

NSPM Handbook

**NONSURGICAL PAIN MANAGEMENT (NSPM)
SUBSPECIALTY CERTIFICATION**

TABLE OF CONTENTS

NBCRNA Overview	4
Vision	4
Mission	4
History	5
Purpose	5
Structure	6
NCCA Accreditation	6
ABSNC Accreditation	6
NSPM Program Overview	7
Requirements for NSPM Subspecialty Certification	7
Eligibility Criteria for Initial NSPM Certification	8
Application for NSPM Credential	9
Examination Eligibility Period	12
Notification of Candidate Eligibility	12
Significance of Eligibility Status	12
Ineligibility to Take the NSPM Exam	12
Expiration of Eligibility Status	12
Denial, Suspension or Revocation of Eligibility Status	13
Recognition of NSPM Subspecialty Certification by the NBCRNA	14
Denial, Suspension or Revocation of Subspecialty Certification	14
NSPM Continued Subspecialty Certification	15
Examination Information	17
Purpose of the NSPM Examination	17
Description of the Examination	17
Administration	17
Examination Content	18
References for Review	18
Registration Information	19
Examination Dates	19
Fees	19
Change of Name and Address	19
Reasonable Accommodation for Persons with Documented Disabilities	19
Scheduling Information	20
Refunds for Cancellations and No-Shows	21
Examination Administration	22
Admission to the Test Center	22
Admission Procedures	22
Test Center Environment	22
Taking the Test	22
Examination Length	23
Improper Behavior in Connection with the Examination	23

Post Exam	25
Improper Behavior After the Examination	25
Problems at Test Centers	25
Report of Examination Results	25
Notification of Examination Results	25
State Boards of Nursing	26
Verification of Examination Results	26
Reapplication Procedures	26
Policies and Procedures for Discipline, Administrative Action and Appeals	27
References	28

Note: Where used in this Handbook, the phrases “irregular behavior” or “improper behavior” refer to (1) provision of false or incomplete information to the NBCRNA in relation to the credentialing process; (2) violation of any of the rules or regulations governing any NBCRNA examination or assessment; or (3) engaging in any activity which is grounds for disciplinary action as described in the NBCRNA Policies and Procedures for Discipline, Administrative Action and Appeals.

This publication contains information about NBCRNA’s Nonsurgical Pain Management Program. Nurse anesthetists 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 concerning the NSPM subspecialty credential administered by the NBCRNA should be sent to the NBCRNA at support@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 continued certification reaccredited 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 their 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 at a level that meets or exceeds prescribed standards in the workplace” (NCCA, 2016) and continuing competence as demonstrating “specified levels of knowledge, skills, or ability throughout an individual’s professional career” (NCCA, 2016). 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. In 2023 the NBCRNA Board of Directors modified the continuing certification program to incorporate longitudinal assessment, making the NBCRNA the first nursing certification program to do so. In 2024, the NBCRNA launched the Maintaining Anesthesia Certification (MAC) Program, which incorporated longitudinal assessment.

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 Continued Professional Certification (CPC) eligibility requirements for nurse anesthetists.
- Formulating, adopting and confirming compliance of Maintaining Anesthesia Certification (MAC) eligibility requirements for nurse anesthetists.
- Formulating, adopting and confirming compliance of the requirements for eligibility for admission to NBCRNA-administered examinations or assessments including, but not limited to, the SEE, NCE, NSPM exam, the CPC Assessment (CPCA), and MAC Check.
- Formulating, adopting and administering NBCRNA-created examinations or assessments to candidates who have met all requirements for examination or assessment 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 they work.

Structure

The NBCRNA is managed by a Board of Directors who are recognized as leaders in nurse anesthesia and related fields. The members of the Board are certified registered nurse anesthetists, as well as a board-certified surgeon and anesthesiologist, both of whom have a current working relationship with nurse anesthetists, and a representative of the public at large. Members of the Board are elected to serve staggered three-year terms. Two of the CRNA Board Directors are elected by currently certified CRNAs through an open election following a call for applications.

NCCA Accreditation

The primary certification and continued certification programs of the NBCRNA are accredited through April 30, 2027 by the National Commission for Certifying Agencies (NCCA), a private not-for-profit organization, and the Nonsurgical Pain Management (NSPM-C) credential program of the NBCRNA is accredited by NCCA through April 30, 2027. 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 continued certification programs of the NBCRNA are accredited through July 1, 2027, by the Accreditation Board for Specialty Nursing Certification (ABSNC) of the American Board of Nursing Specialties (ABNS), and the Nonsurgical Pain Management (NSPM-C) credential program of the NBCRNA is accredited by ABSNC through August 1, 2027. The NCCA is the accrediting branch of the Institute for Credentialing Excellence. 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.

NSPM PROGRAM OVERVIEW

The subspecialty practice of Nonsurgical Pain Management (NSPM) for nurse anesthetists has been evolving and expanding. In 2011, the Institute of Medicine (IOM) released a report titled, “Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education and Research,” (IOM, 2011) estimating the number of Americans experiencing chronic pain to be about 100 million. As a mechanism to address this growing societal need for pain care, the IOM report recommended increasing the number of health professionals with advanced expertise in pain care.” Recognizing society’s need for qualified NSPM practitioners, the NBCRNA has developed the voluntary nonsurgical pain management subspecialty credential for nurse anesthetists. The NSPM credential program measures the knowledge, skills, and abilities of NBCRNA-certified registered nurse anesthetists for practice in the NSPM arena. The NSPM credential is an entry-level subspecialty credential that requires advanced, subspecialty knowledge beyond that required for initial certification of nurse anesthetists.

