asatt

Scope of Practice

TABLE OF CONTENTS

OVERVIEW AND EXCLUSIONS

Anesthesia technology is an allied health profession specifically focused on fundamental and advanced clinical procedures which assist the anesthesia provider in the safe and efficient care of patients. The profession has generally been stratified into three different groups:

Non-Certified Anesthesia Technicians

- Non-certified anesthesia technicians are individuals who have not successfully passed the ASATT National Certification Examination, which includes the Certified Anesthesia Technician exam and the Certified Anesthesia Technologist examination. National certification is essential as it establishes a standardized practice level and validates competency within the field. The scope of practice described in this document cannot be applied to non-credentialed anesthesia technical staff. Any references to the field of anesthesia technology and its scope of practice will only be relevant to those holding an active and unencumbered Cer.A.T. and Cer.A.T.T. credential. ASATT cannot validate any knowledge base or outline a scope of practice for non-certified anesthesia technicians. Therefore, no further mention or recognition of these individuals will be made in this document.

Certified Anesthesia Technicians (Cer.A.T.)

- Certified Anesthesia Technicians (Cer.A.T.) are individuals who have successfully passed a two-domain credentialing exam. Before the retirement of the Cer.A.T. examination in 2015, this credential could be attained by serving for two years as an anesthesia technician and passing the technician-level exam. These individuals must maintain an active and unencumbered credential by acquiring 20 CEUs every two years and adhering to professional standards outlined by ASATT.

Certified Anesthesia Technologists (Cer.A.T.T.)

- Certified Anesthesia Technologists (Cer.A.T.T.) are individuals who have passed the comprehensive six-domain credentialing examination. The six domains of competency include equipment, instrumentation, and technology; basic sciences; pharmacology; basic principles of anesthesia; advanced principles of anesthesia; and professional aspects of anesthesia technology. Certified Anesthesia Technologists must maintain an active and unencumbered credential by acquiring 30 CEUs every two years, maintaining ACLS certification, and adhering to professional standards outlined by ASATT.

- Individuals seeking to become Certified Anesthesia Technologists (Cer.A.T.T.) have three pathways to earn eligibility to challenge the ASATT NCE Cer.A.T.T. exam:
  » Completion of an accredited or approved anesthesia technologist program.
  » Maintenance of the Cer.A.T. credential and completion of the ASATT Advancement pathway.
  » Completion of the Practical Experience Pathway.

Professional Description

Anesthesia technology is an allied health profession specifically focused on fundamental and advanced clinical procedures that assist the anesthesia provider in safe and efficient patient care under anesthesia. The Anesthesia Technologist/technician works under the direction of an anesthesia provider as a vital member of the anesthesia care team. Certified

Anesthesia Technology personnel are proficient in all anesthesia procedures, including the acquisition, preparation, operation, and application of all equipment and supplies required for the delivery of anesthesia care. Certified Anesthesia Technology personnel possess cognitive abilities involving the knowledge of anatomy/physiology, pathophysiology, pharmacology, and principles of anesthesia technology. In addition, Certified Anesthesia Technology personnel demonstrate the psychomotor abilities necessary to assist the anesthesia provider in the full spectrum of anesthesia care. Certified Anesthesia Technology personnel demonstrate independent judgment as required for rapid response to quickly changing circumstances in the patient care environment. Certified Anesthesia Technology personnel exhibit professionalism in all patient and staff interactions.

Certified Anesthesia Technologists and Certified Anesthesia Technicians may work in a variety of clinical settings including: hospital operating rooms, interventional and diagnostic radiology, labor and delivery units, intensive care units, emergency rooms, outpatient procedure suites, and ambulatory surgery centers.

