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AMERICAN SOCIETY OF  
ANESTHESIA TECHNOLOGISTS  
AND TECHNICIANS

**REFRESHER/  
ADVANCEMENT/  
PROVISIONAL  
RE-CERTIFICATION  
PROGRAM STANDARDS**

**REVISED:**  
February 2021

# TABLE OF CONTENTS

	PAGE NUMBER
Table of Contents	1
<b>General Information</b>	
Purpose	2
<b>Program Specifics</b>	
<b>Refresher Program</b>	
Objectives	3
Overview	3
Requirements	3
Specifics	4
Clinical Anesthesia Component	5
Completion of the Refresher Program	5
Refresher Program Appendix	5
<b>Advancement Program</b>	
Objectives	10
Overview	10
Requirements	10
Specifics	11
Completion of the Advancement Program	11
Advancement Program Appendix	12
<b>Provisional Recertification</b>	
Objectives	17
Requirements	17
<b>Refresher/ Advancement Program Continuing Education Component</b>	
Overview	18
<b>Recordkeeping – CEU Credits</b> <i>(For use with Refresher or Advancement Programs Only)</i>	
Overview	19
Classroom or Lecture Programs	19
Provider-Directed or Independent Study Programs	19

*Refresher Program guidelines effective February 2021*

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# GENERAL INFORMATION

## PURPOSE

ASATT recognizes and approves three separate programs by which a certification can be reestablished, brought back into good standing, or advanced.

## PROGRAMS

**Refresher Program** is offered to Certified Anesthesia Technologists who have not been substantially engaged in the practice of anesthesia technology for more than two (2) years and must update their skills and knowledge of current clinical and theoretical practice in anesthesia technology in order to meet the established standards of practice and to apply for recertification through examination.

**Advancement Program** is designed for the certified anesthesia technician who requires additional knowledge and skills in clinical practice in order to meet the established standards of practice of a certified anesthesia technologist.

**Provisional Recertification** may be granted for the previously certified anesthesia technologist/technician whose certification was allowed to lapse due to late or insufficient CEU credits beyond the December 31 recertification deadline.

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# REFRESHER PROGRAM

## PROGRAM OBJECTIVES

The objective of the **Refresher Program** is to promote attainment of the current knowledge and clinical skills necessary for safe anesthesia technology practice required for the technologist National Certification Exam (NCE).

## PROGRAM OVERVIEW

The **Refresher Program** consists of a continuing education unit (CEU) component. The timeframe to complete the program and pass the NCE exam is 24 months from date the application is approved. If the anesthesia technologist has not been actively engaged for more than two (2) years but less than five (5) years, the individual must retake and pass the National Certification Examination (NCE).

CEUs incorporated in the **Refresher Program** may be earned through completion of a CEU program that have obtained prior approval by ASATT or CEUs have been approved and processed by ASATT.

**Disclaimer:** If the applicant has limited direct hands-on responsibility at their current location, it is advised they seek additional clinical sponsorship to aid in the synthesis of knowledge and increase probabilities for success on the NCE exam. Examples of areas where the individual would likely not attain the recommended clinical exposure include surgery centers, outpatient procedure areas, eye centers, pain clinics etc. It is recommended the applicant have experience in level-2 or level-1 medical centers.

## REFRESHER PROGRAM REQUIREMENTS

The two-part Refresher Program process must occur as follows:

1. The Refresher Application and a non-refundable fee must be submitted to the ASATT headquarters. The application must be approved before the anesthesia tech begins the CEU component of the Refresher Program.
2. The technologist must attain 10 Level-1 CEUs for every year the certification lapsed beyond two years. This is in addition to the 40 CEUs categorically described on page 4.

The CEU applications can be accessed on the Refresher/Advancement page of the ASATT website, at [asatt.org](https://www.asatt.org).

## REFRESHER PROGRAM SPECIFICS

A previously certified anesthesia tech must fulfill the following Refresher Program requirements to become eligible for full certification.

Previously, certified anesthesia techs not substantially engaged in clinical anesthesia practice for over two (2) years but not more than five (5) years or who failed to obtain the required CEUs during the allowed recertification or provisional must meet the criteria listed below. Note: The applicant has 24 months from the date of application to meet the following criteria:

1. Documentation of 40 CEU credits that have been prior-approved by ASATT:
  - **Criterion-1:** 10 CEU credits—Foundational Science to include anatomy, physiology pathophysiology, and physics
    - College coursework exception: If the applicant provides transcripts indicating the successful completion of college level science courses the applicant can petition for college credit inclusion. Refer to Refresher program appendix for requirements and description.
    - Refer to Refresher Program Appendix for parameters.
  - **Criterion-2:** 10 CEU credits—Advanced Principles of Anesthesia to include specialized surgical procedures and cases including; Pediatrics, Obstetrics, Trauma, Cardiac, Transplant and Regional Anesthesia.
    - Refer to Refresher Program Appendix for parameters.
  - **Criterion-3:** Five (5) CEU credits—Professional Aspects; Ethics, Scope of Practice, Regulatory Compliance and Safety.
    - Refer to Refresher program appendix for parameters
  - **Criterion-4:** 15 CEU credits—Advanced Anesthesia Equipment, Instrumentation, Pharmacology and Technology.
    - Refer to Refresher Program Appendix for parameters.
2. Documentation of the required 10 Category-1 CEUs for each year certification lapsed beyond two (2) years but no more than five (5) years.
3. Documentation of current ACLS and BLS certification through the American Heart Association.

