Exam Handbook



Direct Care

Certification Eligibility Pathway

Acute/Critical Care
Nursing Certification
Adult • Pediatric • Neonatal

AACN
CERTIFICATION
CORPORATION

Certification Organization for the American Association of Critical-Care Nurses

MISSION

AACN Certification Corporation drives patient health and safety through comprehensive credentialing of acute and critical care nurses, advancing practice consistent with standards of excellence.

VISION

All nurses caring for acutely and critically ill patients and their families are certified.

VALUES

As the Corporation advances its mission and vision to fulfill its purpose and inherent obligation of driving the health and safety of patients experiencing acute and critical illness, we are guided by a set of deeply rooted values. These values are the foundation upon which we build our relentless pursuit of excellence.

- Integrity We demonstrate sound judgment, ethical behavior and accountability in all we do.
- **Inclusion** We cultivate an inclusive culture, where everyone contributes their unique strengths and perspectives.
- **Transformation** We drive change and innovation to positively impact the healthcare system and improve the lives of patients, families and nurses.
- **Leadership** We advocate and influence to achieve optimal outcomes and healthy work environments.
- **Relationships** We collaborate and advance partnerships, honoring each individual to strengthen the collective.

ETHICS

AACN and AACN Certification Corporation consider the American Nurses Association (ANA) Code of Ethics for Nurses foundational for nursing practice, providing a framework for making ethical decisions and fulfilling responsibilities to the public, colleagues and the profession. AACN Certification Corporation's mission of public protection supports a standard of excellence where certified nurses have a responsibility to read about, understand and act in a manner congruent with the ANA Code of Ethics for Nurses.



The following AACN Certification Corporation programs have been accredited by the Accreditation Board for Specialty Nursing Certification (ABSNC).

CCRN [®] (Adult)	CCRN [®] (Pediatric)	CCRN° (Neonatal)	PCCN° (Adult)	ACNPC-AG [®]
CMC [®]	CSC®	ACCNS-AG®	ACCNS-N°	ACCNS-P°

Our advanced practice certification programs, ACCNS-AG, ACCNS-P, ACCNS-N and ACNPC-AG, are in alignment with the Consensus Model for APRN Regulation and other foundational national standards for APRN education, accreditation and regulation.

AACN CERTIFICATION CORPORATION

Certification Organization for the American Association of Critical-Care Nurses

CCRN EXAM HANDBOOK Direct Care Eligibility Pathway

Acute/Critical Care Certification — Adult, Pediatric, Neonatal

As healthcare becomes increasingly complex and challenging, certification has emerged as a mark of excellence showing patients, employers and the public that a nurse possesses a defined body of knowledge and has met the rigorous requirements to achieve specialty and/or subspecialty certification.

AACN Certification Corporation programs were created to protect healthcare consumers by validating the knowledge of nurses who care for and/or influence the care delivered to the acutely and critically ill. We are pleased to provide you with this handbook with information about our programs and how to apply for and take the CCRN certification exam - Direct Care Eligibility Pathway.

Today, nurses hold more than 140,000 certifications from AACN Certification Corporation.

Specialty Certifications

CCRN[®] is for the nurse providing care to or influencing the care of acutely/critically ill adult, pediatric or neonatal patients. Three eligibility pathways are available:

- Direct Care for the nurse who provides direct care to acutely/critically ill adult, pediatric or neonatal patients.
- **Knowledge Professional** for the nurse who influences the care delivered to acutely/critically ill adult, pediatric or neonatal patients, but does not primarily or exclusively provide direct care.
- **Tele-critical Care** for the nurse working in a tele-critical care setting monitoring/caring for acutely/critically ill adult patients from a remote location.

PCCN[®] is for the progressive care nurse. Two pathways of eligibility are available:

- **Direct Care** for the nurse providing direct care to acutely ill adult patients.
- **Knowledge Professional** for the nurse who influences the care delivered to acutely ill adult patients, but does not primarily or exclusively provide direct care.

Subspecialty Certifications

CMC[®] is for the certified nurse providing direct care to acutely/critically ill adult cardiac patients.

CSC® is for the certified nurse providing direct care to acutely/critically ill adult patients during the first 48 hours after cardiac surgery.

Advanced Practice Certifications

ACNPC-AG® is for the nurse educated at the graduate level as an adult-gerontology acute care nurse practitioner (AGACNP).

The **ACCNS** credentials are for nurses educated at the graduate level as clinical nurse specialists to provide care across the continuum from wellness through acute care:

ACCNS-AG® is for the clinical nurse specialist educated to care for adult-gerontology patients.

ACCNS-P® is for the clinical nurse specialist educated to care for pediatric patients.

ACCNS-N[®] is for the clinical nurse specialist educated to care for neonatal patients.

