NBCRNA
National Board of Certification & Recertification for Nurse Anesthetists

SEE Handbook

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CONTENTS

This publication contains information about NBCRNA's Self-Evaluation Examination (SEE). Candidates are responsible for knowing the contents of this handbook as well as any additional applicable NBCRNA policies (e.g., please see NBCRNA's General Information and Policies Handbook).

All correspondence and requests for information should be sent to the NBCRNA at certification@nbcrna.com. *The NBCRNA does not discriminate on the basis of age, sex, race, religion, national origin, ethnicity, disability, marital status, sexual orientation, and gender identity.*

NBCRNA primary certification and recertification programs are accredited by the following organizations:

NBCRNA Overview

The National Board of Certification and Recertification for Nurse Anesthetists (NBCRNA) is a not-for-profit corporation organized under the laws of the state of Illinois. NBCRNA credentialing provides assurances to the public that certified individuals have met objective, predetermined qualifications for providing nurse anesthesia services. A nurse anesthetist who is certified by the NBCRNA is expected to respect basic human rights and the dignity of all patients; protect the patient from harm; advocate for the patient's welfare and collaborate with other members of the health professions; be responsible and accountable for his or her actions; maintain confidentiality of patient information, except when disclosure is required by law; and maintain the knowledge and skill necessary for competent nurse anesthesia practice.

While state licensure provides the legal credential for the practice of professional nursing, private voluntary certification indicates compliance with the professional standards for practice in this clinical nursing specialty. The certification credential for nurse anesthetists has been institutionalized in many position descriptions as a practice requirement or as the standard for demonstrating equivalency. It has been recognized in state nurse practice acts and state rules and regulations.

The primary purpose of the NBCRNA is to seek to ensure that nurse anesthetists have the necessary knowledge and skills to practice safely and effectively. In so doing, it also protects the value of the CRNA credential. The NBCRNA has designed objective criteria intended to determine whether an individual holding the NBCRNA-issued CRNA credential is properly licensed, has attested to engagement in the practice of nurse anesthesia; has participated in continuing education and other activities sufficient to indicate an effort to keep current with advances, and is free of any mental, physical, or other problems that may interfere with the practice of nurse anesthesia. Whenever program eligibility criteria are developed and/or revised, the NBCRNA engages multiple stakeholders to ensure appropriate consideration has been given as to the impact of NBCRNA decisions.

NCCA defines competence as "the ability to perform a task, function, or role up to a set of prescribed standards" (NCCA, 2014) and continuing competence as demonstrating "specified levels of knowledge, skills, or abilities not only at the time of initial certification but also throughout an individual's professional career" (NCCA, 2014). These concepts serve as the foundation underpinning the NBCRNA certification and continued certification programs.

Vision

The vision of the NBCRNA is to be recognized as the leader in advanced practice nurse credentialing.

Mission

The mission of the NBCRNA is to promote patient safety through credentialing programs that support lifelong learning.

History

The primary certification program for nurse anesthetists was introduced by the American Association of Nurse Anesthetists (AANA) in 1945. It was initially administered by the Credentials Committee of the AANA. In 1975, the AANA approved the establishment of councils for the accreditation and certification processes, and the Council on Certification of Nurse Anesthetists (CCNA) assumed the responsibility for the National Certification Examination (NCE). By this action, the profession recognized that credentialing mechanisms, which include examination and certification, function to protect and benefit the public.

Realizing that evidence of continued professional excellence was becoming increasingly important in our society, the AANA Board of Directors in 1968 directed the AANA Education Committee to study the issue of recertification. At the AANA Annual Meeting in 1969, a bylaw was adopted to establish an optional program to provide certificates to members who had demonstrated they had completed clinical and didactic experiences reflective of the changes in nurse anesthesia practice within a five-year period. Recognizing that continuing education provides one means to assess current educational and knowledge levels of practitioners, a mandatory continuing education program was adopted by the AANA membership at the 1976 Annual Meeting, with full implementation effective August 1, 1978.

In September 1978, the AANA membership adopted the bylaw revisions providing for an organizational restructuring of the Association and establishing a Council on Recertification of Nurse Anesthetists (COR). Bylaw provisions granting the COR autonomy were adopted in 1983. In 2007, the CCNA and the COR became independent of the AANA, and together they incorporated as the National Board of Certification and Recertification for Nurse Anesthetists (NBCRNA).

With its continued mission to promote patient safety, the NBCRNA implemented the Nonsurgical Pain Management subspecialty certification in 2015 and the Continued Professional Certification (CPC) Program in 2016.