## COMPLETION OF THE REFRESHER PROGRAM

ASATT will review and approve all CEU documentation submitted in order to determine if all requirements of the Refresher Program have been met and completed within the time frame specified.

The anesthesia technician Refresher Program participant will be notified in writing of the completion status, as well as how to proceed with applying to taking the Technologist NCE.

The examination may be attempted up to three times within one year from the date of official notification that the Refresher Program has been completed. The anesthesia technologist must successfully pass the exam within that time frame.

## REFRESHER PROGRAM APPENDIX:

### Criterion-1 CEU Parameters:

#### 1. Human Anatomy and Physiology:

- 1.1 The applicant must have earned the credits within 10 years of application.
- 1.2 The applicant must provide an official transcript with the Refresher Program application.
- 1.3 The applicant must have attained a "C" in all courses being used to substitute for the 10 CEUs.

#### 1.4 Qualifying Courses

Human Anatomy & Physiology I.....	5 CEUs
Human Anatomy & Physiology II.....	5 CEUs

**OR**

Human Anatomy.....	5 CEUs
Human Physiology.....	5 CEUs

#### 2. Ancillary Science Courses:

- 2.1 The applicant is allowed to substitute one from the human anatomy and physiology section course to earn a maximum of five (5) CEUs.
- 2.2 If the applicant has already used anatomy and physiology credits for Category-1 then the applicant cannot use these credits to substitute for the remaining categories.
- 2.3 The applicant must have earned the credits within 10 years of application.
- 2.4 The applicant must provide an official transcript with the Refresher Program application.
- 2.5 The applicant must have attained a "C" in all courses being used to substitute for the five (5) CEUs.

#### 2.6 Qualifying Courses

• General Chemistry I.....	5 CEUs
• General Chemistry II.....	5 CEUs
• Microbiology.....	5 CEUs
• Organic Chemistry.....	5 CEUs
• Physics I.....	5 CEUs
• Physics II.....	5 CEUs

#### 3. Continuing education credit Parameters for Category-1

- 3.1. CEUs must be related to the comprehension of anatomy, physiology, pathophysiology, chemistry, or physics.
- 3.2. CEUs must be related to providing the applicant with relevant baseline knowledge in the aforementioned topics.

## **"Refresher Program" continued**

- 3.3. Examples include but not limited to:
  - 3.3.1. Cardiovascular anatomy and physiology review
  - 3.3.2. Hepatorenal anatomy and physiology review
  - 3.3.3. Pulmonary anatomy and physiology review
  - 3.3.4. Central nervous system anatomy and physiology review
  - 3.3.5. Peripheral nervous system
  - 3.3.6. Cardiovascular pathology review
  - 3.3.7. Pulmonary pathology review
  - 3.3.8. Hepatorenal pathology review
  - 3.3.9. Chemical reactions related to the formation of carbonates
  - 3.3.10. Fluid dynamics
  - 3.3.11. Gas and dynamics laminar and turbulent flow

### **Criterion-2 CEU Parameters**

1. All CEUs in this category must be Level-1 evaluated CEUs.
2. CEUs must be diversified and include key components necessary to satisfy the category.
3. CEUs cannot be repeat lectures of the same topic, conference, or educational opportunity.
4. Delineation and Breakdown of CEU types for Criterion-2

#### **4.1. Pediatric Anesthesia CEUs – Two (2) CEUs Required**

- 4.1.1. One (1) CEU must be pediatric airway management
- 4.1.2. The second CEU must be on a topic related to pediatric emergencies, pediatric specific surgeries, or pediatric pathology.
- 4.1.3. The CEU cannot be a repeat lecture from a previous conference or educational opportunity.

#### **4.2. Trauma Anesthesia CEUs – Two (2) CEUs Required**

- 4.2.1. CEUs are permissible under this category are rapid transfusion, emergency procedures, massive transfusion protocols, etc.
- 4.2.2. CEUs cannot be a repeat lecture from a previous conference or educational opportunity.