With implementation of the Consensus Model in 2015, ACNPC and CCNS are available as renewal options only:

ACNPC[®] is for the acute care nurse practitioner educated to provide care to adult patients.

CCNS® is for the acute/critical care clinical care specialist educated to provide care to adult, pediatric or neonatal patients.

AACN Certification Corporation's APRN certifications are recognized for licensure in all U.S. states and territories.

We continually seek to provide quality certification programs that meet the changing needs of nurses and patients. Please visit www.aacn.org/certification, or call 800-899-2226 for more information about the above certifications.

Thank you for your commitment to patients and their families and to becoming certified.



Contents

Which CCRN Eligibility Pathway is Right for You?	1
Certification Program	2
Exam Eligibility	3
Application Fees	4
Application Process	5
Certification Renewal	6-7
AACN Synergy Model for Patient Care	8-9
Test Plans	
• Adult	10-13
Pediatric	16-19
Neonatal	22-25
Sample Questions	
• Adult	14-15
Pediatric	20-21
Neonatal	26
Exam Bibliography	27-30
Exam Preparation Tools	31
Forms	
CCRN Exam Application - Direct Care	
CCRN Exam Honor Statement - Direct Care	34

The following information can be found in the <u>Certification Exam Policy Handbook</u> online at <u>www.aacn.org/certhandbooks</u>:

- AACN Certification Programs
- Name and Address Changes
- Confidentiality of Exam Application Status
- Testing Options
- Exam Scheduling and Cancellation
- · Exam Day Experience

- Duplicate Score Reports
- Recognition of Certification
- Use of Credentials
- Denial of Certification
- Revocation of Certification
- Review and Appeal of Certification Eligibility

Which CCRN Eligibility Pathway is Right for You?

Direct Care Pathway

You provide direct care to acutely/ critically ill (adult, pediatric or neonatal) patients, regardless of their geographic location.

ELIGIBILITY

- A current, unencumbered U.S. RN or APRN license is required.
- Candidates must complete one of the following clinical practice hour requirement options:

Two-Year Option: Practice as an RN or APRN for 1,750 hours in direct care of acutely/critically ill patients during the previous two years, with 875 of those hours accrued in the most recent year preceding application.

OR

Five-Year Option: Practice as an RN or APRN during the previous five years with a minimum of 2,000 hours in direct care of acutely/critically ill patients, with 144 of those hours accrued in the most recent year preceding application.

For more details, explore this **CCRN Exam Handbook - Direct Care Eligibility Pathway**.

Knowledge Professional Pathway

You apply knowledge that influences the care delivered to acutely/ critically ill (adult, pediatric or neonatal) patients, but do not primarily or exclusively provide direct care.

ELIGIBILITY

- A current, unencumbered U.S. RN or APRN license is required.
- Candidates must meet the following practice requirement.

Practice as an RN or APRN for 1,040 hours during the previous two years, with 260 of those hours accrued in the most recent year preceding application.

Eligible practice hours include those in which the nurse applies knowledge in a way that influences patients, nurses and/or organizations to have a positive impact on the care delivered to acutely/critically ill patients and families.

For more details, refer to the <u>CCRN</u>
<u>Exam Handbook - Knowledge</u>
<u>Professional Eligibility Pathway</u> at www.aacn.org/certhandbooks.

Tele-critical Care Pathway

You monitor and care for acutely/ critically ill (adult) patients by camera from a centralized or remote tele-critical care setting that is networked to the bedside.

ELIGIBILITY

- A current, unencumbered U.S. RN or APRN license is required.
- Candidates must complete one of the following clinical practice hour requirement options:

Two-Year Option: Practice as an RN or APRN for 1,750 hours in the care of acutely/critically ill patients in a tele-critical care setting or in a combination of tele-critical care and direct care during the previous two years, with 875 of those hours accrued in the most recent year preceding application.

OR

Five-Year Option: Practice as an RN or APRN during the previous 5 years with a minimum of 2,000 hours in the care of acutely/critically ill patients in a tele-critical care setting or in a combination of tele-critical care and direct care, with 144 of those hours accrued in the most recent year preceding application.

For more details, refer to the <u>CCRN</u>
<u>Exam Handbook - Tele-critical Care</u>
<u>Eligibility Pathway</u> at <u>www.aacn.</u>
<u>org/certhandbooks</u>.

The majority of practice hours for CCRN eligibility must focus on critically ill patients.

CCRN Certification Program

CCRN® Registered Service Mark

CCRN is a registered service mark and denotes certification in acute/critical care nursing as granted by AACN Certification Corporation. Registered nurses who have not achieved CCRN certification, whose CCRN certification has lapsed or who have chosen Inactive status are not authorized to use the CCRN credential.