Consistent with the NBCRNA’s mission, the NSPM subspecialty credential promotes patient safety by enhancing provider quality and encourages provider lifelong learning. Through the process of obtaining the NSPM credential, the NSPM practitioner is able to demonstrate their advanced knowledge and skills in the subspecialty area.

Through an extensive NSPM practice analysis and multiple reviews by subject matter experts, the NBCRNA has developed the NSPM subspecialty certification criteria. The foundations for the NSPM subspecialty credential are based on the Clinical Competence model initially developed by George E. Miller and integrate cognitive and behavioral skills with a practitioner’s expertise level (Miller, 1990).

NSPM is defined by the NBCRNA as the administration of neural or neuraxial blockade, physiological, pharmacological, and psychological techniques and modalities for the management of acute and chronic pain outside the obstetrical and operating room areas. This may include the assessment, planning, implementation, and evaluation of multimodal approaches in providing patient care.

Nurse anesthetists who train under qualified providers, learn comprehensive pain assessment and evaluation, use this knowledge to formulate and focus differential diagnoses into appropriate plans for intervention and management, are currently certified by the NBCRNA, and meet all other specified criteria, are eligible to apply for the NSPM credential. A nurse anesthetist who passes the NSPM examination, fulfills the other requirements for subspecialty NSPM certification, and is granted certification by the NBCRNA may use “NSPM-C” after their name. NSPM-C stands for nonsurgical pain management-certified. NSPM-C is not punctuated with periods. These pain specialists are expected to work both independently and/or interprofessionally, as indicated, to fulfill the needs of the patients they manage.

NSPM certification is time-limited and must be renewed. Individuals who successfully obtain the NSPM credential and are certified in this subspecialty will be required to demonstrate continued subspecialty certification every four years in order to maintain use of the NSPM-C credential. Since 2016, individuals’ continued subspecialty certification has been in alignment with their continued professional certification (CPC) program cycle.

Requirements for NSPM Subspecialty Certification

The NBCRNA has established the following requirements for certification. The candidate must:

- Fulfill all eligibility requirements for admission to the NSPM exam.
- Pass the NSPM exam.

Eligibility Criteria for Initial NSPM Certification

In order to become certified in NSPM, an applicant must comply with all of the following requirements:

- Document full NBCRNA certification, CPC Compliance, or MAC Compliance.
- Provide documentation of current compliance with all state requirements for licensure as a registered nurse performing nurse anesthesia, including a current unrestricted license to practice as a registered professional nurse, with authority to practice nurse anesthesia if such authority is granted, in at least one state and in all states in which the applicant currently holds an active license. For those individuals employed by the United States government, “state requirements” refer to the requirements of any state or territory of the United States.
- Document two years of nurse anesthesia clinical experience at the time of NSPM application, and attest to active engagement in nurse anesthesia clinical practice at the time of NSPM application.
- Provide information regarding completion of educational activity that has been approved for CE credit by an accredited approval organization, and that demonstrates acquired knowledge in each of the following areas within the immediate prior four years from the date of application:
 - Anatomy, physiology and pathophysiology of pain.
 - Safety and equipment.
 - Assessment, diagnosis, and plan of care.
 - Pharmacology.
 - Interventional pain strategies.
 - Professional aspects.
- Successfully complete an assessed NSPM cadaver course or an assessed NSPM simulation course.
- Submit a practice portfolio of three (3) letters of reference to include:
 - **For fellowship trained applicants**, one (1) signed letter of reference from an administrative faculty from their fellowship program, who can attest to the knowledge, skills and abilities identified as necessary for successful program completion and two (2) signed letters of support from credentialed individuals who are qualified to perform in the role of nonsurgical pain management and who have observed the applicant’s NSPM technique and/or outcomes. The letters of support should describe the applicant’s evidence of competence in patient evaluation and findings, NSPM techniques, safe needle placement and post-care assessment.
 - **For applicants who have not completed a fellowship, but who qualify for NSPM certification**, three (3) signed letters of support from credentialed individuals who are qualified to perform in the role of nonsurgical pain management and who have observed the applicant’s NSPM technique and/or outcomes. The letters of support should describe the applicant’s evidence of competence in patient evaluation and findings, NSPM techniques, safe needle placement and post-care assessment.
- Successfully complete the NBCRNA-administered NSPM subspecialty certification examination
- Make the following certifications:
 - That all current registered nurse licenses are in good standing, are not suspended or limited by any state, have never been surrendered or relinquished (whether voluntarily or involuntarily) and are not the subject of a pending action or investigation.

- That all current advanced nurse practice licenses are in good standing, are not suspended or limited by any state, have never been surrendered or relinquished (whether voluntarily or involuntarily) and are not the subject of a pending action or investigation.
- That they have not been adjudicated by a court or regulatory authority to be mentally or physically incompetent.
- That they do not currently suffer from substance use disorder (SUD) [drug or alcohol addiction or abuse], that is impacting their practice.
- That they have not been convicted of, or pleaded no contest to, a crime.
- That they have not engaged in unethical conduct.
- That their record of practice is accurate within the application, and that they are currently actively engaged in the practice of nurse anesthesia.
- That the application and all corresponding content being submitted is accurate.

If the candidate does not so certify, they must provide full documentation of the reasons therefore with sufficient specificity to allow the NBCRNA to evaluate the possible impact of the problem on the candidate's current ability to practice nurse anesthesia and NSPM, and to resolve the issue to the NBCRNA's satisfaction

- Sign the waiver of liability and agreement of authorization, confidentiality and nondisclosure statements clarifying that the individual has read, understands and intends to be legally bound by those statements.