#### **4.3. Cardiac Anesthesia CEUs – Four (4) CEUs Required**

- 4.3.1. CEU topics that fit within this category are:
  - 4.3.1.1. Transesophageal echocardiogram
    - 4.3.1.1.1. Analysis and interpretation
    - 4.3.1.1.2. Considerations and complications
    - 4.3.1.1.3. Indications and contraindications
  - 4.3.1.2. Lectures on specific cardiovascular surgeries
    - 4.3.1.2.1. CABG
    - 4.3.1.2.2. AVR
    - 4.3.1.2.3. TVAR
    - 4.3.1.2.4. TMAR
    - 4.3.1.2.5. Pericardial windows for cardiac tamponade
  - 4.3.1.3. Cardiovascular pathophysiology/comorbidities.
  - 4.3.1.4. Principles of autotransfusion and cardiopulmonary bypass
  - 4.3.1.5. Electrocardiography
    - 4.3.1.5.1. Rhythm analysis
    - 4.3.1.5.2. ACLS protocols
    - 4.3.1.5.3. Advanced ECG methodologies

4.3.1.6. Cardiovascular pharmacology.

4.3.2. CEUs cannot be repeat lectures of the same topic, conference, or educational opportunity.

**4.4. Transplant, OB, or Regional Anesthesia – Two (2) CEUs Required**

4.4.1. CEU topics that fit within this category are:

4.4.1.1. Transplantation and Anesthesia

4.4.1.1.1. Pathology of organ failure

4.4.1.1.2. Surgical considerations for transplant surgeries.

4.4.1.1.2.1. Cardiovascular

4.4.1.1.2.2. Pulmonary

4.4.1.1.2.3. Hepatic

4.4.1.1.2.4. Renal

4.4.1.1.2.5. Hand and face (though not recommended as they may not best meet the needs for NCE Preparation)

4.4.1.1.2.6. Transplant related to ophthalmology, cosmetic, tissues, bone marrow, blood stem cells, cord blood, blood and platelet transplantation do not qualify for this category.

4.4.1.2. Obstetrics and Anesthesia

4.4.1.2.1. Surgical implications and consideration for Labor and delivery.

4.4.1.2.2. Obstetrics pathology comorbidities

4.4.1.2.2.1. Placenta previa

4.4.1.2.2.2. Placenta abruptio

4.4.1.2.2.3. Preeclampsia

4.4.1.2.3. Neuraxial anesthesia and obstetrics

4.4.1.2.4. Complications from cesarean section

4.4.1.2.5. General anesthesia and obstetrics

4.4.1.3. Regional Anesthesia

4.4.1.3.1. Anatomy and Physiology for regional blockade.

4.4.1.3.1.1. Brachial plexus

4.4.1.3.1.2. Lumbar plexus

4.4.1.3.1.3. Sacral plexus

4.4.1.3.1.4. Abdominal nerve structure

4.4.1.3.1.5. Appendage nerve anatomy

4.4.1.3.2. Brachial plexus blockade

4.4.1.3.2.1. Interscalene

4.4.1.3.2.2. Supraclavicular

4.4.1.3.2.3. Infraclavicular

4.4.1.3.2.4. Axillary

4.4.1.3.3. Sacral plexus blockade

4.4.1.3.3.1. Sciatic nerve

4.4.1.3.3.2. Popliteal blockade

4.4.1.3.3.3. Common peroneal

4.4.1.3.3.4. Tibial blockade

4.4.1.3.4. Lumbar plexus blockade

4.4.1.3.4.1. Deep psoas

4.4.1.3.4.2. Femoral

4.4.1.3.4.3. Obturator

4.4.1.3.4.4. Lateral femoral



- 4.4.1.3.5. Neuraxial Anesthesia
  - 4.4.1.3.5.1. Spinal
  - 4.4.1.3.5.2. Epidural
- 4.4.1.3.6. LAST Protocol
- 4.4.1.3.7. Considerations, indications, and complications associated with regional and neuraxial blockade.
- 4.4.1.3.8. Ultrasounds and their use in regional anesthesia
- 4.4.1.3.9. Nerve stimulation vs. ultrasound

### **Criterion-3: CEU Parameters**

1. Professional Aspects; Ethics, Scope of Practice, Regulatory Compliance and Safety.
2. CEUs earned in this category can qualify as both Level-1 and Level-2 CEUs.
3. CEUs earned in this category should revolve around management supply chain management and efficiency
4. Lecture topics that are recommended in this category are:
  - 4.1. Joint commission and regulatory compliance
  - 4.2. US Pharmacopeia
  - 4.3. FDA, ASA, CGA, U/L, NFPA Standards
  - 4.4. Fires in the operating room
  - 4.5. Hospital gas supply