Note: Certified Anesthesia Technology personnel refers to an individual holding an active Cer.A.T.T. or Cer.A.T. credential

Historical Overview of Credentialing

The field of anesthesia technology has undergone significant changes in the last three decades. The most significant was that of becoming a recognized Allied Health profession in 2015, followed by the establishment of educational accreditation through CAAHEP. This transformation of the profession resulted in the establishment of a singular rigorous Certification process, which exclusively applies to individuals who have completed an approved or accredited educational program or completed an ASATT Board approved alternate pathway. This requirement was fully implemented on July 15, 2015, as a means to enhance the professional standards and ensure a higher level of competence within the industry.

ASATT, in alignment with its progressive goals and educational endeavors, has been actively recognizing those who successfully pass the ASATT National Certification Exam (NCE). Before the aforementioned date, there were two distinct examinations available, The Certified Anesthesia Technician certification exam and the Certified Anesthesia Technologist certification exam. This bi-level credentialing process was the mechanism for the profession from 1996 to 2015. However, as part of ASATT's streamlined strategy, consolidation took place in 2015, leading to the decision by the organization to sponsor one examination. This was done to align ASATT and the profession of anesthesia technology with its designation as an Allied Health profession, as well as to further the standardization of the profession.

As of July 15, 2015, the designation "Certified Anesthesia Technologist" (Cer.A.T.T.) has become the sole certification sponsored through educational programs and offered by ASATT. This change standardizes the certification process while ensuring that individuals who achieve this designation have met the rigorous educational standards set by ASATT and our programmatic and accrediting colleagues.

However, despite the professional transformation in 2015, ASATT maintains the Certified Anesthesia Technician (Cer.A.T.) credential for those carrying it in an active and unencumbered manner. In effort to promote continued professional development and standardization of the profession, ASATT, through Board approval established the Advancement pathway, to create a rigorous process for Cer.A.T. to advance to the Cer.A.T.T. credential. Although, the examination for the Cer.A.T. has been retired to streamline the continued and future credentialing of this profession, ASATT recognizes and will continue to recognize and support the Cer.A.T. credential and the vital work of those who hold the Cer.A.T. certification.

It's essential to note that ASATT will continue to recognize both "Certified Anesthesia Technologists" (Cer.A.T.T) and "Certified Anesthesia Technicians" (Cer.A.T.) in the ASATT Scope or Practice, acknowledging their unique scopes of practice, despite the significant parallels that exist between the roles. These professionals play vital roles in the field of anesthesia technology, contributing to the safe and effective administration of anesthesia procedures. The changes made by ASATT in the past two decades reflect the organization's commitment to elevating the quality of care provided by anesthesia technologists and technicians.

REVISED:
September 2023

INTRODUCTION

DEFINITION

Scope of practice is the legally authorized parameter regarding the clinical functions of assessment, intervention and level of care a healthcare practitioner can provide to a patient.

While an organization may limit or narrow the scope of practice of an individual through a job description and/or policy and procedure, an organization may not allow an employee to act outside his or her legal scope of practice.

DEFINING THE ISSUE

The primary purpose of defining a scope of practice is to guarantee that a healthcare practitioner possesses the necessary education, knowledge, and experience to provide care to a patient in accordance with established standards and guidelines.

Scope of practice is predominantly found or defined in

- Federal laws
- Medicare regulations
- Accreditation standards
- Clinical settings
- Job descriptions
- Hospital policies and procedures
- Legal opinions

Job descriptions, legal opinions and policies and procedures can define the operational functions and responsibilities of a specific position, however, the definition cannot exceed the laws that regulate the certified practitioner's scope of practice.

CONSEQUENCES

There are significant risks identified with violations of scope of practice. Legal liabilities exist for the practitioner, the supervisor(s) and the organization when the practitioner practices outside of his/her scope of practice.

ANESTHESIA TECHNOLOGY

The American Society of Anesthesia Technologists and Technicians (ASATT) defines and maintains the national scope of practice for certified anesthesia technologists and certified anesthesia technicians. ASATT, through evidence based practices, continually evaluates the Scope of Practice to ensure standards are meeting industry needs.