Misuse of the credential is viewed by AACN Certification Corporation as misleading to the public and may result in denial or revocation of certification.

Although a common misconception, CCRN is not an acronym for "critical care registered nurse." This would imply that nurses are registered as critical care nurses, which is not accurate.

Purpose and Rationale

CCRN certification is a specialty certification for nurses who provide care to or influence the care of acutely/critically ill adult, pediatric or neonatal patients.

The CCRN exam is based on a study of practice, also known as a job analysis. The job analysis, conducted at least every five years, validates the knowledge, skills and experience required for safe and effective practice as an RN or APRN who provides care to or influences the care delivered to acutely/critically ill patients in one of the following patient populations: adult, pediatric or neonatal.

The test plan, which provides an outline of exam content, is developed by an expert CCRN panel based on the results of the study of practice. The organizing framework for all AACN Certification Corporation exams is the AACN Synergy Model for Patient Care[™].

Clinical practice requirements have been validated by subject matter experts. The required hours of clinical practice correspond to the third stage of competence in *Benner's Stages of Clinical Competence*. CCRN certification denotes to the public those practitioners who possess a distinct and clearly defined body of knowledge called acute/critical care nursing.

CCRN Exam Content

The CCRN exams are 3-hour tests consisting of 150 multiple-choice items. Of the 150 items, 125 are scored and 25 are used to gather statistical data on item performance for future exams.

The CCRN exams focus on the adult, pediatric or neonatal patient population. Eighty percent (80%) of each exam focuses on Clinical Judgment and the remaining 20% covers Professional Caring and Ethical Practice.

AACN Certification Corporation is transitioning to the use of generic names only for medications in exams and practice exam products. During the transition, exam candidates may continue to see items that include both generic and trade names.

CCRN Test Plans

The content of the CCRN exams is described in the test plans included in this handbook. Candidates are tested on a variety of patient care problems that are organized under major categories. Please note the percentage of the CCRN exam devoted to each category.

Passing Point/Cut Score

A criterion-referenced standard setting process, known as the modified Angoff, is used to establish the passing point/cut score for the exam. Each candidate's performance on the exam is measured against a predetermined standard.

The passing point/cut score for the exam is established using a panel of subject matter experts, a Score Evaluation Committee (SEC), who carefully reviews each exam question to determine the basic level of knowledge or skill that is expected. The passing point/cut score is based on the panel's established difficulty ratings for each exam question.

Under the guidance of a psychometrician, the panel develops and recommends the passing point/cut score, which is reviewed and approved by AACN Certification Corporation. The passing point/cut score for the exam is established to identify individuals with an acceptable level of knowledge and skill. All individuals who pass the exam, regardless of their score, have demonstrated an acceptable level of knowledge.

CCRN Exam - Direct Care Eligibility Pathway

Licensure

Current, unencumbered U.S.¹ RN or APRN licensure is required.

- An unencumbered license, as defined by AACN Cert Corp, is not currently being subjected to formal discipline by the board of nursing in the state(s) in which you are practicing and has no provisions or conditions that limit your nursing practice.²
- Your state Board's definition of unencumbered may be different from AACN Cert Corp's definition.
- Provisions or conditions may include, but are not limited to, direct supervision of practice, drug administration limitations and/or practice area exclusions.
- Documentation of all provisions and conditions from the board or its designee must be reviewed prior to approval for testing.
- Candidates and CCRN-certified nurses must notify AACN Certification Corporation within 30 days if any provisions or conditions are placed on their RN or APRN license(s).

Practice

Candidates must meet *one* of the following clinical practice requirement options:

 Practice as an RN or APRN for 1,750 hours in direct care of acutely/critically ill patients during the previous 2 years, with 875 of those hours accrued in the most recent year preceding application.

OR

Practice as an RN or APRN during the previous
 5 years with a minimum of 2,000 hours in direct care of acutely/critically ill patients, with 144 of those hours accrued in the most recent year preceding application.

Eligible hours are those spent caring for the patient population (adult, pediatric or neonatal) in alignment with the exam for which you are applying. A majority of the total practice hours and those within the year prior to application for CCRN exam eligibility must focus on *critically* ill patients.

Orientation hours spent shadowing/working with another nurse who is the one with the patient assignment cannot be counted toward clinical hours for CCRN eligibility; however, orientation hours during which you are the assigned nurse providing direct care to acutely/critically ill patients may be counted.

Clinical practice hours must be completed in a U.S.-based¹ or Canada-based facility or in a facility determined to be comparable to the U.S. standard of acute/critical care nursing practice as evidenced by Magnet® designation or Joint Commission International accreditation.

Nurses serving as manager, educator (in-service or academic), APRN or preceptor may apply hours spent supervising nursing students or nurses at the bedside.