Purpose

The purpose of the NBCRNA includes, but is not limited to, seeking to ensure that nurse anesthetists have the necessary knowledge and skills to practice safely and effectively. In so doing, it also protects the value of the CRNA credential. The NBCRNA is responsible for:

- Formulating, adopting and confirming compliance of initial and subspecialty certification eligibility requirements for nurse anesthetists

- Formulating, adopting and confirming compliance of recertification and continued professional certification (CPC) eligibility requirements for nurse anesthetists

- Formulating, adopting and confirming compliance of the requirements for eligibility for admission to NBCRNA-administered examinations including, but not limited to, the SEE, NCE, NSPM exam, and the CPC exam

- Formulating, adopting and administering NBCRNA-created examinations to candidates who have met all requirements for examination and have been found eligible

No national organization can expect to determine the specific procedures that any individual nurse anesthetist is qualified to perform. Neither can any national organization determine whether an individual nurse anesthetist may have developed an impairment that could interfere with the proper administration of anesthesia. Ultimately, these judgments must be entrusted to the individual nurse anesthetist and to those with whom he or she works.

Structure

The NBCRNA Board of Directors is composed of nurse anesthetists who hold the NBCRNA-issued CRNA credential and who are actively engaged in clinical practice or in teaching or administration of a nurse anesthesia educational program; a board-certified surgeon and a board-certified anesthesiologist, both of whom have a current working relationship with nurse anesthetists; and a representative of the public at large.

NCCA Accreditation

The primary certification and recertification programs of the NBCRNA are accredited through April 2022 by the National Commission for Certifying Agencies (NCCA), a private not-for-profit organization. The NCCA is the accrediting branch of the Institute for Credentialing Excellence (ICE), which is the national standard setting organization for credentialing groups, including certification boards, licensing boards, and associations. The NBCRNA (and before it, the CCNA and COR) has been continuously accredited by the NCCA since 1980.

NCCA accreditation means that the NBCRNA credentialing programs meet the highest national voluntary standards for private certification. It means that the programs have been reviewed by an impartial commission and deemed to have met the nationally accepted criteria and guidelines of the NCCA.

ABSNC Accreditation

The primary certification and recertification programs of the NBCRNA are accredited through July 2022 by the Accreditation Board for Specialty Nursing Certification (ABSNC) of the American Board of Nursing Specialties (ABNS). The NBCRNA (and before it, the CCNA and COR) was one of the first national credentialing organizations to be recognized and accredited by the ABSNC.

The ABNS, established in 1991, is the national peer review program for specialty nursing credentialing organizations. ABNS serves as the national umbrella organization for nursing specialty certification boards authorized and recognized to certify nurse specialists in the United States. It promotes the highest quality of specialty nursing practice through the establishment of standards of professional specialty nursing certification.

Examination Information

Purpose of the SEE

The NBCRNA Self-Evaluation Examination (SEE) has three objectives: 1) to provide information to students about their progress in the nurse anesthesia educational program; 2) to provide information to program administrators on how well their programs are preparing students with the knowledge they need for anesthesia practice; and 3) to prepare students for the National Certification Examination (NCE) experience. To meet these objectives, the examination has specifications similar to those of the NCE, is administered under secure conditions, and has a reporting system designed to provide maximum feedback to students and program administrators.

Requirements

All students currently enrolled in an accredited nurse anesthesia educational program who are more than 30 days from expected date of graduation are eligible to be registered for the SEE. Once registered, a student will receive an official NBCRNA eligibility notification by email that indicates the eligibility expiration date to take the SEE. A student must test prior to that date. If a student was enrolled in a nurse anesthesia educational program at the time he or she was registered to take the SEE and subsequently is dismissed from the program, he or she is no longer eligible to take the SEE. Students are not allowed to take the SEE after the official completion date of their nurse anesthesia educational program.

Description of the SEE

The SEE is a computerized adaptive test that is intended to help both students and programs identify their respective strengths and weaknesses before students take the NCE. The SEE includes multiple-choice questions and alternative question formats such as multiple correct response, calculations, hotspot, and drag and drop. The Certification page of the NBCRNA website contains an Exam Tutorial as well as two documents located in the Item-writing section with samples and frequently asked questions about the alternative question format.

The questions are presented one at a time on a computer screen. Each question can be viewed for as long as the student wishes, but he or she cannot go back to previous questions once an answer has been recorded.

All students must answer a total of 240 questions during the four-hour testing period. The examination will stop when all the questions have been presented or the four-hour time limit is reached.

The four content areas tested on the SEE are 1) Basic Sciences; 2) Equipment, Instrumentation and Technology; 3) Basic Principles of Anesthesia Practice; and 4) Advanced Principles of Anesthesia Practice.

The Self-Evaluation Examination Subcommittee is appointed by the NBCRNA Board of Directors and is composed of a representative group of certified registered nurse anesthetists. The subcommittee writes test questions and reviews all questions before they are used on the examination.

