. Hospitals which do not reduce infections and preventable surgical errors will incur significant reductions in Medicare payments.\(^7\) Certified Surgical Technologists are educated and trained in identifying and correcting asepsis during surgery. Their expertise will improve overall quality, reduce hospital-acquired conditions and minimize Medicare cost penalties.

**REQUIRING CERTIFICATION OF SURGICAL TECHNOLOGISTS PROTECTS PATIENTS**

**Unqualified Surgical Technologists = Potential Harm to Patients**

A more educated professional is a more competent professional. Examples of potential patient harm resulting from uncertified surgical technologists include:

- An increase in retained foreign objects and an increase in failures to pass sharp instruments properly—resulting in serious complications or exposing patients to bloodborne pathogens. An *Annals of Surgery*

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\(^6\) [www.vapricepoint.org](http://www.vapricepoint.org)

\(^7\) HR 3590, Pub.L.111-148m 124 Stat, 119, Sec. 3008
report found that the majority of discrepancies in instrument count happened when surgical technologists or nurses misplaced items in the operating room;\(^8\)

- Slow surgical procedures, resulting in unnecessary risk since the patient is under anesthesia and can experience excessive blood loss;
- Passing the wrong fluid or the wrong equipment; or
- Poorly assembling sophisticated surgical equipment, such as laser, endoscopic and neurosurgery equipment.

**Most importantly, uncertified surgical technologists increase the risk of a patient contracting a surgical site infection.** The surgical technologist is the person in the operating room responsible for maintaining the integrity of the sterile field.

- The Centers for Disease Control and Prevention estimates that \(5\%-10\%\) of hospitalized patients develop health care-acquired infections.\(^9\)

- Approximately 1.7 million patients develop health care-acquired infections each year and there are approximately 98,000 deaths per year, making it the 6\(^{th}\) leading cause of death in the country according to a 2007 study. Of these infections, 290,000 were surgical site infections.\(^10\)

**Fewer Adverse Events in Health Care Facilities Requiring Certification**

The Minnesota Adverse Health Events Reporting Act requires public dissemination by healthcare facilities of 28 adverse medical events. **Analysis of these data, by facility, reveals that adverse surgical events were 32\% less frequent in hospitals that require certification for all employed surgical technologists.** Because of the confidentiality of root cause analyses of these events, it is difficult to determine exact fault. Even so, the data decisively show that health care facilities that value competency and, hence, certification, in their surgical staffs experienced better outcomes.

**BOTTOM LINE: REQUIRING CERTIFICATION OF SURGICAL TECHNOLOGISTS IS EFFECTIVE PUBLIC POLICY THAT PROTECTS PATIENTS**

Patient safety requires that all surgical personnel meet minimal educational and competency requirements. The surgical patient does not pick their surgical support team ahead of time. During the procedure, the patient is under anesthesia and unable to make decisions or act on his or her behalf. Surgical technologists are the only member of the surgical team not required to meet minimal educational and certification requirements. Surgical patient care is enhanced when all members of the surgical team are appropriately educated. This legislation will ensure that all personnel caring for surgical patients are qualified and meet minimum continuing education standards.

Ohio patients deserve no less.


Appendix A - National Professional Surgical Technology Organizations

Association of Surgical Technologists

The Association of Surgical Technologists (AST) was established in 1969 by the American College of Surgeons, the American Hospital Association, and the Association of periOperative Registered Nurses. As the oldest and most widely recognized professional organization for surgical technologists and surgical assistants, AST’s primary purpose is to ensure that surgical technologists and surgical assistants have the knowledge and skills to provide patient care of the highest quality. AST supports Ohio efforts to require certification. AST has no legal or administrative ties to the National Board of Surgical Technology and Surgical Assisting, which grants the Certified Surgical Technologist credential. www.ast.org

Accreditation Review Council on Education in Surgical Technology and Surgical Assisting

The Accreditation Review Council on Education in Surgical Technology and Surgical Assisting (ARC/STSA) sets standards for educational programs in surgical technology for CAAHEP. ARC/STSA is recognized by the Council for Higher Education Accreditation (CHEA). The Board of Directors is comprised of eight representatives with the American College of Surgeons appointing two surgeon representatives. Their standards of quality ensure that programs adequately prepare graduating students to enter the profession. www.arcsta.org

Commission on Accreditation of Allied Health Education Programs

The Commission on Accreditation of Allied Health Education Programs (CAAHEP) accredits allied health education programs and is recognized by the Council for Higher Education Accreditation, the U.S. organization of colleges and universities that “approves” accrediting organizations, like CAAHEP. More than 460 programs in surgical technology are CAAHEP accredited nationwide. www.caahep.org

National Board of Surgical Technology and Surgical Assisting

The National Board of Surgical Technology and Surgical Assisting (NBSTSA) administers the certification exam for surgical technologists and confers the Certified Surgical Technologist credential. The NBSTSA is the nationally-accredited certifying body for surgical technology and is recognized by the American College of Surgeons. The exam is independently verified to be a sound testing mechanism for entry to the profession by the National Commission of Certifying Agencies (NCCA). NCCA is a division of the Institute for Credentialing Excellence. www.nbstsa.org

The Association of Surgical Technologists, Department of Government and Public Affairs

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