 Nurses in these roles must be actively involved in direct patient care; for example, demonstrating how to measure pulmonary artery pressures or supervising a new employee or student nurse performing a procedure.

Practice Verification

The name and contact information of a professional associate must be given for verification of eligibility related to clinical practice hours. If you are selected for audit, this associate will need to verify in writing that you have met the clinical hour requirements.

 A professional associate is defined as your clinical supervisor or a colleague (RN or physician) with whom you work.

AACN Certification Corporation may adopt additional eligibility requirements at its sole discretion. Any such requirements will be designed to establish, for the purposes of CCRN certification, the adequacy of a candidate's knowledge in care of the acutely/critically ill.

¹ Includes District of Columbia and U.S. territories of Guam, Virgin Islands, American Samoa and Northern Mariana Islands

² If a restriction (temporary or permanent) is placed on an RN or APRN license for an incident that occurred prior to obtaining the license, AACN Certification Corporation will evaluate such an occurrence on a case-by-case basis to determine if exam eligibility requirements are met.

Application Fees

CCRN Fees	Member	Nonmember
Computer-Based Exam	\$255	\$370
Retest	\$180	\$285
Renewal by Exam	\$180	\$285

Payable in U.S. funds. Fees are subject to change without notice. A \$15 fee will be charged for a returned check.

Computer-based testing discounts are available for groups of **10 or more** candidates submitting their AACN certification exam applications in the same envelope. Employers may pre-purchase exam vouchers at a further discounted rate.

For details about the Group Discount and Organization Discount Programs, visit www.aacn.org/certdiscounts, email certdiscounts, email certdiscounts, email certdiscounts, email certdiscounts, emailto:certification@aacn.org or call 800-899-2226.

Online Application Process

- ▶ Register online for computer-based testing at www.aacn.org/certification > Get Certified
- ▶ **Before you get started**, have available the following:
 - RN or APRN license number and expiration date
 - Name, address, phone and email address of your clinical supervisor or a professional colleague (RN or physician) who can verify your practice eligibility
 - Credit card (Visa, MasterCard, Discover or American Express)

> Same day processing

Paper Application Process

- ▶ Paper applications are required for those applying with a group, for paper-and-pencil exams and for testing outside the U.S.
- ▶ Complete the application on pages 32 and 33 and honor statement on page 34
 - Fill in all requested information, including that for your RN or APRN license

▶ Include application fee

- Credit card, check or money order
- ▶ Allow 2 to 4 weeks for processing

Use your legal name on the application.

This name must match photo identification used for exam entry and will be the name printed on your certificate.



1. Receive confirmation email

- After you *successfully* apply for the exam, you will receive a confirmation email from AACN with information about how to schedule your exam appointment. The email will include the eligibility period during which you must take the exam normally a 90-day window, but currently a 180-day window.
- If you do not receive your confirmation email after applying for an exam, please contact AACN Customer Care at 800-899-2226 or certcorp@aacn.org.

2. Schedule your exam

- In your confirmation email from AACN, you will find a link to schedule your exam appointment. In your AACN customer dashboard, you will also find a "Schedule Exam" link. Both links will take you to the AACN Scheduling page.
- Before selecting an exam date, you will need to choose your preferred computer-based testing option at a PSI Testing Center or via Live Remote Proctoring from your computer in a quiet, private location. For details, refer to the *Certification Exam Policy Handbook* online at www.aacn.org/certhandbooks.
- If you are taking a paper-and-pencil exam or testing outside the U.S., AACN and PSI will coordinate with you to schedule your exam appointment.

3. Sit for the exam

- Upon completion of computer-based exams, results will show on-screen and a detailed score report will be emailed to you within 24 hours.
- Results of paper-and-pencil exams are received by mail 6 to 8 weeks following testing.
- Successful candidates will be mailed their wall certificate approximately 4-6 weeks after testing. Certificants are also able to self-print a certificate through their AACN Dashboard; log into AACN.org and select Certification. More information will be provided in your congratulations email.

Please ensure that AACN has your current contact information on record.

Updates may be made online at www.aacn.org/myaccount or emailed to info@aacn.org.

For name changes, please call AACN Customer Care at **800-899-2226**.

CCRN Renewal - Direct Care Pathway

Purpose and Limitations of Renewal Options

The purpose of certification renewal is to promote continued competence. The renewal process helps to maintain an up-to-date knowledge base through continuing education and practice hours, or practice hours and passing the certification exam.

Following are the limitations to the components of the renewal options:

- CE/CERP limitations include content quality and relevance to practice as well as an individual's ability to self-select CE/CERPs most pertinent to the individual's practice and educational needs.
- Limitations of practice hours include the quality of the practice environment and limitations on learning opportunities.
- One limitation of the exam is not assessing new competencies, as exam competencies were validated through initial certification.