Administration

The NBCRNA assumes responsibility for the examination content outline and test specifications, and maintains and approves an item bank of approved test questions for administration. The NBCRNA has contracted with Pearson VUE to provide administration of the examination.

Examination Content Outline

The content outline for the SEE reflects the curriculum requirements adopted in March 2004 by the Council on Accreditation of Nurse Anesthesia Educational Programs (COA).

The content outline that follows is provided to assist students in preparing for the SEE. It is only a guide that suggests topics and topic areas used to generate and categorize examination questions. It is not all-inclusive, as some elements apply to more than one area. The percentage of questions in each major content area is also noted.

Examination Content Outline

I. Basic Sciences (25%)

A. Anatomy, physiology and pathophysiology

1. Cardiovascular
  a. Dysrhythmia
  b. Ischemic heart disease/angina
  c. Myocardial infarction
  d. Hypertension
  e. Congestive heart failure
  f. Endocarditis
  g. Valvular heart disease
  h. Cardiomyopathy
  i. Peripheral vascular disease
  j. Congenital heart disease
  k. Pericardial diseases

2. Respiratory
  a. Bronchitis
  b. COPD/emphysema
  c. Asthma
  d. Pneumonia
  e. Tuberculosis
  f. Pulmonary embolism
  g. COR pulmonale
  h. Pulmonary hypertension
  i. Upper respiratory tract infection
  j. Acidosis
  k. Adult respiratory distress syndrome
  l. Epiglottitis
  m. Sleep apnea

3. Central nervous system
  a. Seizures
  b. CVA
  c. Hydrocephalus
  d. Parkinson's
  b. Sickle cell/hemoglobinopathies
  e. Multiple sclerosis
  f. Myasthenia gravis
  g. Alzheimer's/dementia
  h. Demyelinating disease
  i. Intracranial hypertension
  j. Intracranial tumor
  k. Intracranial aneurysm
  l. Autonomic hyperreflexia
  m. Neuropathy/myopathy
  n. Psychiatric disorders
  o. Cerebral palsy
  p. Spinal cord injury

4. Muscoloskeletal
  a. Fractures
  b. Rheumatoid arthritis
  c. Lupus erythematosus
  d. Muscular dystrophy
  e. Scoliosis
  f. Malignant hyperthermia

5. Endocrine
   a. Diabetes mellitus
   b. Diabetes insipidus
   c. Hypo/hyperthyroidism
   d. Cushing's disease
   e. Addison's disease
   f. Pituitary dysfunction
   g. Parathyroid dysfunction
   h. Pheochromocytoma
   i. Acromegaly
   j. hypo/
      hyperaldosteronism

6. Hepatic
   a. Hepatitis
   b. Cirrhosis
   c. Hepatic failure
   d. Porphyria

7. Renal
   a. Kidney stones
   b. Acute renal failure
   c. Chronic renal failure
   d. Uremia
   e. Nephritis

8. Hematologic
   a. Anemia
   b. Sickle cell/hemoglobinopathies
   c. Polycythemia
   d. Platelet disorders
   e. Hemophilia
   f. Von Willebrand's disease
   g. Disseminated intravascular
      coagulation

9. Gastrointestinal
   a. Peptic ulcer disease
   b. Ulcerative colitis
   c. Diaphragmatic hernia
   d. Hiatal hernia
   e. Gastroesophageal reflux
      disorder (GERD)
   f. Gallstones/gall bladder
      disease
   g. Pancreatitis
   h. Carcinoid syndrome
   i. Pyloric stenosis
   j. Bowel obstruction

10. Immune
   a. Allergic responses and
      anaphylaxis

   b. AIDS/HIV
   c. Immunosuppression
   d. Latex allergy
   e. Sepsis
   f. Angioedema

11. Other conditions
   a. Abnormal lab tests
   b. Cancer
   c. Glaucoma
   d. Thermoregulation
   e. Trauma
   f. Shock
   g. Substance abuse (alcohol,
      tobacco, other)
   h. Airway difficulties
   i. Diagnostic data
      i. Chest X-ray
      ii. Pulmonary function tests
      iii. Echocardiogram
      iv. Cardiac catheterization
      v. CAT/MRl
      vi. Ultrasound
      vii. Electrocardiogram
      viii. Stress tests
   j. Burns