Application for NSPM Credential

Obtaining the NSPM credential requires each applicant to submit the following materials to the NBCRNA in order to be eligible for the NSPM examination.

- **Application and Fee(s).** Every applicant must submit a completed, signed, electronic application, including the certification statements and the NBCRNA waiver of liability and agreement of authorization, confidentiality and nondisclosure statements.
 - Application materials must be received by the published NBCRNA deadline to be considered for the corresponding examination window.
 - Applications that are incomplete or not received by the deadline will be considered for the next available examination window.
- **Documentation of Licensure.** Every applicant must document that they have a current and unrestricted license to practice as a registered professional nurse, with authority to practice nurse anesthesia if such authority is granted, in at least one state and in all states in which the applicant currently holds an active license. For those individuals employed by the United States government, the license may be issued by any state or territory of the United States.

If the nursing license expires between the date the applicant submits an application and the date that the NSPM examination is taken, the candidate will be eligible, provided all of the other requirements for eligibility have been met. However, official NSPM results will NOT be released until the NBCRNA has received documentation that the nursing license was current on the date of the NSPM examination.

- **Documentation of Nurse Anesthesia Practice.** Every applicant must submit a record of practice setting forth:
 - A list of the facilities at which the applicant has practiced and currently practices clinical nurse anesthesia; a minimum of at least two years total of nurse anesthesia practice must be reported.
 - The inclusive dates of clinical practice at each facility.
 - The address of each facility listed.
 - The name, phone number, and email address of a contact person who can verify clinical practice at each facility.
- **Documentation of Education.** Every applicant must provide acceptable documentation of completion of approved educational activity that demonstrates acquired knowledge in each of the following areas within the immediate prior four years from the date of application:
 - Anatomy, physiology and pathophysiology of pain.
 - Safety and equipment.
 - Assessment, diagnosis and plan of care.
 - Pharmacology.
 - Interventional pain strategies.
 - Professional aspects.

Education documentation guidelines:

For AANA prior-approved courses:

Submit a copy of the official certificate of attendance or completion issued and signed by the provider that includes your name, provider name, program name, dates of program, CE credit awarded, and documentation that the program was approved by the AANA for continuing education credit.

For programs approved by another organization:

Submit professionally printed material that provides a detailed description of the program attended. Include an hourly schedule, and clearly mark all lectures that were attended. A copy of the official certificate of attendance or completion issued and signed by the provider that includes your name, provider name, program name, dates of program, CE credit awarded, and documentation of approval for CE credit by a recognized professional approval organization.

For courses completed through an accredited Pain Management Fellowship Program submit:

- **NSPM Fellowship Education Verification Form**
 - Contact fellowship program to request completion of the verification form
 - The completed form must be submitted by the program directly to the NBCRNA
- **Documentation of an assessed NSPM cadaver course or an assessed NSPM simulation course.** Every applicant must provide acceptable documentation of completion of an assessed NSPM cadaver course or an assessed NSPM simulation course. The candidate should use the education documentation guidelines listed in the previous item.

- **Practice Portfolio.** Every applicant must submit a practice portfolio consisting of three (3) signed letters of reference to include:
 - **For fellowship trained applicants,** one (1) signed letter of reference from an administrative faculty from their fellowship program, who can attest to the knowledge, skills and abilities identified as necessary for successful program completion and two (2) signed letters of support from credentialed individuals who are qualified to perform in the role of nonsurgical pain management and who have observed the applicant's NSPM technique and/or outcomes. The letters of support should describe the applicant's evidence of competence in patient evaluation and findings, NSPM techniques, safe needle placement and post-care assessment.
 - **For applicants who have not completed a fellowship, but who qualify for NSPM certification,** three (3) signed letters of support from credentialed individuals who are qualified to perform in the role of nonsurgical pain management and who have observed the applicant's NSPM technique and/or outcomes. The letters of support should describe the applicant's evidence of competence in patient evaluation and findings, NSPM techniques, safe needle placement and post-care assessment.

Each letter should be on the professional colleague's letterhead and include the author's name, signature, title and contact information (including email address and phone number); name of NSPM applicant; and identify the relationship between the author and the applicant and length of time that relationship has existed.

- Every applicant must submit information regarding the numbers and types of NSPM procedures completed, on average, annually. Applicant will be requested to provide information regarding the following:
 - Number of years practicing NSPM.
 - Number of patients per year.
 - Number of days in NSPM.
 - Number of epidural injections performed.
 - Number of sacroiliac joint injections performed.
 - Number of trigger point injections performed.
 - Number of ablative techniques performed.
 - Number of spinal cords stimulators inserted.
 - Number of discographies performed.
 - Number of vertebroplasty performed.
- **Candidate Identity.** Every applicant must submit a color digital photo (e.g., passport type) that is a true likeness of the applicant taken within the previous six months.

Examination Eligibility Period

NSPM candidates may take the NSPM up to two times within a calendar year. An application fee will be required each time the candidate applies for the NSPM examination.

Notification of Candidate Eligibility

Eligibility or ineligibility will be determined by NBCRNA, and eligibility notifications will be sent by the NBCRNA to a candidate after their application has been approved. This application approval process should be completed within approximately four weeks after receipt of all application materials.