The commitment of ASATT is to ensure anesthesia technical personnel are educated, safe, competent, and ethical while providing care for patients; and to ensure a professional scope of practice encompassing:

1. **Education:** By developing and standardizing educational programs and opportunities for anesthesia technology professionals at a national level.

2. **Patient Safety:** The right patient, the right practitioner performing the right clinical service at the right time supports patient safety.

3. **Quality:** The healthcare practitioner must have the appropriate education, knowledge and experience to care for patients.

4. **Compliance:** Scope of practice is defined by ASATT and monitored by regulatory agencies.

5. **Legal Requirements:** All care activities must be appropriately documented and provided by personnel operating within their scope of practice.

The ASATT acknowledges that anesthesia technical personnel are a part of the anesthesia care team as listed in the practice guidelines of the American Society of Anesthesiologists (ASA).

REVISED:
September 2023

SCOPE OF PRACTICE FOR ANESTHESIA TECHNOLOGY

The following information defines the scope of practice for the certified anesthesia technologist and certified anesthesia technician as put forth by the American Society of Anesthesia Technologists and Technicians (ASATT) by adherence to standardized education and training, and validated through the national certification examination.

AIRWAY MANAGEMENT AND VENTILATION

Certified Anesthesia Technologists and Certified Anesthesia Technicians are required to demonstrate knowledge, comprehension and support the application of anesthetic principles and guidelines in relation to airway management during patient care.

1. Basic airway setup.

2. Troubleshoots problems or issues that arise with airway equipment.

3. Assists with appropriate airway management techniques based on patient condition.

4. Demonstrates appropriate knowledge and applies appropriate psychomotor abilities to assists with "rapid sequence inductions" protocols.

5. Selects appropriately sized airway equipment.

6. Assists with and demonstrates psychomotor proficiency in patient denitrogenation prior to the induction of anesthesia.

7. Appropriately assists, demonstrates psychomotor proficiency, and applies cognitive training with treatment of airway obstructions.

8. Applies knowledge and psychomotor proficiency to optimize patient positioning during airway management.

9. Assists with mask ventilation and applies psychomotor skills to support the anesthesia care provider with oxygen delivery during periods of desaturation.

10. Identifies various intubation modalities and applies appropriate psychomotor abilities in support of the anesthesia care provider.

11. Demonstrates cognitive and psychomotor proficiency by assessing the patient for qualitative and quantitative signs of correct endotracheal tube placement.

12. Applies cognitive training and appropriate psychomotor abilities to assists with treatment of a partial or complete laryngospasm.

13. Demonstrates a thorough knowledge of the ASA difficult airway algorithm and applies appropriate psychomotor abilities to assist during difficult airway management events.

REVISED:
September 2023

14. Has knowledge of the proper procedure and equipment required for nasal intubation and applies psychomotor abilities to assist the anesthesia provider during nasal intubation.

15. emonstrates appropriate knowledge and is able to assist with placement of airway devices and confirm placement (when appropriate) such as, but not limited to:

   - Double lumen tube
   - Eschmann stylet
   - Fiberoptic bronchoscope
   - Light wand
   - Others
   - Percutaneous cricothyrotomy
   - Supraglottic Devices
   - Transtracheal ventilation
   - Video Laryngoscopy

16. Demonstrates an appropriate knowledge and psychomotor ability to assist during emergence and extubation.

17. Demonstrates airway management knowledge, comprehension and assistance in all age groups.

18. Understands the physiologic differences between "volume" and "pressure" modes of ventilation.

19. Assists with diagnosis and treatment of the following problems in relation to manual or artificial ventilation:

   - Accidental extubation
   - Anesthesia machine malfunction
   - Endotracheal tube migration
   - Hypercarbia/ hypocarbia
   - Hypoxia
   - Increased peak airway pressures

FLUIDS, WHOLE BLOOD AND BLOOD COMPONENT MANAGEMENT

Certified Anesthesia Technologists and Certified Anesthesia Technicians are required to demonstrate knowledge, comprehension and practical assistance with relation to fluid, whole blood, salvaged blood and blood component management during patient care.