B. Pharmacology

1. General principles
   a. Pharmacodynamics
   b. Pharmacokinetics
   c. Anaphylaxis
   d. Drug interactions
2. Inhalation anesthetics
   a. Nitrous oxide
   b. Isoflurane
   c. Desflurane
   d. Sevoflurane
3. Intravenous agents
   a. Barbiturates
      i. Thiopental
      ii. Methohexital
   b. Opioid agonists
      i. Morphine
      ii. Fentanyl
      iii. Alfentanil
      iv. Sufentanil
      v. Meperidine
      vi. Remifentanil
      vii. Hydromorphone
   c. Opioid agonist-antagonists
      i. Nalbuphine

      ii. Butorphanol
   d. Benzodiazepines
      i. Diazepam
      ii. Midazolam
      iii. Lorazepam
   e. Other sedative/hypnotics
      i. Propofol
      ii. Ketamine
      iii. Etomidate
   f. Dexmedetomidine
4. Local anesthetics
   a. Procaine
   b. Chloroprocaine
   c. Tetracaine
   d. Cocaine
   e. Benzocaine
   f. EMLA
   g. Bupivacaine
   h. Lidocaine
      i. Mepivacaine
      j. Ropivacaine
   5. Muscle relaxants
      a. Succinylcholine
      b. Pancuronium
      c. Vecuronium

   d. Atracurium
   e. Rocuronium
   f. Cisatracurium
6. Antagonists
   a. Edrophonium
   b. Neostigmine
   c. Naloxone
   d. Flumazenil
   e. Pyridostigmine
   f. Physostigmine
7. Neuraxial analgesics
   a. Opioids
   b. Clonidine
**8. Anticholinergics/
   Cholinergic agonists**
**9. Nonsteroidal
   Antiinflammatory Drugs**

**10. Miscellaneous oral
   analgesics**
   a. Acetaminophen
   b. Codeine
   c. Oxycodone
   d. Hydrocodone
   e. Tramadol

11. **Sympathomimetics**
12. **Digitalis and related drugs**
13. **Alpha and beta receptor antagonists**
14. **Antihypertensives**
    a. Sympatholytics
    b. Clonidine
    c. ACE inhibitors
    d. Angiotensin II receptor inhibitors
    e. Nitrovasodilators
    f. Nitric oxide
15. **Antidysrhythmics**
16. **Calcium channel blockers**
17. **Bronchodilators**
18. **Psychopharmacologic therapy**
    a. Selective serotonin reuptake inhibitors
    b. Tricyclic antidepressants
    c. MAO inhibitors
    d. Lithium
19. **Prostaglandins**
20. **Histamine receptor antagonists**
21. **Serotonin antagonists**
22. **Insulin**
23. **Oral hypoglycemics**
24. **Diuretics**
25. **Antacids**
26. **Gastrointestinal prokinetic Medications**
27. **Anticoagulants**
    a. Heparin
    b. Heparin reversal — protamine
    c. Low molecular weight heparins
    d. Oral anticoagulants
    e. Oral anticoagulants reversal
    f. Thrombolytics
    g. Thrombin inhibitors
28. **Antimicrobials**
29. **Chemotherapeutics**
30. **Antiepileptic drugs including gabapentin**
31. **Antiparkinsonian drugs**
32. **Drugs used to treat lipid disorders**
33. **Herbal remedies and dietary supplements**
34. **Minerals and electrolytes**
35. **Dantrolene**
36. **Corticosteroids**
37. **Tocolytics**
38. **Uterotonics**

C. Applied chemistry, biochemistry, physics

1. **Chemistry**
   a. Aqueous solutions and concentrations
   b. Acids, bases and salts
2. **Biochemistry**
   a. Hepatic metabolism
   b. Cellular mechanisms for action
   c. Drug receptor interaction
3. **Physics**
   a. Units of measurement
   b. Gases and gas laws
   c. Solubility, diffusion and osmosis
   d. Pressure and fluid flow
   e. Electricity and electrical safety
   f. Vaporization and humidification
   g. Measurement of oxygen, carbon dioxide and hydrogen ion

II. Equipment, Instrumentation and Technology (25%)

A. Anesthetic delivery systems

1. **High/low pressure gas sources**
2. **Regulators/manifolds**
3. **Flowmeters, valves, floats**
4. **Vaporizers**
5. **Proportioning systems**
6. **Pressure failure safety devices**
7. **Fail-safe devices**
8. **Ventilator**
9. **Carbon dioxide absorbent**
10. **Anesthetic circuits**
    a. Rebreathing, circle system
    b. Non-rebreathing
    c. Modified non-rebreathing
11. **Pneumatic and electronic alarm devices**

B. Airway equipment

1. **Face masks**
2. **Laryngoscope**
   a. Rigid
   b. Flexible/fiberoptic
   c. Videoscope
3. **Endotracheal tube**
4. **Endobronchial tube including double lumen tubes**
5. **Airways**
   a. Oral
   b. Nasal
6. **Tracheostomy tubes**
7. **Laryngeal mask airway**
8. **Intubating laryngeal mask airway**
9. **Jet ventilation**
10. **Lighted stylet**
11. **Other**
    a. Retrograde wire
    b. Eschmann catheter
    c. Combitube
    d. Cook exchange catheter