### **Criterion-4: CEU Parameters**

1. All CEUs in this category must be Level-1 evaluated CEUs.
2. CEUs must be diversified and include key components necessary to satisfy the category.
3. CEUs cannot be repeat lectures of the same topic, conference, or educational opportunity.
4. Delineation and Breakdown of CEU types for Criterion-2
  - 4.1. Intra-aortic Balloon Pump – One (1) CEU Required**
    - 4.1.1. Indications, contraindications, and considerations
    - 4.1.2. Operational principles
  - 4.2. Cell Salvage (autotransfusion) – Two (2) CEUs Required**
    - 4.2.1. Indications, contraindications, and considerations
    - 4.2.2. Operational principles
  - 4.3. Pharmacology – Four (4) CEUs Required**
    - 4.3.1. One (1) CEU must be on the topic of inhalation agents and vaporizers.
      - 4.3.1.1. Inhalation agents
        - 4.3.1.1.1. Examples:
          - 4.3.1.1.1.1. Sevoflurane
          - 4.3.1.1.1.2. Desflurane
          - 4.3.1.1.1.3. Isoflurane
        - 4.3.1.1.2. Mechanism of action
        - 4.3.1.1.3. Indications, contraindications, and considerations.
        - 4.3.1.1.4. Vaporizers
          - 4.3.1.1.4.1. Partial pressures and MAC levels
        - 4.3.1.1.5. Nitrous Oxide
      - 4.3.2. One (1) CEU must be on the topic of Neuromuscular blocking agents.
      - 4.3.3. Neuromuscular blocking agents
        - 4.3.3.1. Mechanism of action

- 4.3.3.2. Depolarizing vs. non-depolarizing.
- 4.3.4. Hypnotic Sedatives & Sedatives
  - 4.3.4.1. Examples:
    - 4.3.4.1.1. Propofol
    - 4.3.4.1.2. Etomidate
    - 4.3.4.1.3. Ketamine
    - 4.3.4.1.4. Precedex
  - 4.3.4.2. Mechanism of action
  - 4.3.4.3. Indications, contraindications, and considerations.
  - 4.3.4.4. Mechanism of action
  - 4.3.4.5. Drug types
  - 4.3.4.6. Indications, contraindications, and considerations.
- 4.3.5. Opioids
  - 4.3.5.1. Types (Fentanyl, Remifentanyl, and Sufentanyl)
  - 4.3.5.2. Indications, contraindications, and considerations.
- 4.3.6. Ancillary medications used in the perioperative environment.
- 4.3.7. ACLS algorithm medications.

**4.4. Anesthesia Gas Machine – Four (4) CEUs Required**

- 4.4.1. Operational principles
- 4.4.2. Pressure vs. Volume vs. Flow
- 4.4.3. Vaporizers
- 4.4.4. Safety Systems
- 4.4.5. Carbon dioxide removal
- 4.4.6. Circle System
- 4.4.7. Calibration and troubleshooting principles.

**4.5. Ultrasonography – Two (2) CEUs Required**

- 4.5.1. One (1) CEU of TEE is required for this category
- 4.5.2. One (1) CEU of ultrasound theory and operations is required for this category

**4.6. Ancillary Instrumentation and advanced Principles – Two (2) CEUs Required**

- 4.6.1. One (1) lung ventilation (VATs, DLTs, OLV)
- 4.6.2. Point of care testing (ABG, ACT, TEG)

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# ADVANCEMENT PROGRAM

## PROGRAM OBJECTIVES

The objective of the Advancement Program is to establish minimum education and clinical anesthesia experience needed to enable the certified anesthesia technician to meet the standards and practice of the anesthesia technologist in preparation for the National Certification Technologist Exam (NCE).

## PROGRAM OVERVIEW

The Advancement Program requires the approved applicant to earn specific continuing education unit (CEU) credits. The applicant must complete the program and pass the NCE Technologist Exam within 24 months of the Advancement Program's Application approval. The applicant must be currently employed as a certified anesthesia technician for a minimum of three (3) years with a total of five (5) years' experience or proof of graduation from an approved anesthesia technology program within the three (3) years. Additionally, the tech must hold ACLS prior to receiving approval for the program.

The Advancement Program credits may be earned through completion of CEU programs that have obtained prior approval by ASATT.

The National Certification Technologist Exam can be taken only after the certified anesthesia tech has completed the CEU credits and provides proof of the employment requirement.

**Disclaimer:** If the applicant has limited direct hands-on responsibility at their current location it is advised they seek additional clinical sponsorship. This can aid in the synthesis of knowledge and increase probabilities for success on the NCE Technologist Exam.. Examples of areas where the individual would likely not attain the recommended clinical exposure are surgery centers, outpatient procedure areas, eye centers, pain clinics, etc. It is recommended the applicant have experience in Level-2 and Level-1 medical centers.

## ADVANCEMENT PROGRAM REQUIREMENTS

The Advancement Application for Approval and a non-refundable fee must be submitted to the ASATT headquarters. The applicant must provide current ACLS, BLS, and proof of current Cer.A.T. certification to be approved for the program. Finally, the technician is required to provide, in the application, proof of three years of employment as a certified anesthesia technician (Cer.A.T.) from their employer [five (5) years total]. The application must be approved **before** the certified anesthesia technician begins CEU coursework.