1. Understands the relationship of fluid deficit, maintenance fluid, blood, and insensible losses to the patient.

2. Collaborates with the anesthesia provider in a fluid plan.

3. Understands the differences between colloid and crystalloid solutions.

4. Understands the complications that can occur as a result of administering blood and blood products.

5. Assists in identifying and provides support in the treatment of transfusion related reactions.

6. Understands and is proactively involved during the administration of blood and blood products.

ASATT validates the following practices for Certified Anesthesia Technologists:

1. Demonstrates proficiency in the insertion of intravenous catheters and the establishment of secure intravenous access.

REVISED:
September 2023

2. Understands and provides appropriate fluid types per patient situation and confirms with the anesthesia provider.

3. Demonstrates knowledge and understanding of ABO, Rh typing.

4. Demonstrates knowledge and ability to assist licensed personnel with appropriate procedure for checking blood and blood products.

PHARMACOLOGY

Certified Anesthesia Technologists and Certified Anesthesia Technicians are required to demonstrate knowledge of pharmaceuticals and their practical use by the anesthesia provider during patient care.

1. Identifies side effects of commonly used drugs based on human physiology, patient condition and body habitus for the following drug classes:

- Antacids
- Antibiotics
- Antihistamines
- Anti-inflammatory agents
- Antihypertensive agents
- Antihyperglycemic agents
- Antiemetics

- Anticoagulants
- Anticholinergics
- Anticholinesterases
- Benzodiazepine antagonists
- Bronchodilators
- Benzodiazepines
- •H2 blockers

- Induction agents
- Narcotics
- Narcotic antagonists
- Neuromuscular blocking agents
- Inhalation agents
- Local anesthetics
- Vasopressors

*This list is NOT exhaustive

2. Demonstrates knowledge and basic comprehension of medications in sequence and dose as mandated by the American Heart Association ACLS/PALS guidelines.

3. Identifies potential drug interactions and has knowledge of alternative medications.

4. vIdentifies adverse drug reactions.

PATHOPHYSIOLOGY AND ANESTHESIA MANAGEMENT

Certified Anesthesia Technologists and Certified Anesthesia Technicians are able to demonstrate knowledge, comprehension and practically apply the following factors in relation to pathophysiology and anesthesia management during patient care.

1. Supports the clinical application of anesthetic principles related to pathophysiology in relation to the following case types:

- Cardiovascular
- Gastrointestinal
- Genitourinary

- Hematologic
- Hepatic
- Musculoskeletal

- Neurologic
- Renal
- Respiratory

*This list is NOT exhaustive

REVISED:
September 2023

2. Collaborates in the development and implementation of an anesthesia care plan for patients with various/concomitant disease states.

3. Uses pathophysiological knowledge, comprehension and its application to all age groups.

UTILIZATION OF BIOTECHNOLOGY AND MONITORING EQUIPMENT

Certified Anesthesia Technologists and Certified Anesthesia Technicians are knowledgeable, and can practically psychomotor skills in application of apply the following factors related to the utilization of biotechnology during patient care.

1. Performs comprehensive anesthesia machine checkouts.

2. React to device alarms, diagnoses, and manages problems throughout the anesthesia care continuum.

3. Demonstrate ability to troubleshoot anesthesia machine, ASA monitors, and adjunct equipment problems.

4. Demonstrate knowledge, comprehension, and practically applies the following monitors and adjunct equipment in collaboration with the anesthesia care provider during patient care.

   - Active warming devices
   - Capnography/ capnometry
   - Drug infusion pumps
   - Electrocardiograms
   - Fluid warmers
   - Neuromuscular blockade monitors
   - Precordial/esophageal stethoscopes
   - Pulse oximeters
   - Rapid infusers

   This list is NOT exhaustive

5. Demonstrates knowledge and indications for placement of various invasive pressure monitors:

   - Arterial pressure
   - Central venous pressure
   - Intra-cardiac/pulmonary artery pressure
   - Intracranial pressures

6. Applies psychomotor skills and demonstrates competence in the procedure required to establish various invasive pressure monitors.