C. Monitoring devices

1. Central nervous system
   a. Evoked potential
   b. Intracranial pressure
   c. Modified EEG monitor (BIS, PSArray)
   d. Cerebral Oximetry
2. Cardiovascular
   a. Electrocardiogram
   b. Arterial pressure monitoring
   c. Noninvasive blood pressure monitoring
   d. Central venous pressure monitoring
   e. Pulmonary artery pressure monitoring/SvO2
   f. Cardiac output
   g. Precordial/esophageal stethoscope/Doppler
3. Pulmonary/airway monitoring
   a. Capnography
   b. Airway gas analysis
   c. Pulse oximetry
   d. Airway pressure
   e. Blood gas analysis
4. Peripheral nerve stimulator
5. Urinary output monitoring
6. Temperature monitoring
7. Maternal/fetal monitoring
8. Others
   a. Fluid/blood warmers
   b. Forced air warming blanket
   c. Heat and moisture exchanger (HME)
   d. Blood salvage (cell saver)

III.   Basic Principles of Anesthesia (25%)

A. Preoperative assessment and preparation of patient

B. Fluid/blood replacement

1. Fluid therapy (crystalloids and colloids)
2. Hemotherapy (blood component therapy)

C. Positioning (Technique, Physiologic Alterations, Complications)

1. Prone
2. Supine
3. Lithotomy
4. Lateral
5. Sitting
6. Beach chair
7. Trendelenburg
8. Reverse Trendelenburg

D. Interpretation of data

1. Lab tests
2. Diagnostic data
3. Intraoperative monitoring data

E. Airway management, including difficult airway

1. Mask
2. Cricothyrotomy
3. Fiberoptics
4. Intubation
5. Supralaryngeal management

F. Local/regional anesthetics (Technique, Physiologic Alterations, Complications)

1. Infiltration
2. Topical
3. Regional blocks
   a. Subarachnoid
   b. Epidural
   c. Combined spinal/epidural
   d. Caudal
   e. Brachial plexus
   f. Airway
   g. IV regional (Bier)
   h. Retrobulbar/peribulbar
   i. Ankle
   j. Digital
   k. Wrist
   l. Sciatic
   m. Femoral
   n. Popliteal
4. Ultrasound guided nerve block
5. Nerve stimulator guided nerve block

G. Monitored anesthesia care/conscious sedation

H. Pain management

1. Epidural analgesia
2. Infiltration nerve blocks
3. Intrathecal narcotics
4. PCA management

I. Other techniques

1. Hypotensive
2. Hypothermia

J. Postanesthesia care/respiratory therapy

K. Pain Theory (Anatomy, physiology and pathophysiology

IV.   Advanced Principles of Anesthesia (25%)

A. Surgical procedures and procedures related to organ systems

1. Intra-abdominal
   a. Gall bladder
   b. Liver
   c. Pancreas
   d. Spleen
   e. Stomach
   f. Renal
   g. Diaphragm
   h. Intestine
   i. Herniorrhaphy
   j. Bladder
   k. Abdominal/gyn
   l. Prostatectomy
   m. Laparoscopy
   n. Bariatrics
2. Extrathoracic
   a. Breast biopsy
   b. Mastectomy
   c. Plastic and/or reconstructive
3. Extremities
   a. Lower
   b. Upper
   c. Total joint replacements
   d. Vein stripping
4. Genital and urologic
   a. Transurethral resection
   b. Cystoscopy
   c. Dilatation and curettage
   d. Hysterectomy
   e. Hysteroscopy
   f. Anal/rectal
   g. Penis/testes
5. Head
   a. Extracranial
      i. Cranioplasty
      ii. Rhizotomy
      iii. Ear
      iv. Eye
      v. Face
      vi. Nose
   b. Intracranial
      i. Decompression (burr holes)
      ii. Space-occupying lesion
      iii. Vascular
      iv. Transsphenoidal hypophysectomy
      v. Stereotactic procedures
   c. Oropharyngeal
      i. Fractures
      ii. Reconstructive
      iii. Orthodontic/dental
      iv. Pharynx
      v. Reconstructive and/or plastic surgery
6. Intrathoracic
   a. Diaphragm
   b. Esophagus
   c. Heart
   d. Lung
   e. Mediastinoscopy
   f. Thoracoscopy
7. Neck
   a. Cervical spine (anterior and posterior approach)
   b. Larynx/trachea
   c. Lymph node biopsies
   d. Parathyroid/thyroid
   e. Neck tumors
   f. Radical neck
      g. Rigid laryngoscopy
      h. Tracheotomy
      i. T&A
8. Neuroskeletal
   a. Laminectomy
   b. Fusions
   c. Spinal cord procedures
   d. Surgical sympathectomy
   e. Vertebroplasty
9. Vascular
   a. Carotid
   b. Thoracic
   c. Abdominal
   d. Upper extremity
   e. Lower extremity
   f. Porto-systemic shunts
   g. Renal artery
   h. Vena cava filter
      a. Trauma
      b. Burns
      c. Resuscitation
      d. Pacemakers
      e. Lithotripsy
      f. Organ transplants
      g. Organ harvest
         i. Living donor
         ii. Cadaver
      h. Laser
      i. Endovascular procedures
10. Diagnostic/therapeutic
   a. Venous/arterial catheterization
   b. Cardioversion
   c. CAT scan
   d. MRI
   e. Electroconvulsive therapy