## ADVANCEMENT PROGRAM SPECIFICS

A certified anesthesia technician must fulfill the following Advancement Program requirements to become eligible for the National Certification Technologist Exam (NCE).

1. Documentation of 40 CEU credits that have been prior-approved by ASATT:
  - **Criterion-1:** 10 CEU credits—Foundational Science to include anatomy, physiology pathophysiology, and physics
    - College coursework exception: If the applicant provides transcripts indicating the successful completion of College level Science courses the applicant can petition for college credit inclusion. Refer to Refresher Program appendix for requirements and description.
    - Refer to Advancement Program Appendix for parameters.
  - **Criterion-2:** 10 CEU credits—Advanced Principles of Anesthesia to include specialized surgical procedures and cases including; Pediatrics, Obstetrics, Trauma, Cardiac, Transplant and Regional Anesthesia.
    - Refer to Advancement Program Appendix for parameters.
  - **Criterion-3:** Five (5) CEU credits—Professional Aspects; Ethics, Scope of Practice, Regulatory Compliance and Safety.
    - Refer to Advancement Program Appendix for parameters
  - **Criterion-4:** 15 CEU credits—Advanced Anesthesia Equipment, Instrumentation, pharmacology and Technology.
    - Refer to Advancement Program Appendix for parameters.
2. Documentation of current ACLS and BLS provider certification.
3. The examination may be attempted up to three (3) times within one (1) year from the date of official notification that the didactic requirements of the Advancement Program have been completed. The anesthesia technician must successfully pass the exam within that time frame.

## COMPLETION OF THE ADVANCEMENT PROGRAM

ASATT will review and approve the Advancement CEU to determine if all requirements of the Advancement Program have been met and completed within the time frame specified.

The anesthesia technician Advancement Program participant will be notified in writing of the completion status, as well as how to proceed with taking the Technologist NCE.

The examination may be attempted up to three times within one year from the date of official notification that the Refresher Program has been completed. The anesthesia technologist must successfully pass the exam within that time frame.

**ADVANCEMENT PROGRAM APPENDIX:**

**Criterion-1 CEU Parameters:**

**1. Human Anatomy and Physiology:**

- 1.1 The applicant must have earned the credits within 10 years of application.
- 1.2 The applicant must provide an official transcript with Advancement Program application.
- 1.3 The applicant must have attained a "C" in all courses being used to substitute for the 10 CEUs.

**1.4 Qualifying Courses**

Human Anatomy & Physiology I.....	5 CEUs
Human Anatomy & Physiology II.....	5 CEUs

**OR**

Human Anatomy.....	5 CEUs
Human Physiology.....	5 CEUs

**2. Ancillary Science Courses:**

- 2.1 The applicant is allowed to substitute one from the human Anatomy and Physiology section course to earn a maximum of five (5) CEUs.
- 2.2 If the applicant has already used anatomy and physiology credits for Category-1 then the applicant cannot use these credits to substitute for the remaining categories.
- 2.3 The applicant must have earned the credits within 10 years of application.
- 2.4 The applicant must provide an official transcript with Advancement Program application.
- 2.5 The applicant must have attained a "C" in all courses being used to substitute for the five (5) CEUs.

**2.6 Qualifying Courses**

• General Chemistry I.....	5 CEUs
• General Chemistry II.....	5 CEUs
• Microbiology.....	5 CEUs
• Organic Chemistry.....	5 CEUs
• Physics I.....	5 CEUs
• Physics II.....	5 CEUs

**3. Continuing education credit Parameters for category-1**

- 3.1. CEUs must be related to the comprehension of anatomy, physiology, pathophysiology, chemistry, or physics.
- 3.2. CEUs must be related to providing the applicant with relevant baseline knowledge in the aforementioned topics.
- 3.3. Examples include but not limited to:
  - 3.3.1. Cardiovascular anatomy and physiology review
  - 3.3.2. Hepatorenal anatomy and physiology review
  - 3.3.3. Pulmonary anatomy and physiology review
  - 3.3.4. Central nervous system anatomy and physiology review
  - 3.3.5. Peripheral nervous system
  - 3.3.6. Cardiovascular pathology review
  - 3.3.7. Pulmonary pathology review
  - 3.3.8. Hepatorenal pathology review
  - 3.3.9. Chemical reactions related to the formation of carbonates
  - 3.3.10. Fluid dynamics
  - 3.3.11. Gas and dynamics laminar and turbulent flow