7. Understands and utilizes information from invasive pressure monitoring to assist in the care of patients.

8. Knowledgeable in clinical application of equipment for neuroaxial anesthesia and regional anesthesia.

9. Utilizes biotechnology and monitoring knowledge for application to all age groups.

10. Understands and applies universal precautions.

REVISED:
September 2023

CRITICAL EVENTS MANAGEMENT IN ANESTHESIA

Certified Anesthesia Technologists and Certified Anesthesia Technicians demonstrate knowledge, practically apply and participate in critical event management during patient care.

1. Comprehends and supports the application of anesthetic principles related to critical event management with the following:

   - Airway
   - Acid/Base, Electrolyte imbalances
   - Anaphylaxis
   - Cardiac
   - Disseminated Intravascular Coagulation
   - Hemorrhage
   - Local Anesthetic Toxicity
   - Machine Malfunction
   - Malignant Hyperthermia
   - Renal Dysfunction
   - Shock States
   - Ventilation

   This list is NOT exhaustive

2. Identifies signs and symptoms and correctly assist crisis situations.

3. Assists with appropriate plan of treatment for a specific critical event.

4. Utilizes BLS, crisis management knowledge, comprehension, and application to all age groups.

Furthermore, it is recommended that the Certified Anesthesia Technologist also assist in treating patients according to the American Heart Association Standards and guidelines for ACLS and PALS.

REQUIRED AND/OR RECOMMENDED ADDITIONAL CERTIFICATIONS

Certified Anesthesia Technologists and Certified Anesthesia Technicians are required to show competency in American Heart Association (AHA) Basic Life Support (BLS)

Certified Anesthesia Technologists are required to show further competency by obtaining AHA Advanced Cardiac Life Support (ACLS) certification.

It is recommended that if a Certified Anesthesia Technologist works in an environment rich with pediatric patients that AHA Pediatric Advanced Life Support (PALS) certification also be obtained.

REVISED:
September 2023

EQUIPMENT GUIDELINES

Certified Anesthesia Technologists and Certified Anesthesia Technicians are to demonstrate knowledge, understanding and operational familiarity in relation to critical and non-critical equipment during patient care. *These lists are NOT exhaustive*, and are intended as guidelines. In general all certified anesthesia technology professionals should demonstrate knowledge and aptitude with multiple devices and equipment. Furthermore, an understanding of maintenance standards and regulations should be demonstrated. Guidelines, policies and competencies should minimally include:

- Calibration
- Functional testing
- Principles of operation
- Recording of inspections
- Requisitioning for inspections
- Routine maintenance
- Sterilization
- Troubleshooting

Furthermore, certified anesthesia technology professionals shall understand and assist with the following

- Anesthetic Delivery Systems
- Airway Equipment
- Cardiovascular
  - » ECG
  - » Arterial pressure
  - » CVP pressure
  - » PAP pressure
- Central nervous system
  - » ICP
  - » NIRS technology
- Airway and pulmonary monitors
  - » Capnography
  - » SpO2
  - » Blood gases
- Digital or mechanical pumps
- Peripheral and in situ nerve stimulators
- Temperature monitors
- Fluid/blood warmers
- Warming and Cooling equipment
- Ultrasound

ASATT recommends that assistance, testing, and operation of following devices be performed preferably by Certified Anesthesia Technologists

- Blood salvaging devices (Cell saver)
- Transesophageal Echocardiography (TEE)
- Intra-aortic balloon pump (IABP)
- Mechanical function of infusing local anesthetics as directed and in the presence of an Anesthesia care provider
- Point of Care testing and Lab equipment
  - » Activated Clotting Time tests
  - » Arterial blood gas analysis
  - » Blood chemistry (i.e. i-Stat)
  - » Glucometry
  - » Hemoglobin/ Hematocrit testing (i.e. HemoCue)
  - » Rotational Thromboelastometry (ROTEM).
  - » Thromboelastogram (TEG)