Requiring two components for renewal rather than one decreases the limitations and furthers the goal of continued competence.

Renewal Period

CCRN certification is granted for a period of 3 years. Your certification period begins the first day of the month in which the CCRN certification exam is passed and ends 3 years later; for example, February 1, 2023 through January 31, 2026.

You have up to 90 days beyond your certification expiration date to renew; however, practice hours and CERP's must have been completed during the 3-year period of your certification date. **CERPs or practice** hours cannot be accumulated during the 90-day grace period.

Renewal notifications will be emailed to you starting 4 months before your scheduled CCRN renewal date.

You are responsible for renewing your certification even if you do not receive renewal notification. Refer to www.aacn.org/certification > Renew Certification for current information.

Renewal Eligibility Pathways

Three renewal eligibility pathways are available to CCRN certificants.

CCRN - Direct Care Pathway

If you primarily or exclusively provide direct care to acutely/critically ill patients (population matching certification held - adult, pediatric or neonatal) in specialty areas such as intensive care units, cardiac care units, combined ICU/CCUs, trauma units or critical care transport/flight, CCRN renewal via the Direct Care Eligibility Pathway may be an option.

For more details, refer to the <u>CCRN Renewal Handbook</u> - <u>Direct Care Eligibility Pathway</u> online at <u>www.aacn.org/certhandbooks</u>.

CCRN - Knowledge Professional Pathway

If you apply knowledge in a way that influences patients, nurses and/or organizations to have a positive impact on the care delivered to acutely/critically ill patients (population matching certification held - adult, pediatric or neonatal), but do not primarily or exclusively provide direct care, CCRN renewal via the Knowledge Professional Eligibility Pathway may be an option.

For more details, refer to the <u>CCRN Renewal Handbook</u> - <u>Knowledge Professional Eligibility Pathway</u> online at <u>www.aacn.org/certhandbooks</u>.

CCRN - Tele-critical Care Pathway

If you focus on monitoring and caring for acutely/critically ill adult patients by camera from a centralized or remote tele-critical care setting that is networked to the bedside, CCRN renewal via the Tele-critical Care Eligibility Pathway may be an option.

For more details, refer to the <u>CCRN Renewal Handbook</u> <u>- Tele-critical Care Eligibility Pathway</u> online at <u>www.</u> aacn.org/certhandbooks.

¹ Includes District of Columbia and U.S. territories of Guam, Virgin Islands, American Samoa and Northern Mariana Islands

CCRN Renewal - Direct Care Pathway (continued)

Renewal Eligibility Options

You may seek CCRN certification renewal via Renewal by Synergy CERPs or Renewal by Exam, or you may choose Inactive, Retired or Alumnus status. Online Renewal is available to all active certificants as early as 4 months prior to their scheduled renewal date. Visit www.aacn.org/certification > Renew Certification.

Option 1 - Renewal by Synergy CERPs

- Meet eligibility requirements for CCRN renewal and complete the Continuing Education Recognition Point (CERP) Program, which requires 100 CERPs in various categories (A, B & C).
- You must retain evidence of your achievement of the required CERPs. Up to 3 years following your scheduled renewal date, you may be selected for audit.

Option 2 - Renewal by Exam

- Meet the eligibility requirements for CCRN renewal and successfully apply for and schedule your exam.
- The CCRN exam must be completed **before** your scheduled renewal date. You may not take the exam early, then attempt to renew by CERPs if you do not pass.
- This option is unavailable in the last month of the renewal period.

Option 3 - Inactive Status

 Inactive status is available to CCRN-certified nurses who do not meet the renewal eligibility requirements but do not wish to lose their certification status. Inactive status provides additional time, up to 3 years from the scheduled renewal date, to meet the renewal eligibility requirements.

AACN Synergy Model for Patient Care

Synergy is an evolving phenomenon that occurs when individuals work together in mutually enhancing ways toward a common goal. AACN Certification Corporation is committed to ensuring that certified nursing practice is based on the needs of patients. Integration of the AACN Synergy Model for Patient Care into AACN Certification Corporation's certification programs puts emphasis on the patient and says to the world that patients come first.

The Synergy Model creates a comprehensive look at the patient. It puts the patient in the center of nursing practice. The model identifies nursing's unique contributions to patient care and uses language to describe the professional nurse's role. It provides nursing with a venue that clearly states what we do for patients and allows us to start linking ourselves to, and defining ourselves within, the context of the patient and patient outcomes.