**Criterion-2 CEU Parameters:**

1. All CEUs in this category must be Level-1 evaluated CEUs.
2. CEUs must be diversified and include key components necessary to satisfy the category.
3. CEUs cannot be repeat lectures of the same topic, conference, or educational opportunity.
4. Delineation and Breakdown of CEU types for Criterion-2
  - 4.1. Pediatric Anesthesia CEUs – Two (2) CEUs Required**
    - 4.1.1. One (1) CEU must be pediatric airway management
    - 4.1.2. The second CEU must be on a topic related to pediatric emergencies, pediatric specific surgeries, or pediatric pathology.
    - 4.1.3. The CEU cannot be a repeat lecture from a previous conference or educational opportunities.
  - 4.2. Trauma Anesthesia CEUs – Two (2) CEUs Required**
    - 4.2.1. CEUs permissible under this category include rapid transfusion, emergency procedures, massive transfusion protocols, etc.
    - 4.2.2. CEUs cannot be a repeat lecture from a previous conference or educational opportunity.
  - 4.3. Cardiac Anesthesia CEUs – Four (4) CEUs Required**
    - 4.3.1. CEU topics that fit within this category are:
      - 4.3.1.1. Transesophageal echocardiogram
        - 4.3.1.1.1. Analysis and interpretation
        - 4.3.1.1.2. Considerations and complications
        - 4.3.1.1.3. Indications and contraindications
      - 4.3.1.2. Lectures on specific cardiovascular surgeries
        - 4.3.1.2.1. CABG
        - 4.3.1.2.2. AVR
        - 4.3.1.2.3. TVAR
        - 4.3.1.2.4. TMAR
        - 4.3.1.2.5. Pericardial windows for cardiac tamponade
      - 4.3.1.3. Cardiovascular pathophysiology/comorbidities.
      - 4.3.1.4. Principles of autotransfusion and cardiopulmonary bypass
      - 4.3.1.5. Electrocardiography
        - 4.3.1.5.1. Rhythm analysis
        - 4.3.1.5.2. ACLS protocols
        - 4.3.1.5.3. Advanced ECG methodologies
      - 4.3.1.6. Cardiovascular pharmacology.
    - 4.3.2. CEUs cannot be repeat lectures of the same topic, conference, or educational opportunity.
  - 4.4. Transplant, OB, or Regional Anesthesia – Two (2) CEUs Required**
    - 4.4.1. CEU topics that fit within this category are:
      - 4.4.1.1. Transplantation and Anesthesia
        - 4.4.1.1.1. Pathology of organ failure
        - 4.4.1.1.2. Surgical considerations for transplant surgeries.
          - 4.4.1.1.2.1. Cardiovascular
          - 4.4.1.1.2.2. Pulmonary
          - 4.4.1.1.2.3. Hepatic
          - 4.4.1.1.2.4. Renal
          - 4.4.1.1.2.5. Hand and face (though not recommended as they may not best meet the needs for NCE preparation)
          - 4.4.1.1.2.6. Transplant related to ophthalmology, cosmetic, tissues, bone

marrow, blood stem cells, cord blood, blood and platelet transplantation do not qualify for this category.

- 4.4.1.2. Obstetrics and Anesthesia
  - 4.4.1.2.1. Surgical implications and consideration for labor and delivery.
  - 4.4.1.2.2. Obstetrics pathology comorbidities
    - 4.4.1.2.2.1. Placenta previa
    - 4.4.1.2.2.2. Placenta abruptio
    - 4.4.1.2.2.3. Preeclampsia
    - 4.4.1.2.3. Neuraxial anesthesia and obstetrics
    - 4.4.1.2.4. Complications from cesarean section
    - 4.4.1.2.5. General anesthesia and obstetrics
- 4.4.1.3. Regional Anesthesia
  - 4.4.1.3.1. Anatomy and physiology for regional blockade.
    - 4.4.1.3.1.1. Brachial plexus
    - 4.4.1.3.1.2. Lumbar plexus
    - 4.4.1.3.1.3. Sacral Plexus
    - 4.4.1.3.1.4. Abdominal nerve structure
    - 4.4.1.3.1.5. Appendage nerve anatomy
  - 4.4.1.3.2. Brachial plexus blockade
    - 4.4.1.3.2.1. Interscalene
    - 4.4.1.3.2.2. Supraclavicular
    - 4.4.1.3.2.3. Infraclavicular
    - 4.4.1.3.2.4. Axillary
  - 4.4.1.3.3. Sacral plexus blockade
    - 4.4.1.3.3.1. Sciatic nerve
    - 4.4.1.3.3.2. Popliteal blockade
    - 4.4.1.3.3.3. Common peroneal
    - 4.4.1.3.3.4. Tibial blockade
  - 4.4.1.3.4. Lumbar Plexus blockade
    - 4.4.1.3.4.1. Deep psoas
    - 4.4.1.3.4.2. Femoral
    - 4.4.1.3.4.3. Obturator
    - 4.4.1.3.4.4. Lateral femoral
  - 4.4.1.3.5. Neuraxial Anesthesia
    - 4.4.1.3.5.1. Spinal
    - 4.4.1.3.5.2. Epidural
  - 4.4.1.3.6. LAST Protocol
  - 4.4.1.3.7. Considerations, indications, and complications associated with regional and neuraxial blockade.
  - 4.4.1.3.8. Ultrasounds and their use in regional anesthesia
  - 4.4.1.3.9. Nerve stimulation vs. ultrasound