Eligible candidates will receive an official NBCRNA NSPM subspecialty certification eligibility notification via email. The information in the notification is used to schedule an appointment to take the examination with Pearson VUE. All scheduling must be done by the candidate directly with Pearson VUE; the NBCRNA is not responsible for resolving scheduling conflicts. The certification eligibility notification expires on the last day of the testing window, or on the date on which the candidate takes the NSPM examination, whichever comes first.

Significance of Eligibility Status

A candidate who holds “NSPM certification eligible” status with the NBCRNA has successfully submitted an application for the NSPM examination and has been granted eligibility status to take the NSPM examination by the NBCRNA. The candidate with NSPM certification eligible status has NOT passed the NSPM examination required to be certified in NSPM and may not use the designation “NSPM-C” after their name.

Candidates should be aware of federal and state laws which may govern NSPM practice, and reimbursement for practice, prior to NSPM certification.

Ineligibility to Take the NSPM Exam

Candidates will be found ineligible to take the NSPM exam for any one or more of the following reasons:

- If, in the determination of the NBCRNA, the candidate is guilty of cheating on any prior exam or assessment.
- Failure to make the required eligibility certifications and to provide sufficient documentation to resolve the issue to the satisfaction of the NBCRNA.
- Failure to meet any of the other eligibility requirements, including failure to sign or accept the waiver of liability and agreement of authorization, confidentiality, and nondisclosure statements.

Expiration of Eligibility Status

Eligibility to sit for the NSPM examination lasts for a specific, defined testing window, or until the candidate takes the NSPM examination, whichever occurs first. Eligibility will expire on the last day of the testing window, or on the date that the candidate takes the NSPM examination.

If a candidate does not take the NSPM exam within the defined eligibility period, or takes and fails the NSPM exam, they will be required to reapply for eligibility to take the NSPM exam and resubmit the application fee.

Denial, Suspension or Revocation of Eligibility Status

The NBCRNA will automatically deny, suspend or revoke a candidate's eligibility to take the NSPM exam in the following circumstances:

- Failure by the candidate to maintain current and unrestricted licensure as a registered professional nurse in at least one state.
- Loss or surrender of licensure or other authority to practice nurse anesthesia in any state for any reason that, in the judgment of the NBCRNA, relates to the anesthetist's safe or ethical practice of nurse anesthesia.
- Adjudication by a court or regulatory authority that the candidate is mentally or physically incompetent.
- Suspension or termination from participation in a federal health care program for reasons relating to the unsafe, unlawful or unethical practice of nurse anesthesia.
- Conviction of or pleading no contest to a crime which, in the judgment of the NBCRNA, relates to the anesthetist's safe or ethical practice of nurse anesthesia.
- Failure by the candidate to successfully pass the NSPM exam within two years after initial application.

The NBCRNA may, at its discretion, deny, suspend or revoke, a candidate's eligibility to take the NSPM exam for any of the following reasons:

- Circumstances change so as to render one of the eligibility certifications made by the candidate invalid.
- Falsification of information, intentional misstatement of material fact or deliberate failure to provide relevant information on the examination application or to the NBCRNA at any time, or assisting another person to do any of the above.
- Provision of false or incomplete information to the NBCRNA in connection with the credentialing process.
- Failure by the candidate to maintain current and unrestricted licensure as a registered professional nurse in every state of practice.
- Loss or surrender of licensure or authority to practice nurse anesthesia in any state for any reason other than retirement or cessation of practice unrelated to any disciplinary action or concern about possible disciplinary action.
- Cheating or assisting another person to cheat on the NSPM exam, or otherwise engaging in dishonest or other improper behavior at any time in connection with any NBCRNA exam or assessment.
- Dishonest or deceptive behavior related to any NBCRNA examination, database, or intellectual property, cheating on an examination or assessment administered by the NBCRNA, inappropriate use of examination or assessment questions, or assisting another individual to engage in any such conduct.
- Unauthorized use of any NBCRNA credential or other health professional designation or false claim of certification or other professional designation.
- Violation of any NBCRNA policy or failure to cooperate with an NBCRNA investigation or audit.
- Engaging in unethical conduct.
- Conviction of, or pleading no contest to, a crime.

- Documented evidence of retention, possession, copying, distribution, disclosure, discussion, or receipt of any NBCRNA exam or assessment question, in whole or in part, by written, electronic, oral, or other form of communication, including but not limited to emailing, texting, electronically posting, copying, or printing of electronic files, and reconstruction through memorization and/or dictation, before, during or after the NBCRNA exam or assessment.
- Any other conduct that, in the judgment of the NBCRNA, calls into question the ability of the nurse anesthetist to serve patients in an honest, competent, and professional manner.

Recognition of NSPM Subspecialty Certification by the NBCRNA

Each nurse anesthetist who passes the NSPM exam and fulfills the other requirements for NSPM subspecialty certification by the NBCRNA may use “NSPM-C” after their name. The term stands for Nonsurgical Pain Management – Certified. NSPM-C is not punctuated with periods.

A NSPM-C nurse anesthetist receives access to an initial NSPM subspecialty certification card and wall certificate with their official notification of NSPM subspecialty certification by the NBCRNA.

A list of all newly NSPM certified nurse anesthetists is posted on the NBCRNA website.

Denial, Suspension or Revocation of Subspecialty Certification

The NBCRNA will automatically deny, suspend or revoke a candidate’s subspecialty certification for any of the following reasons:

- Failure by the candidate to maintain current and unrestricted licensure as a registered professional nurse in at least one state.
- Loss or surrender of licensure or other authority to practice nurse anesthesia in any state for any reason that, in the judgment of the NBCRNA, relates to the anesthetist’s safe or ethical practice of nurse anesthesia.
- Failure by the candidate to pass the NSPM exam.
- Suspension or termination from participation in a federal health care program for reasons relating to the unsafe, unlawful or unethical practice of nurse anesthesia.
- Adjudication by a court or regulatory authority that the candidate is mentally or physically incompetent.
- Conviction of or pleading no contest to a crime which, in the judgment of the NBCRNA, relates to the anesthetist’s safe or ethical practice of nurse anesthesia.