Patient Characteristics

The Synergy Model encourages nurses to view patients in a holistic manner rather than the "body systems" medical model. Each patient and family is unique, with a varying capacity for health and vulnerability to illness. Each patient, regardless of the clinical setting, brings a set of unique characteristics to the care situation. Depending on where they are on the healthcare continuum, patients may display varying levels of the following characteristics:

Resiliency	Capacity to return to a restorative level of functioning using compensatory/coping mechanisms; the ability to bounce back quickly after an insult	
Vulnerability	Susceptibility to actual or potential stressors that may adversely affect patient outcomes	
Stability	Ability to maintain a steady-state equilibrium	
Complexity	Intricate entanglement of two or more systems (e.g., body, family, therapies)	
Resource Availability	Extent of resources (e.g., technical, fiscal, personal, psychological and social) the patient/family/community bring to the situation	
Participation in Care	Extent to which patient/family engages in aspects of care	
Participation in Decision-Making	Extent to which patient/family engages in decision-making	
Predictability	A characteristic that allows one to expect a certain course of events or course of illness	

FOR EXAMPLE:

A healthy, uninsured, 40-year-old woman undergoing a pre-employment physical could be described as an individual who is (a) stable (b) not complex (c) very predictable (d) resilient (e) not vulnerable (f) able to participate in decision-making and care, but (g) has inadequate resource availability.

On the other hand: a critically ill, insured infant with multisystem organ failure can be described as an individual who is (a) unstable (b) highly complex (c) unpredictable (d) highly resilient (e) vulnerable (f) unable to become involved in decision-making and care, but (g) has adequate resource availability.

AACN Synergy Model for Patient Care (continued)

Nurse Characteristics

Nursing care reflects an integration of knowledge, skills and experience necessary to meet the needs of patients and families. Thus, nurse characteristics are derived from patient needs and include:

Clinical Judgment	Clinical reasoning, which includes clinical decision-making, critical thinking and a global grasp of the situation, coupled with nursing skills acquired through a process of integrating education, experiential knowledge and evidence-based guidelines.
Advocacy/ Moral Agency	Working on another's behalf and representing the concerns of the patient/family and nursing staff; serving as a moral agent in identifying and helping to resolve ethical and clinical concerns within and outside the clinical setting.
Caring Practices	Nursing activities that create a compassionate, supportive and therapeutic environment for patients and staff, with the aim of promoting comfort and healing and preventing unnecessary suffering. These caring behaviors include but are not limited to vigilance, engagement and responsiveness of caregivers. Caregivers include family and healthcare personnel.
Collaboration	Working with others (e.g., patients, families, healthcare providers) in a way that promotes/encourages each person's contributions toward achieving optimal/realistic patient/family goals. Collaboration involves intra- and inter-disciplinary work with colleagues and community.
Systems Thinking	Body of knowledge and tools that allow the nurse to manage whatever environmental and system resources that exist for the patient/family and staff, within or across healthcare systems and non-healthcare systems.
Response to Diversity	The sensitivity to recognize, appreciate and incorporate differences into the provision of care. Differences may include, but are not limited to, individuality, cultural, spiritual, gender, race, ethnicity, lifestyle, socioeconomic, age and values.
Facilitation of Learning	The ability to facilitate learning for patients/families, nursing staff, other members of the healthcare team and community. Includes both formal and informal facilitation of learning.
Clinical Inquiry	The ongoing process of questioning and evaluating practice and providing informed practice. Creating changes through evidence-based practice, research utilization and experiential knowledge.

Nurses become competent within each continuum at a level that best meets the fluctuating needs of their population of patients. More compromised patients have more severe or complex needs, requiring nurses to have advanced knowledge and skills in an associated continuum.

FOR EXAMPLE:

If the patient was stable but unpredictable, minimally resilient and vulnerable, primary competencies of the nurse would be centered on clinical judgment and caring practices (which includes vigilance). If the patient was vulnerable, unable to participate in decision-making and care, and had inadequate resource availability, the primary competencies of the nurse would focus on advocacy and moral agency, collaboration and systems thinking.

Although all eight competencies are essential for contemporary nursing practice, each assumes more or less importance depending on a patient's characteristics. Synergy results when a patient's needs and characteristics are matched with the nurse's competencies.

Based on the most recent AACN Certification Corporation study of nursing practice, the test plans for our certification exams reflect the Synergy Model as well as findings related to nursing care of the patient population studied, e.g., adult, pediatric and neonatal.

For more information about the AACN Synergy Model for Patient Care visit <u>www.aacn.org</u>.

Adult CCRN Test Plan

Applies to exams taken on and after November 12, 2025.