### **Criterion-3: CEU Parameters**

1. Professional Aspects; Ethics, Scope of Practice, Regulatory Compliance and Safety.
2. CEUs earned in this category can qualify as both level-1 and level-2 CEUs.
3. CEUs earned in this category should revolve around management supply chain management and efficiency

## **"Advancement Program" continued**

4. Lecture topics that are recommended in this category are:
  - 4.1. Joint commission and regulatory compliance
  - 4.2. US Pharmacopeia
  - 4.3. FDA, ASA, CGA, U/L, NFPA Standards
  - 4.4. Fires in the operating room
  - 4.5. Hospital gas supply

### **Criterion-4: CEU Parameters**

1. All CEUs in this category must be Level-1 evaluated CEUs.
2. CEUs must be diversified and include key components necessary to satisfy the category.
3. CEUs cannot be repeat lectures of the same topic, conference, or educational opportunity.
4. Delineation and Breakdown of CEU types for Criterion-2
  - 4.1. Intra-aortic Balloon Pump – One (1) CEU Required**
    - 4.1.1. Indications, contraindications, and considerations
    - 4.1.2. Operational principles
  - 4.2. Cell Salvage (autotransfusion) – Two (2) CEUs Required**
    - 4.2.1. Indications, contraindications, and considerations
    - 4.2.2. Operational principles
  - 4.3. Pharmacology – Four (4) CEUs Required**
    - 4.3.1. One (1) CEU must be on the topic of inhalation agents and vaporizers.
      - 4.3.1.1. Inhalation agents
        - 4.3.1.1.1. Examples:
          - 4.3.1.1.1.1. Sevoflurane
          - 4.3.1.1.1.2. Desflurane
          - 4.3.1.1.1.3. Isoflurane
          - 4.3.1.1.1.4. Nitrous Oxide
        - 4.3.1.1.2. Mechanism of action
        - 4.3.1.1.3. Indications, contraindications, and considerations.
        - 4.3.1.1.4. Vaporizers
        - 4.3.1.1.5. Partial pressures and MAC levels
      - 4.3.2. One (1) CEU must be on the topic of neuromuscular blocking agents.
        - 4.3.2.1. Neuromuscular Blocking Agents
          - 4.3.2.1.1. Mechanism of action
          - 4.3.2.1.2. Types
          - 4.3.2.1.3. Depolarizing vs. non-depolarizing.
      - 4.3.3. Hypnotic Sedatives & Sedatives
        - 4.3.3.1. Examples:
          - 4.3.3.1.1. Propofol
          - 4.3.3.1.2. Etomidate
          - 4.3.3.1.3. Ketamine
          - 4.3.3.1.4. Precedex
        - 4.3.3.2. Mechanism of action
        - 4.3.3.3. Indications, contraindications, and considerations.



- 4.3.4. Inhalation agents
  - 4.3.4.1. Examples:
    - 4.3.4.1.1. Sevoflurane
    - 4.3.4.1.2. Desflurane
    - 4.3.4.1.3. Isoflurane
    - 4.3.4.1.4. Nitrous Oxide
  - 4.3.4.2. Mechanism of action
  - 4.3.4.3. Indications, contraindications, and considerations.
  - 4.3.4.4. Vaporizers
  - 4.3.4.5. Partial pressures and MAC levels
- 4.3.5. Opioids
  - 4.3.5.1. Types (Fentanyl, Remifentanyl, and Sufentanyl)
  - 4.3.5.2. Indications, contraindications, and considerations.
- 4.3.6. Ancillary medications used in the Perioperative environment.
- 4.3.7. ACLS algorithm medications.

**4.4. Anesthesia Gas Machine – Four (4) CEUs Required**

- 4.4.1. Operational principles
- 4.4.2. Pressure vs. volume vs. flow
- 4.4.3. Vaporizers
- 4.4.4. Safety systems
- 4.4.5. Carbon dioxide removal
- 4.4.6. Circle system
- 4.4.7. Calibration and troubleshooting principles.

**4.5. Ultrasonography – Two (2) CEUs Required**

- 4.5.1. One (1) CEU of TEE is required for this category
- 4.5.2. One (1) CEU of ultrasound theory and operations is required for this category

**4.6. Ancillary Instrumentation and advanced Principles – Two (2) CEUs Required**

- 4.6.1. One (1) ventilation (VATs, DLTs, OLV)
- 4.6.2. Point of care testing (ABG, ACT, TEG)

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# PROVISIONAL PROGRAM

## PROGRAM OBJECTIVES

The objective of Provisional Recertification is to provide an opportunity for the certified anesthesia technologist or technician to retain their certification status beyond their expiration date by means of conditional recertification.