The NBCRNA may, at its discretion, deny, suspend or revoke a candidate’s certification for any of the following reasons:

- Circumstances change so as to render one of the eligibility certifications made by the candidate invalid.
- Falsification of the NSPM examination application, intentional misstatement of material fact or deliberate failure to provide relevant information on the examination application or to the NBCRNA at any time, or assisting another person to do any of the above.
- Provision of false or incomplete information to the NBCRNA in connection with the credentialing process.
- Failure by the candidate to maintain current and unrestricted licensure as a registered professional nurse in every state of practice.

- Loss or surrender of licensure or authority to practice nurse anesthesia in any state for any reason other than retirement or cessation of practice unrelated to any disciplinary action or concern about possible disciplinary action.
- Cheating or assisting another person to cheat on the NSPM examination, or otherwise engaging in dishonest or other improper behavior at any time in connection with any NBCRNA examination or assessment.
- Dishonest or deceptive behavior related to any NBCRNA examination or assessment, database, or intellectual property, cheating on an examination or assessment administered by the NBCRNA, inappropriate use of examination or assessment questions, or assisting another individual to engage in any such conduct.
- Unauthorized use of any NBCRNA credential or other health professional designation or false claim of certification or other professional designation.
- Violation of any NBCRNA policy or failure to cooperate with an NBCRNA investigation or audit.
- Conviction or pleading no contest to, a crime.
- Documented evidence of retention, possession, copying, distribution, disclosure, discussion or receipt of any NBCRNA examination or assessment question, in whole or in part, by written, electronic, oral or other form of communication, including, but not limited to, emailing, texting, electronically posting, copying or printing of electronic files and reconstruction through memorization and/or dictation, before, during or after any NBCRNA examination or assessment.
- Engaging in unethical conduct.
- Any other conduct that, in the judgement of the NBCRNA, calls into question the ability of the nurse anesthetist to serve patients in an honest, competent, and professional manner.

NSPM Continued Subspecialty Certification

A NSPM-C nurse anesthetist is required to apply for NSPM continued subspecialty certification within the required time frame after initial NSPM subspecialty certification. The criteria for NSPM continued subspecialty certification are as follows:

- Hold current, NBCRNA certification or CPC/MAC compliance as a nurse anesthetist.
- Hold a current NBCRNA NSPM-C credential.
- Provide documentation of current compliance with all state requirements for licensure as a registered nurse performing nurse anesthesia, including a current unrestricted license to practice as a registered professional nurse, with authority to practice nurse anesthesia if such authority is granted, in at least one state and in all states in which the applicant currently holds an active license. For those individuals employed by the United States government, “state requirements” refer to the requirements of any state or territory of the United States.
- Attest to continued practice in the NSPM subspecialty.
- Complete one NSPM core module. The NSPM core module must be in addition to, and may not be counted as, part of the CPC Program core module requirements. The NSPM core module must be prior approved for class A credit.
- Successful completion of the NBCRNA NSPM subspecialty certification examination every eight years.

Make the following certifications:

- That all current registered nurse licenses are in good standing, are not suspended or limited by any state, have never been surrendered or relinquished (whether voluntarily or involuntarily) and are not the subject of a pending action or investigation.
- That they have not been adjudicated by a court or regulatory authority to be mentally or physically incompetent.
- That they do not currently suffer from substance use disorder (SUD) [drug or alcohol addiction or abuse], that is impacting their practice.
- That they have not been convicted of, or pleaded no contest to, a crime.
- That they have not engaged in unethical conduct.
- That the application and all corresponding content being submitted is accurate.

If the candidate does not so certify, they must provide full documentation of the reasons therefore with sufficient specificity to allow the NBCRNA to evaluate the possible impact of the problem on the candidate's current ability to practice nurse anesthesia and NSPM, and to resolve the issue to the NBCRNA's satisfaction.

- Sign the waiver of liability and agreement of authorization, confidentiality and nondisclosure statements clarifying that the individual has read, understands and intends to be legally bound by those statements.

EXAMINATION INFORMATION

Purpose of the NSPM Examination

The NBCRNA administers the NSPM examination to assess the knowledge, skills, and abilities necessary for NSPM practitioners. The NSPM subspecialty exam will assess a nurse anesthetist's knowledge of needle placement in three anatomical approaches (i.e., midline, lateral, peripheral) and four anatomical regions (i.e., cervical, thoracic, lumbar, and sacral), as well as assess other knowledge related to the practice of NSPM.

Description of the Examination

The NSPM examination is a fixed-length computerized examination. The examination for each candidate will include 150 multiple choice questions (MCQs), all previously pretested and scored. Questions may be comprised of text only or include diagrams, figures, still clinical images, or short clinical imaging videos. A maximum of three hours is allowed for the examination period.

Examinees will view questions one at a time and can spend as long as they like working on a question and may take a break at any time, but the timer will continue counting down. Therefore, it is important to budget time during the test administration.

The NBCRNA develops and maintains the NSPM examination content outline and test specifications, maintains an item bank of approved test questions, and sets the passing score. In addition, the NBCRNA determines individual eligibility for admission to the NSPM examination.