REVISED:
September 2023

WORK AREAS WHERE ANESTHESIA TECHNOLOGY PROFESSIONALS INTERACT

Certified Anesthesia Technologists and Certified Anesthesia Technicians work areas may include:

- Operating rooms (OR)
- Obstetrics suites (OB)
- Interventional and/or diagnostic radiology
- Post anesthesia care unit (PACU)
- Intensive care unit (ICU)
- Catheterization laboratory
- Emergency room (ER)
- Endoscopy areas
- Dental suites
- Ambulatory surgery suites
- Animal and research laboratories
- Magnetic resonance imaging

REGULATORY COMPLIANCE

In the execution of their practice the Certified Anesthesia Technologist and Certified Anesthesia Technician will maintain and organize the anesthesia environment, equipment, supplies and personnel to facilitate department functions. These functions may include:

- Recognizes, adheres and is knowledgeable of The Joint Commission (TJC) accreditation policies and procedures, sentinel events, national safety goals, environment of care and other TJC recommendations.

- Confirms and maintains sterile supplies within the expiration date according to established practice.

- Understands and complies with inventory rotation and use per accepted standards.

- Ensures accuracy and retains maintenance records of essential anesthetic equipment or has immediate access to records.

- Adheres to guidelines provided by Material Safety Data Sheets (MSDS) on hazardous materials and supplies within the anesthesia environment.

- Understands Occupational Safety & Health Administration guidelines for anesthesia and patient safety in the perioperative environment.

- Conducts quality control procedures after repair or service to equipment.

- Assist in the preparation of the capital budget for the anesthesia department.

- Provides training and orientation to staff as needed.

- Maintains medications within their expiration date and properly disposes of unused or remnants in appropriate containers.

- Is knowledgeable of the College of American Pathologists (CAP) and the Center for Medicare and Medicaid Services' (CMS) Clinical Laboratory Improvement Amendments (CLIA) regulations for ancillary laboratories.

- Understands and follows the American Association of Blood Banks (AABB) recommendation and policies regarding banked blood products and cell salvaged blood.

- In accordance with employer and professional policies; recognizes and adheres to conduct and ethics rules.

REVISED:
September 2023

MANAGEMENT OR SUPERVISORY ROLES

In the practice of Certified Anesthesia Technologists and Certified Anesthesia Technicians it may be necessary to develop a hierarchical position to maintain and organize the anesthesia technology staff. When establishing a leadership role, the selected individual should demonstrate exemplary ability to organize and coordinate functions for the department. It is recommended that such individuals have numerous years of experience and or achieved a suitable advanced academic degree.

REVISED:
September 2023

REFERENCES

Anesthesia Technologist Standards Appendix B *National Standard Curriculum* September 2011: 2015
www.caahep.org/documents/file/COA/ATE/AnesthesiaTechnologistStandards.pdf

ASATT Professional Practice Analysis conducted in 2013

ASATT Policy and Procedure Manual 2014 Conduct and Ethics Policy pg. 4

ASATT *Scope of Practice* 1999

Barash P, Cullen B, Stoelting R, et al. *Clinical Anesthesia* 7th Edition pgs. 36-38

Mary Ford CRNA PhD *Nurse Anesthetist's Perceptions Regarding Utilization of Anesthesia Support Personnel* Thesis December 2010
http://scholarscompass.vcu.edu/etd/2328/

Lisa Haas, CRNA, DNP *Anesthesia Care Team Risk: Considerations to Standardize Anesthesia Technician Training* AANA journal 2013; 81(2):121-126
http://www.aana.com/newsandjournal/Documents/Anesth-care-team-risk-0413-p121-126.pdf

APSF Newsletter New *Guidelines Available for Pre-Anesthesia Checkout* Vol. 23 No. 1
http://apsf.org/newsletters/html/2008/spring/05_new_guidelines.htm

REVISED:
September 2023