f. Interventional radiology
g. Electrophysiology
h. Steroid therapy
i. Radiation therapy

j. Endoscopy
k. Bronchoscopy
l. Esophagoscopy/gastroscopy

11. Management of other

complications
a. Anesthetic
b. Surgical

12. Other surgical procedures

B. Pediatrics

1. Anatomy, physiology and pathophysiology
a. Normal
b. Prematurity

c. Congenital anomalies

2. Pharmacology

3. Anesthesia techniques/procedures

4. Management of complications

C. Obstetrics

1. Anatomy, physiology and pathophysiology
2. Pharmacology
3. Anesthesia techniques/procedures
a. Caesarean section
b. Vaginal delivery

c. Labor epidurals
d. Intrathecal
e. Postpartum tubal ligation
f. Vaginal birth after caesarean section

g. High risk
h. Non-obstetric surgery in the parturient

4. Management of complications

D. Geriatrics

1. Anatomy, physiology and pathophysiology
2. Pharmacology

3. Anesthesia techniques/procedures

4. Management of complications

E. Obesity

1. Anatomy, physiology and pathophysiology
2. Pharmacology

3. Anesthesia techniques/procedures

4. Management of complications

References for Review

The principal anesthesia textbooks used in nurse anesthesia educational programs should provide information related to all the major content areas on the SEE. Research articles and review books are not used as references.

Registration Information

Examination Dates and Application Deadlines

The SEE is offered year round. A student currently enrolled in a nurse anesthesia educational program may be registered to take the SEE. The SEE may be taken after the student has been registered by the program administrator and received an eligibility notification via email from the NBCRNA. The

program administrator should submit the online registration and fees no later than 60 days in advance of the timeframe in which the program administrator would like the students to take the test.

Fees

The SEE fee is **$160 per student per examination.** All fees must be paid electronically before the online registration created by the program administrator can be processed. Institutional checks, personal checks or money orders will not be processed. The NBCRNA does not directly invoice individuals or institutions for payment of any examination fees.

Application Process

The process for online registration and payment of fees is in the Program Administration section of the Certification page on the NBCRNA website. It is the responsibility of the program administrator to create the SEE registration online for the student; however, the registration cannot be processed until all fees have been paid.

Notification of Student Eligibility

After one or more students in the nurse anesthesia educational program have been registered and have paid for the examination, the registrations are reviewed and processed by the NBCRNA. Notification of eligibility is sent to each student by the NBCRNA via email after the registration has been processed. The information in the eligibility notification is used to schedule an appointment to take the SEE with Pearson VUE, via either its website or its Candidate Call Center. Upon receipt of the eligibility notification from the NBCRNA, the student should make sure his or her first and last names are spelled correctly and match the two forms of acceptable identification for admission to the test center. The NBCRNA should be contacted immediately by email at certification@nbcrna.com with any necessary corrections.

Change of Name or Address

The name that was used to register the student for the SEE is the name that is submitted to Pearson VUE on the eligibility file. When the student appears at the test center, the first and last names as they appear on the original NBCRNA eligibility notification **and** two pieces of identification (both bearing a signature and one bearing a photo) must all match. Students will not be allowed to take the SEE if their identification does not have the same first and last names as on their eligibility file at the test center. Name or address changes are not accepted at the test center. If a student changes his or her name and/or address after the eligibility notification has been sent, the NBCRNA should be notified immediately via email at certification@nbcrna.com of the change.

Reasonable Accommodations for Persons with Documented Disabilities

A student with a documented disability may request a reasonable accommodation for the SEE by submitting his or her request and supporting documentation in writing to the NBCRNA when the program administrator submits the SEE application, or as soon as the student learns of the need for the accommodation. Students must submit documentation from a licensed health care provider who specializes in evaluating and treating the specific disability for which the accommodation is being requested. The documentation must be on the health care provider's letterhead, and must include a description of the evaluative process used in determining the disability and any testing modifications that are being requested (e.g., reduced distraction room). An official letter from the program administrator documenting the types of accommodation provided during the nurse anesthesia educational program is required.