The NBCRNA appoints a representative group of certified registered nurse anesthetists, all certified in NSPM, to serve on the NSPM Certification Examination Committee. This committee meets to write and review test questions for the approved item bank and to update the item bank based on the NSPM examination content outline. Performance statistics for questions are continually monitored by the NBCRNA.

Content validity for the NSPM examination has been documented through professional practice analyses (PPA) performed by the NBCRNA in 2009, 2014, and 2019. The PPA ensures that the NSPM exam reflects the knowledge of an entry-level NSPM practitioner. Content validation is provided by linkages between the PPA, knowledge and skill statements, and the test items. The PPA is essential to the accreditation of a certification program and serves as validation that the NSPM exam is fair, job-related, and legally defensible.

Administration

The NBCRNA contracts with Pearson VUE to administer the NSPM examination at test centers located throughout the United States and its territories.

Examination Content

The examination content outline, developed from responses to the 2019 PPA and reviewed by the NBCRNA may be found on the NBCRNA [website](#). It is provided to assist candidates in preparing for the NSPM examination and serves as a guide to topics used to generate and categorize examination questions.

To be successful on the examination, not only must candidates validate their knowledge of a subject, but they also must be able to integrate this knowledge across the spectrum of NSPM anesthesia practice.

Candidates should be aware that anesthetics and anesthesia adjuncts are constantly evolving. The examination content may include older agents as a mechanism to compare and contrast with new agents. Drug dosing is, of course, an essential part of pharmacologic knowledge and application.

The NBCRNA reserves the right to determine examination content, to classify examination questions and to determine the percentage of test questions from each topical area. The approximate percentages of questions in each major content area are provided in the Examination Content Outline.

References for Review

The principal NSPM textbooks and consensus guidelines should provide information related to all the major content areas on the NSPM examination. Research articles and review books are not used as references. The NBCRNA does not sponsor or endorse any review courses, review manuals or particular texts that can be used in preparation for the NSPM examination. The NBCRNA does not make old tests or retired questions available to anyone. Candidates may choose to review a current NSPM bibliography available on the NBCRNA website at www.nbcna.com.

REGISTRATION INFORMATION

Examination Dates

The NSPM examination dates for each testing window will vary year to year, and applicants are encouraged to visit the NBCRNA website for specific testing dates. Candidates who have received an NSPM subspecialty eligibility notification may schedule an appointment to take the NSPM examination on any date during the testing window that space is available at any Pearson VUE test center of their choice. Attention should be paid to the fact that not all test centers are open seven days a week or operate on the same schedule.

Immediate scheduling is not guaranteed by either NBCRNA or Pearson VUE. Please note that the eligibility notice required to schedule the NSPM exam will be issued via email from the NBCRNA.

Fees

The NSPM application fee and any other applicable fees must be paid electronically through the NBCRNA website. All fees must accompany the online application form. 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.

Change of Name and Address

The name that the candidate used on the official NBCRNA application form is the name that is submitted to Pearson VUE.

When a candidate appears at the test center, the first and last name as they appear on the original NBCRNA subspecialty certification eligibility notification and your government-issued photo ID with signature must all match. Candidates will not be allowed to take the test if their identification does not bear the same first and last names as their eligibility file at the test center.

Name or address changes are not accepted at the test center. Candidates who change their names and/or addresses after the certification eligibility notification has been sent must update their legal name in their NBCRNA portal under the Requests tab prior to their exam appointment. Allow up to four business days for this process.

Reasonable Accommodation for Persons with Documented Disabilities

The NBCRNA complies with the Americans with Disabilities Act (ADA). To ensure equal opportunity for all qualified persons, a candidate with a documented disability may request a reasonable testing accommodation by submitting a written request, along with supporting documentation, to the NBCRNA with their completed online application. Supporting documentation includes the following:

1. A written personal statement identifying the basis of your need for accommodation, the specific accommodation(s) you are requesting, history of past testing accommodations given, and how a documented disability impacts your testing ability.
2. An NBCRNA Testing Accommodations Request Form completed by a qualified healthcare professional referencing an evaluation conducted within the past five years. Qualified healthcare professionals must be licensed or otherwise properly credentialed, possess expertise in the diagnosis of the disability for which the accommodation(s) is sought, and has administered an individualized assessment of the candidate that supports the need for the requested testing accommodations.

The NBCRNA Testing Accommodations Request Form can be downloaded from your application once you have indicated eligibility for ADA accommodations.

Scheduling Information

The NSPM subspecialty certification eligibility notice contains detailed information about scheduling an appointment with Pearson VUE to take the NSPM exam. This information will include the candidate's eligibility expiration date, and access to Pearson VUE's online test scheduling system. Appointments cannot be scheduled prior to receipt of this email eligibility notice from the NBCRNA.

It is strongly recommended that candidates contact Pearson VUE to submit their scheduling request for the NSPM exam as soon as possible after receipt of the NBCRNA NSPM subspecialty certification eligibility notice. Candidates may schedule an appointment to take the NSPM exam on any day that space is available during the testing window at a Pearson VUE test center. When making an appointment, candidates should take into account that not all test centers are open seven days a week, operate on the same schedule or have the same seating capacity.

The candidate will receive an immediate confirmation notice via email once a scheduling request has been submitted. The confirmation notice will provide the following information:

- The date, time, and location of the testing appointment.
- A list of items that candidates should bring to the testing center.
- A list of prohibited items that candidates should NOT bring to the testing center.