I. CLINICAL JUDGMENT (80%)

A. Cardiovascular (13%)

- 1. Acute coronary syndrome
- 2. Aortic aneurysm, dissection, rupture (i.e. thoracic, abdominal)
- 3. Cardiac infection and inflammatory diseases
- 4. Cardiac surgery
- 5. Cardiac tamponade
- 6. Cardiac trauma
- 7. Cardiac/vascular catheterization
- 8. Cardiogenic shock
- 9. Cardiomyopathy
- 10. Dysrhythmias
- 11. Heart failure
- 12. Hypertensive crisis
- 13. Myocardial conduction system defects (e.g., prolonged QT interval, Wolff-Parkinson-White)
- 14. Structural heart defects (acquired and congenital, including valvular disease)
- 15. Vascular disorders (e.g., arterial/venous stenosis)
- 16. Vascular interventions (e.g., stents, fem-pop bypass, carotid endarterectomy)

B. Respiratory (12%)

- 1. Acute pulmonary edema
- 2. Acute pulmonary embolus
- 3. Acute respiratory distress syndrome (ARDS)
- 4. Acute respiratory failure
- 5. Acute respiratory infection (e.g., pneumonia)
- 6. Chronic conditions (e.g., COPD, asthma, bronchitis, emphysema)
- 7. Mechanical ventilation complications
- 8. Pleural space abnormalities (e.g., pneumothorax, hemothorax, empyema, pleural effusions)
- 9. Pulmonary hemorrhage
- 10. Pulmonary hypertension
- 11. Status asthmaticus
- 12. Thoracic and airway trauma (e.g., fractured rib, lung contusion, tracheal perforation)
- 13. Thoracic surgery

C. Endocrine, Hematology/Immunology, GI, Renal/GU, Integumentary (21%)

- 1. Endocrine
 - a. Adrenal insufficiency
 - b. Diabetes insipidus (DI)
 - c. Diabetes mellitus, types 1 and 2
 - d. Diabetic ketoacidosis (DKA)
 - e. Hyperglycemia
 - f. Hyperosmolar hyperglycemic state (HHS)
 - g. Syndrome of inappropriate of antidiuretic hormone secretion (SIADH)
 - h. Thyroid disorders
- 2. Hematology and Immunology
 - a. Anemia
 - b. Autoimmune disorders (e.g., lupus, myasthenia gravis, Guillain-Barré syndrome)
 - c. Coagulopathies (e.g., ITP, DIC, HIT)
 - d. Myelosuppression (e.g., thrombocytopenia, neutropenia)
 - e. Oncologic complications (e.g., tumor lysis syndrome, neutropenia)
 - f. Transfusion reactions (e.g., TRALI, TACO)
- 3. Gastrointestinal
 - a. Abdominal compartment syndrome
 - b. Acute abdominal trauma
 - c. Acute GI hemorrhage
 - d. Bowel infarction, obstruction, perforation (e.g., mesenteric ischemia, adhesions)
 - e. GI surgeries (e.g., Whipple, esophagectomy, resections)
 - f. Hepatic failure/coma (e.g., portal hypertension, cirrhosis, esophageal varices, fulminant hepatitis, biliary atresia)
 - g. Liver disease
 - h. Malnutrition and malabsorption
 - i. Pancreatitis
 - j. Peritonitis
- 4. Renal and Genitourinary
 - a. Acute kidney injury (AKI), acute tubular necrosis (ATN)
 - b. Chronic kidney disease (CKD)
 - c. Infections (e.g., kidney, urosepsis)

Adult CCRN Test Plan (continued)

Endocrine, Hematology/Immunology, GI, Renal/GU, Integumentary (cont.)

- 5. Integumentary
 - a. Cellulitis
 - b. IV infiltration
 - c. Necrotizing fasciitis
 - d. Pressure injury
 - e. Skin failure (e.g., perfusion injuries)
 - f. Wounds

D. Musculoskeletal, Neurological, Behavioral/ Psychosocial (18%)

- 1. Musculoskeletal
 - a. Compartment syndrome
 - b. Fractures
 - c. Muscular deconditioning
 - d. Musculoskeletal trauma
- 2. Neurological
 - a. Acute spinal cord injury
 - b. Brain death
 - c. Encephalopathy
 - d. Stroke (e.g., hemorrhagic, ischemic)
 - e. Hydrocephalus
 - f. Neurogenic shock
 - g. Neurologic infectious disease (e.g., viral, bacterial, fungal)
 - h. Neurological storming
 - i. Neuromuscular disorders (e.g., ALS, neuromyopathies)
 - j. Neurosurgery
 - k. Neurovascular abnormalities
 - l. Seizure disorders
 - m. Space-occupying lesions (e.g., brain tumors, cysts)
 - n. Spinal surgeries
 - Traumatic brain injury (e.g., epidural, subdural, concussion, non-accidental trauma)
- 3. Behavioral and Psychosocial
 - a. Agitation
 - b. Anti-social behaviors, aggression, violence
 - c. Delirium
 - d. Medical non-adherence
 - e. Mood disorders, depression, anxiety
 - f. Post-intensive care syndrome (PICS)
 - g. Post-traumatic stress disorder (PTSD)