The NBCRNA will work directly with the student and Pearson VUE to attempt to make reasonable modifications in the testing environment and procedures to make it possible for a student with a documented disability to take the examination under conditions that will accurately reflect the student's aptitude or achievement level. The inability to read English is not considered a disability and does not make a student eligible for accommodations.

Scheduling Information

The eligibility notification contains detailed information about scheduling an appointment with Pearson VUE to take the SEE. This information will include the expiration date of the student's eligibility for the SEE. Appointments cannot be scheduled before the student receives the eligibility notification via email from the NBCRNA or after the expiration date. Scheduling appointments to take the SEE is between the student and Pearson VUE directly; the NBCRNA will not intervene in these arrangements. A confirmation number for the scheduled appointment will be given to the student by Pearson VUE and should be retained until the SEE has been taken. Students should be aware that not all test centers are open seven days a week, operate on the same schedule, or have the same seating capacity. Pearson VUE usually schedules appointments at least two weeks in advance. **No refunds will be made if a student is unable to schedule the exam before his or her eligibility expiration date.** Students must take the exam prior to their eligibility expiration date or no later than 30 days prior to the official completion date of the nurse anesthesia educational program, whichever comes first. **No students will be allowed to test after the completion date of their nurse anesthesia educational program.**

Refunds for Cancellations and No-Shows

There are no refunds issued for **any of** the following reasons: 1) not scheduling the exam; 2) canceling a scheduled examination less than 48 hours in advance of the date and time of the scheduled appointment; 3) arriving more than 15 minutes after the scheduled starting time for the test; 4) failing to appear for the scheduled test; or 5) not taking the SEE on or before the eligibility expiration date. A new online registration must be created by the program administrator and payment of the fee for the SEE must be submitted to the NBCRNA before the student is eligible to reschedule the examination. The previous application fee cannot be applied to another examination.

If the student experiences an emergency, he or she must provide the NBCRNA with a written description and documentation for review. Requests must be submitted within 48 hours of the

scheduled test date. **NOTE: Recording the wrong date or time for the scheduled appointment or forgetting to bring the required current, valid identification is not considered an emergency.**

Examination Administration

Admission to the Test Center

Students arriving at the test center will be asked for the following before admission to the test: presentation of two separate forms of **current,** valid identification (ID), both of which must bear a signature and one of which must bear a photo. The photo ID can be a current government-issued ID such as a passport, driver's license, state ID or military ID; an unexpired school ID or employee ID; or a valid RN license. Both pieces of ID must have the same first and last names as they appear on the SEE eligibility notification sent via email by the NBCRNA. Students who appear without the specified identification will not be permitted to take the SEE and will be required to reapply and pay the full examination fee in order to receive a new eligibility notification.

Admission Procedures

After the initial verification of identity, the student will be asked to sign a roster, to place both palms on a palm vein scanner and have his or her photo taken. The use of biometric technology at Pearson VUE test centers for added security is part of the admission procedures for all NBCRNA examinations.

Electronic devices (including but not limited to cell phones, tablets and e-readers), reference books, notes and other study materials may not under any circumstances be brought into the test center. Personal belongings (including bags, watches and wallets) may not be taken into the testing room; they must be stored in designated areas. An erasable note board will be available at the test center for use during the examination; scratch paper is not permitted.

Test Center Environment

It is unlikely that a student will be the only person taking an examination in the test room. Individuals taking other examinations may be present. Some examinations may require full use of the computer keyboard, and there may be accompanying keyboard noise. In addition, Pearson VUE personnel and other individuals may leave and enter the test room during the student's test period.

Test centers will make every effort to keep movement of personnel and noise levels to a minimum during examination administrations. However, if a student believes that noise may be a distraction, he or she should request earplugs at the test center to use during the SEE. Individual test rooms are not available at test centers.

Students with a documented disability shown to require accommodations should refer to the "Reasonable Accommodations for Persons with Documented Disabilities" section within this handbook.

Taking the Test

At the beginning of the SEE, a Statement of Confidentiality and Nondisclosure Agreement will appear that students must read, acknowledge and agree to. If the student does not indicate agreement, he or she will not be allowed to begin the SEE, and will have to contact the NBCRNA in writing for reauthorization and pay the $75 reauthorization fee. The content of the SEE, and each individual SEE question, is the property of the NBCRNA, is copyrighted and is strictly confidential information. The retention, possession, copying, distribution, disclosure, discussion or receipt of any SEE question, in whole or in part, by written, electronic, oral or other form of communication, including but not limited to emailing, copying or printing of electronic files, and reconstruction through memorization and/or dictation, before, during or after the SEE is strictly prohibited.