Scheduling an appointment to take the NSPM exam is strictly between the candidate and Pearson VUE; the NBCRNA will not intervene in these arrangements. No refunds will be made if a candidate is unable to schedule the NSPM exam before their eligibility expiration date. If the candidate does not take the NSPM exam within the eligibility period, or takes the NSPM exam and fails it, they will have to reapply, pay the full application fee, and complete the registration process. A candidate may reschedule or cancel a testing appointment directly with Pearson VUE up to 24 hours in advance of their testing appointment.

Refunds for Cancellations and No-Shows

A candidate who fails to appear for the scheduled test, arrives more than 15 minutes after the scheduled start time for taking the test, or changes or cancels a test within 24 hours before the date and time of the scheduled appointment will not receive any refund of the application fee; nor can the fee be applied to another examination. The candidate will have to reapply to the NBCRNA to take the NSPM exam, pay the full application fee and complete the registration process.

If the candidate experiences an emergency, they must provide the NBCRNA with a written description and documentation for review by email at support@nbcna.com. NOTE: Recording the wrong date or time for the scheduled appointment, or forgetting to bring the required current, valid identification, are not considered an emergency.

EXAMINATION ADMINISTRATION

Admission to the Test Center

Candidates 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 must be a current government-issued ID such as a passport, driver's license, state ID or military ID; or employee ID. Both pieces of ID must have the same first and last names as they appear on the certification eligibility notification sent via email by the NBCRNA. Candidates who appear without the specified identification will not be permitted to take the NSPM and will be required to pay the reauthorization fee (at time of publication \$75) in order to receive a new eligibility notice.

Admission Procedures

After the initial verification of identity, the candidate will be asked to sign a roster and to have their photo taken.

Electronic devices (including, but not limited to, cell phones, tablets and e-readers), reference books, notes and other study materials may not be brought into the test center under any circumstances.

Personal belongings (including bags, watches, and wallets) may not be taken into the testing room; they must be stored in designated areas. During registration a Pearson VUE proctor will provide a sealed bag for your cell phone/ electronic device. The bag will be stored in a designated area during your exam. In accordance with exam policy the sealed bag must be opened by a Pearson VUE proctor prior to exiting the Pearson Professional Center.

Test Center Environment

It is unlikely that an NBCRNA candidate 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 certification candidate's test period.

Test centers will make every effort to keep movement of personnel and noise levels to a minimum during examination administrations. However, candidates who believe that noise may be a distraction should request earplugs at the test center for use during the NSPM examination. Individual test rooms are not available at test centers.

Candidates with a documented disability shown to require reasonable accommodations should refer to the earlier section on "Reasonable Accommodation for Persons with Documented Disabilities."

Taking the Test

At the beginning of the NSPM examination, a series of attestation statements will appear that candidates must read, acknowledge and agree to. If the candidate does not indicate their agreement, they will not be allowed to take the NSPM examination.

The content of the NSPM examination, and each individual NSPM examination 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 NSPM examination question, in whole or in part, by written, electronic, oral or other form of communication, including but not limited to emailing, texting, electronically posting, copying or printing of electronic files, and reconstruction through memorization and/or dictation, before, during or after the NSPM examination is strictly prohibited and may result in disciplinary action, assessment of monetary damages and legal liability.

Before beginning the test, candidates should view the tutorial for directions for entering responses carefully. The NSPM examination begins with the appearance of the first exam question. There is a “help” screen that can be referred to at any time during the examination to refresh a candidate’s memory as to how to enter responses. At any time before or during the NSPM examination, candidates may request help from test center staff regarding the use of the computer.

Questions are presented one at a time on the computer screen. Examinees have the option to answer or skip to the next question. Examinees can spend as long as they like working on questions and may take a break at any time. The timer will continue counting down, therefore it is important to budget time during the test administration.

Examination Length

Each candidate will answer 150 multiple-choice examination questions within the three-hour maximum testing period.

Improper Behavior in Connection with the Examination

When applying for the NSPM examination, each candidate must agree to the NBCRNA waiver of liability and agreement of authorization, confidentiality and nondisclosure statements.

The consequences of violating this agreement may include, but are not limited to, the following:

- Loss of eligibility to take any NBCRNA examination or assessment, including the NSPM examination, now and in the future.
- Invalidation of NSPM examination results.
- Denial, suspension or revocation of certification.
- Assessment of monetary damages.
- Legal liability.

During the NSPM examination, the performance of all candidates will be monitored. Any candidate who gives or receives assistance, or otherwise engages in dishonest or improper behavior during the NSPM examination, will be required to cease taking the NSPM examination and leave the test center. Test center personnel will notify the NBCRNA office of any improper behavior during the NSPM examination. Candidates who are aware of improper behavior should report it to NBCRNA’s anonymous, third-party tip line at 844- 703-1790 or www.nbcna.ethicspoint.com.

After reviewing a reported incident, the NBCRNA will determine whether there is reason to believe that a candidate has engaged in cheating or other improper behavior or has otherwise violated the security of the NSPM examination. If the NBCRNA determines that there is reason to so believe, it may, at its discretion, take any of the following actions:

- Require the candidate to retake the NSPM examination at a time and place to be determined by the NBCRNA.
- Refuse to release the test results of the candidate and, thereby, deny their current application for subspecialty certification.

- Require the candidate to wait a specified period of time before reapplying to take the NSPM examination.
- Deny, suspend or revoke the candidate's eligibility to sit for the NSPM examination in the future.
- Take a combination of any of the above actions and/or such other action that the NBCRNA may deem appropriate.

