AMERICAN SOCIETY OF ANESTHESIA TECHNOLOGISTS AND TECHNICIANS

Scope of Practice

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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 technician
- Certified Anesthesia Technicians (Cer.A.T.)
- Certified Anesthesia Technologist (Cer.A.T.T.)

Each of these groups has experienced change in the past 20 years. The ability to achieve Certification is granted only to individuals who have attended an approved or accredited educational program. The requirement was implemented in full force on July 15, 2015.

The American Society of Anesthesia Technologist & Technicians (ASATT) recognizes individuals who have passed the ASATT National Certification Exam (NCE). Prior July 15, 2015, there were two examinations available. As part of the ASATT's planning and educational goals, only one examination and one category will be sponsored through educational programs in the future.

Certified Anesthesia Technologist (Cer.A.T.T.) is the only designation that will be sponsored by educational programs and the only certification available through ASATT as of July 15, 2015.

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.

ASATT will continue to recognize Certified Anesthesia Technologists (Cer.A.T.T) and Certified Anesthesia Technicians (Cer.A.T.) and their corresponding scopes of practice, albeit there are significant parallels between the two roles.

All certified anesthesia technology professionals work under the direction of an anesthesia care provider as vital members of the anesthesia care team. The Certified Anesthesia Technologist and Certified Anesthesia Technician are proficient in the application, acquisition, preparation, and troubleshooting of various types of equipment required for the delivery of anesthesia care. Their knowledge base includes anatomy, physiology, pathophysiology, pharmacology, and principles of anesthesia technology. Independent judgment is required for rapid response to the quickly changing circumstances in the patient care environment. Certified Anesthesia Technologists and Certified Anesthesia Technicians exhibit professionalism in 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.

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 basic intent of scope of practice is to ensure that a healthcare practitioner has the appropriate education, knowledge and experience to care for a patient.

Scope of practice is predominantly found or defined in:

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

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.

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ANESTHESIA TECHNOLOGY

The American Society of Anesthesia Technologists and Technicians (ASATT) defines the scope of practice for certified anesthesia technologists and certified anesthesia technicians.

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).

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 assists with "rapid sequence inductions."

5. Selects appropriately sized airway equipment.

6. Assists with patient denitrogenation prior to the induction of anesthesia.

7. Appropriately assists with treatment of airway obstructions.

8. Optimizes patient position during airway management.

9. Assists with mask ventilation and supports the anesthesia care provider with oxygen delivery during periods of desaturation.

10. Identifies various intubation modalities.

11. Assists with confirmation of correct placement of endotracheal tube following endotracheal intubation.

12. Assists with treatment of a partial or complete laryngospasm.

13. Demonstrates a thorough knowledge of the ASA difficult airway algorithm.

14. Has knowledge of the proper procedure and equipment required for nasal intubation.

15. Demonstrates appropriate knowledge and is able to assist with placement of airway adjuncts and confirm placement (when appropriate) such as, but not limited to:
- Combitube
- Double lumen tube
- Eschmann stylet
- Glidescope
- Fiberoptic bronchoscope
- Light wand
- LMA
- LMA Fastrach
- Percutaneous cricothyrotomy
- Transtracheal ventilation
- Others

16. Demonstrates an appropriate knowledge and ability to assist with 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 ability to secure intravenous access.

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 assists with proper 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
- Antihistamines
- Antihypertensive agents
- Antiemetics
- Anticholinergics
- Benzodiazepine antagonists
- Antibiotics
- Anti-inflammatory agents
- Antihyperglycemic agents
- Anticoagulants
- Anticholinesterases
- Bronchodilators

- Benzodiazepines
- Induction agents
- Narcotic antagonists
- Inhalation agents
- Vasopressors
- H2 blockers
- Narcotics
- Neuromuscular blocking agents
- Local anesthetics

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. Identifies 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 application of anesthetic principles related to pathophysiology in relation to the following case types:

- Cardiovascular
- Genitourinary
- Hepatic
- Neurologic
- Respiratory
- Gastrointestinal
- Hematologic
- Musculoskeletal
- Renal

This list is NOT exhaustive

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 apply the following factors in relation to utilization of biotechnology during patient care.

1. Perform anesthesia machine checkouts

2. React to device alarms, diagnoses, and treats problems.

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.

- 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 and procedure of the following invasive pressure monitors:
- •Arterial pressure
- • Central venous pressure
- • Intra-cardiac/pulmonary artery pressure
- • Intracranial pressures

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

7. Knowledgeable in application of equipment for neuroaxial anesthesia and regional anesthesia.

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

9. Understands and applies universal precautions.

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

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.

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
- Requisitioning for inspections
- Recording of 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)

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.

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.

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