Students should read the directions for entering responses carefully before beginning the test. There is a tutorial with practice questions. There is a "help" screen that can be referred to at any time during the SEE to refresh the student's memory as to how to enter responses. At any time before or after the SEE, students may request help regarding the use of the computer.

Questions are presented one at a time on the computer screen. Each question must be answered as it is presented. The question on the screen must be answered before the candidate can move on to the next screen. Students should consider each answer carefully and make their best choice.

Once a student confirms an answer and goes on to the next question, he or she is not allowed to go back to any previous questions. Psychometric research has shown that, in general, candidates do not significantly improve their scores by reviewing and changing answers.

Improper Behavior at the Examination

During the SEE, the performance of all students will be monitored. Any student who gives or receives assistance, or otherwise engages in dishonest or improper behavior during the SEE, will be required to cease taking the SEE and leave the test center. The test center personnel will notify the NBCRNA office of any improper behavior during the SEE.

After reviewing a reported incident, the NBCRNA will determine whether there is reason to believe that a student has engaged in cheating or other improper behavior, or has otherwise violated the security of the SEE. If the NBCRNA determines that there is a reason to so believe, it may, at its discretion, determine what action should be taken.

Post Examination

Improper Behavior After the Examination

The content of the SEE, and each individual SEE question, is the property of the NBCRNA, is copyrighted and is strictly confidential information. The retention, possession, copying, distribution, disclosure, discussion, or receipt of any SEE question, in whole or in part, by written, electronic, oral, or other forms of communication, including but not limited to emailing, copying, or printing of electronic files, and reconstruction through memorization and/or dictation, before, during, or after the

SEE is strictly prohibited and may result in disciplinary action, assessment of monetary damages, and legal liability.

Candidates who are aware of improper behavior should report it to NBCRNA's anonymous, third-party tip line at 844-703-1790 or https://nbcrna.tnwreports.com/.

Sanctions for Improper Behavior

Any student may be disqualified from taking or continuing to sit for an examination, or from receiving examination scores, if the NBCRNA determines, through proctor observation, statistical analysis or any other means, that he or she was engaged in collaborative, disruptive, or other irregular behavior before, during the administration of, or following the examination.

The consequences of engaging in irregular behavior may include, but are not limited to, the following:

- Loss of eligibility to take the NCE in the future

- Invalidation of examination results

- Assessment of monetary damages

Any student who engages in such improper behavior also may be subject to legal action for monetary damages.

Problems at the Test Center

Students will have access to a proctor at the test center. As a rule, if a problem occurs with the computer and the student has to restart his or her test on the scheduled test day, the test will be resumed at the point of interruption since the questions and answers are saved. However, if the test cannot be resumed on the same day and the student has to reschedule his or her test, a new test will be administered. There will be no charge to the student for rescheduling a test if the problem was caused by circumstances at the Pearson VUE test center.

Problems encountered by the student related to admission or administration of the SEE, including any problems related to conditions at a testing center, must be reported immediately at the test center before leaving, and as soon as possible, but no later than three days after the examination, by email to the NBCRNA office at certification@nbcrna.com. Reports to the NBCRNA must include the student's full name and address, as well as a description of the conditions that caused the problem(s) at the test center. After reviewing a report of a problem at a test center, the NBCRNA may, at its discretion, determine whether a new SEE should be administered or another action should be taken. Reports submitted from a program administrator will be considered only if they are timely and are accompanied by the student's report. **The NBCRNA will not consider notice of test administration problems that are received more than three days after the examination date.**

Notification of Examination Results

Students: Students will receive their test results at the test center when they check out. The student SEE results report contains the following information: 1) the percentage of items from each content area; 2) a scaled score for the total test; and 3) a scaled score for all four content areas. Students may obtain the Interpretive Guide with cumulative frequency distributions to determine their percentile rank in each area from the SEE Resources section located on the Certification page of the NBCRNA website.

Results will not routinely be given over the telephone, by fax or by email. The release of results to any other persons requires the written authorization of the examinee.

The only information available to students regarding the SEE is that which is provided on the results report. The NBCRNA does not provide tests for review or a list of the questions answered incorrectly.

Failure to receive the report of test results at the test center should be reported to the NBCRNA by email at certification@nbcrna.com.

Program Administrators: Program administrators may obtain a list of all their students' scores from the NBCRNA online system. The Interpretive Guide contains cumulative frequency distributions for determining percentile ranks in each area and is located in the Reports section of the Program Administration area on the Certification page of the NBCRNA website.