NBCRNA Staff (or a designee of NBCRNA such as counsel) possesses the authority, but not the obligation, to conduct a reasonable investigation of any nurse anesthetist or examinee who may have engaged in conduct that violates any NBCRNA handbook or policy by implementing any of the following:

- Interviewing witnesses;
- Requesting and reviewing documents and data; and
- Taking any other action that NBCRNA deems appropriate under the circumstances.

If any nurse anesthetist or examinee fails to cooperate with an NBCRNA investigation, the failure to cooperate may subject the individual to the denial, suspension or revocation of certification.

POST EXAM

Improper Behavior After the Examination

The content of the NSPM exam, and each individual NSPM exam 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 NSPM exam question, in whole or in part, by written, electronic, oral, or other form of communication including, but not limited to, emailing, texting, electronically posting, copying, or printing of electronic files, and reconstruction through memorization and/or dictation, before, during, or after the NSPM exam 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 www.nbcrna.ethicspoint.com.

Problems at Test Centers

Candidates will have access to a proctor at the test center. As a rule, if a problem occurs with the computer and a candidate has to restart the test on the same 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 candidate has to reschedule, a new NSPM examination will be administered. There will be no charge to the candidate for rescheduling a test if the problem was caused by circumstances at the Pearson VUE test center.

Problems encountered by a candidate related to admission or administration of the NSPM examination, including any problems related to testing conditions, 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 support@nbcrna.com. Reports to the NBCRNA must include the candidate'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 NSPM examination should be administered, or another action should be taken.

Report of Examination Results

The NSPM exam is scored based on candidate performance in the form of a correct/incorrect response to each question. A candidate must obtain a passing score, as determined by the NBCRNA, in order to pass the exam. Candidates will receive a preliminary pass/fail report when they check out of the test center. This is preliminary only.

Notification of Examination Results

Passing candidates will receive notification that they have passed the NSPM examination, along with access to the official NSPM subspecialty certification documents from the NBCRNA. They will not receive score information. Score values for passing candidates will not be released as these may be inappropriately used by third parties (e.g., employers or insurers).

Failing candidates will receive notification of failing the NSPM examination via email only. A detailed score report of the candidate's performance on the NSPM examination will be included with the failure notification materials that are emailed to the candidate post-examination.

The only information available to candidates regarding the results of the NSPM examination will be the information provided on the official results from the NBCRNA. Because of the need to maintain test security, test questions cannot be made available for review. Neither the NBCRNA nor Pearson VUE provides a list of the questions.

Not everyone who tests on the same day at the same center will receive their official validated results at the same time because results may take differing amounts of time. Verification procedures for individual records may also take differing amounts of time.

Any candidate who does not receive the pass/fail test results within four weeks after the closure of the examination window should contact the NBCRNA by email at support@nbcrna.com.

State Boards of Nursing

Successful candidates may initiate a request for verification of their credentials to any State Board of Nursing through the NBCRNA website at www.nbcrna.com.

Verification of Examination Results

Due to the sophistication of computerized online scoring and extensive quality-control procedures, errors in scoring are virtually nonexistent. However, candidates who receive a failing score may request that their NSPM exam results be verified.

Requests for verification of NSPM exam results must be made in writing within six months after the test date and must include the following information: candidate's name, ID number, test date, and location of test center. Requests should be sent via email to support@nbcrna.com.

Reapplication Procedures

Candidates who have failed the NSPM examination, apply for the NSPM exam by submitting an NSPM Retake Application. This Retake Application must be submitted within 12 months of the initial application.

The following materials must be submitted to the NBCRNA to retake the NSPM:

- The completed NSPM Retake Application Form and fee.
- Proof of current and unrestricted professional nursing license.
- A color digital photo of the candidate taken within the last six months.

Once the NSPM exam fees and required materials have been submitted, candidates should wait four weeks for retake application processing. Processing time frames may vary and will not be altered for individual requests.

Retake candidates who are granted NSPM subspecialty eligibility will receive a new NSPM subspecialty certification eligibility notification, which must be used to schedule an appointment with Pearson VUE to take the test.

Candidates who do not take and pass the NSPM examination within two years of the first NSPM application date, and who wish to achieve new eligibility for the NSPM exam, will be required to provide the NBCRNA with documentation of successful completion of a new formal, accredited NSPM educational program or evidence of new required educational activity, as well as meeting all other NSPM eligibility requirements.

POLICIES & PROCEDURES FOR DISCIPLINE, ADMINISTRATIVE ACTION AND APPEALS

Pursuant to NBCRNA Policies & Procedures for Discipline, Administrative Action and Appeals (“Policies”), Certified Registered Nurse Anesthetists, examinees, and applicants for Certification. Continued Professional Certification (“CPC”) or Maintaining Anesthesia Certification (“MAC”) (collectively “certification”) are subject to disciplinary or administrative action for engaging in conduct that NBCRNA regards as inconsistent with unrestricted certification. The Policies sets forth the conduct that can lead to sanctions, the procedures that will govern, the sanctions that can be imposed, the appeal rights of any individual who is sanctioned, and provisions for reinstatement of certification. The Policies can be accessed on the NBCRNA website, www.NBCRNA.com, or requested from the NBCRNA.

For any questions regarding the NSPM Program, please email support@nbcna.com or call the NBCRNA at (855) 285-7762.

REFERENCES

1. Care, and Education Committee on Advancing Pain Research, Board on Health Sciences Policy, Institute of Medicine: Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research. Washington DC, The National Academies Press. 2011.
2. Miller GE, The Assessment of Critical Skills/Competence/Performance; Acad Med, 1990, 65(9), 63-67 [Suppl: S63- 67}