## PROVISIONAL PROGRAM REQUIREMENTS

Before Provisional Recertification can be granted, the anesthesia technologist/ technician must submit a completed application for Provisional Recertification along with all applicable fees. In addition to current recertification fees for the appropriate certification level ([asatt.org](http://asatt.org)), there will be a non-refundable fee required. The requirements are as follows:

1. 30 CEU credits will be required at the **technician level** in order to regain Certified Anesthesia Technician status.
  - a. The applicant must follow the same requirements listed for the technician on the ASATT website.
2. 40 CEU credits will be required at the **technologist level** in order to regain Certified Anesthesia Technologist status.
  - a. The applicant must follow the same requirements listed for the technologist on the ASATT website.

Accrual of required CEUs begin after ASATT approval of the application for Provisional Recertification. Previously earned CEUs will not be accepted for remediation purposes.

All applications, documentation and fees must be completed and approved within the 12-month period after certification expiration date (effective December 31st through December 31st; One (1) year following) without exception. Should the deadline be missed, the individual must complete the Refresher Program to take the NCE Technologist Exam regardless of current certification level.

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# REFRESHER/ADVANCEMENT CONTINUING EDUCATION COMPONENT

## OVERVIEW

The Continuing Education Refresher/Advancement Application must be approved by the ASATT Education Committee before the anesthesia technologist/technician begins the Continuing Education Unit (CEU) component of the Refresher or Advancement Program.

Continuing education unit (CEU) credits toward fulfillment of the criteria for the Refresher or Advancement Program must be earned in clinical topics. CEU credits cannot be earned in stress management, administration, research, education, non-anesthesia topics or solely through home-study programs.

Earning CEU credits may be achieved utilizing **one (1)** of the following methods:

1. The anesthesia technologist/technician earns CEU credits through attendance at CEU programs of their choice. If the CEUs are earned through a third-party the technicians/technologist is required to provide a processing payment for the CEU to be reviewed for approval or denial. **The anesthesia technologist/technician is responsible for:**
  - a. Ensuring the program he or she attends has content that meets the CEU credit requirements; and
  - b. Maintaining a record of CEU credits and submitting documentation of completed credits to the ASATT as described under the Recordkeeping – CEU Credits section below.
2. The anesthesia technologist/technician completes an ASATT Sanctioned Refresher/Advancement Course. **The Refresher or Advancement Course provider submits the attendance record directly to the ASATT headquarters. These records will be cross referenced against the proof of completion from the applicant.**
3. The anesthesia technologist/technician can earn credits for attendance at CEU programs or events while also maintaining enrollment in an ASATT sanctioned program. However, all CEUs earned outside the sanctioned ASATT program will be subject to the third-party processing fee schedule [refer to asatt.org] unless those CEUs were earned at an ASATT organized event or CEU offering. **The anesthesia technologist/technician is responsible for maintaining a record of all CEU credits earned and submitting the documentation to ASATT as described under Recordkeeping – CEU Credits section below.**

# RECORDKEEPING - CEU CREDITS

## OVERVIEW

The anesthesia technologist/technician is responsible for maintaining a record of CEU credits and submitting them to ASATT. Documentation of credits must be submitted so the material can be reviewed and evaluated.

The following procedure should be used when submitting a record of CEU credits:

Independent Study - Classroom, Provider, Conference or Lecture Programs

- Submit a copy of the certificate of attendance issued by the provider. The certificate must include your name, the provider name, the program title, and the program date, and the number of CEU credits awarded. If the CEUs were earned from a third-party provider, the technician/technologist is responsible for paying a processing fee for review and approval/denial [refer to fee schedule on the ASATT website].
- Submit a copy of the program, hourly schedule or lecture outline that clearly shows the lectures attended. One (1) CEU credit is awarded for every 50-60 minutes of participation [refer to Advancement and Refresher CEU appendix].
- Mark each lecture according to the group to which it belongs:
  - Criterion-1
  - Criterion-2
  - Criterion-3
  - Criterion-4
- Lectures should be marked with the appropriate group on the top of the program certificate(s).
- For ACLS and BLS programs, submit a copy of the life support card, the certificate of attendance, and hourly schedule or lecture agenda.

## ASATT SANCTIONED PROGRAMS

1. For ASATT sanctioned programs (those with which the full spectrum of continuing education is provided via a sponsored academic or private post- secondary institution), the following must be submitted:
  - Copy of program completion.
    - The certificate must include your name, the provider name, the program title, the program date(s), the ASATT program code number and the number of credits awarded.
  - Mark the certificate according to the group to which it belongs:
    - Foundational Science
    - Advanced Principles
    - Professional Aspects
    - Advanced Anesthesia Equipment, Instrumentation and Technology.