- h. Self-harm
- i. Substance use disorder
- j. Suicidal ideation and/or behaviors

E. Multisystem (16%)

- 1. Acid-base imbalance
- 2. Anoxic injury
- 3. Burns
- 4. Comorbidity in patients with transplant history
- 5. Palliative care
- 6. End-of-life
- 7. Failure to thrive
- 8. Fluid and electrolyte imbalances
- 9. Healthcare-associated infections
- 10. Infectious diseases
- 11. Life-threatening maternal/fetal complications (e.g., eclampsia, HELLP syndrome, maternal/fetal transfusion, placental abruption, placenta previa)
- 12. Multi-organ dysfunction syndrome (MODS)
- 13. Obesity related complications
- 14. Pain
- 15. Rhabdomyolysis
- 16. Sepsis
- 17. Shock states (e.g., distributive, obstructive)
- 18. Sleep disruption (including sensory overload)
- 19. Submersion injuries (near-drowning)
- 20. Systemic inflammatory response syndrome (SIRS)
- 21. Thermoregulation
- 22. Toxic ingestion/inhalations/exposure

II. PROFESSIONAL CARING & ETHICAL PRACTICE (20%)

- A. Advocacy/Moral Agency
- **B.** Caring Practices
- **C.** Clinical Inquiry
- D. Collaboration
- E. Facilitation of Learning
- F. Response to Diversity
- **G.** Systems Thinking

The sum of these percentages may not equal 100 due to rounding.

Order of content does not necessarily reflect importance.

Adult CCRN Test Plan Testable Nursing Actions

CLINICAL JUDGMENT

General

- · Conduct pain assessments
- Evaluate patient's response to interventions
- Assess, evaluate & prioritize data collections based on patient characteristics related to the immediate condition and anticipated needs
- Manage device alarms based on change in patient condition
- Manage patient fluid and electrolyte balance
- · Provide patient and family-centered care
- Recognize signs and symptoms of emergencies, initiate interventions, and seek assistance as needed
- Recognize indications for and manage patients with/ requiring:
 - o capnography (ETCO2)
 - complementary alternative medicine and/or non-pharmacologic interventions
 - o intrahospital transport
 - medications (e.g., safe administration, monitoring, polypharmacy)
 - o pre- and post-operative care
 - o procedural care
 - o sedation
 - vascular access

Cardiovascular

- Identify, interpret and respond to cardiac rhythms
- Monitor hemodynamic status and recognize signs and symptoms of hemodynamic instability
- Recognize early signs of decreased cardiac output
- Recognize indications for and manage patients with/ requiring:
 - cardiac catheterization
 - endovascular procedures
 - mechanical circulatory support devices
 - non-invasive and invasive hemodynamic monitoring
 - o pericardiocentesis
 - o temporary pacing

Respiratory

- Recognize indications for and manage patients with/ requiring:
 - o airway management
 - bronchoscopy
 - o chest tubes
 - mechanical ventilation
 - o noninvasive positive pressure ventilation (e.g., BiPAP, CPAP, high-flow nasal cannula)
 - o oxygen therapy delivery devices
 - prevention of complications related to mechanical ventilation and NIPPV
 - o prone positioning
 - o rapid sequence intubation (RSI)
 - respiratory monitoring devices (e.g., SPO2, SVO2, ETCO2)
 - therapeutic gases (e.g., oxygen, nitric oxide, heliox, CO2)
 - thoracentesis
 - tracheostomy

Hematology and Immunology

- Recognize indications for and manage patients with/ requiring:
 - bleeding and clotting disorders
 - o blood dyscrasias (e.g., anemia)
 - transfusion of blood products, exchange transfusions, massive transfusions

Neurological

- Recognize indications for and manage patients with/ requiring:
 - o continuous EEG monitoring
 - neuroendovascular interventions (e.g., coiling, thrombectomy)
 - neurologic surgical monitoring devices and drains (e.g., ICP, ventricular drain)
 - neurosurgical procedures (e.g., craniotomy, craniectomy, clipping)
 - o seizure precautions
 - spinal precautions
 - o swallow evaluation

Adult CCRN Test Plan

Testable Nursing Actions (continued)

Integumentary

- Recognize indications for and manage patients with/ requiring:
 - o pressure injury prevention
 - therapeutic devices (e.g., wound VACs, pressure reduction surfaces, ostomy device, fecal management devices, IV infiltrate treatment)

Gastrointestinal

- Address barriers to nutritional/fluid adequacy (e.g., chewing/swallowing difficulties, alterations in hunger and thirst, inability to self-feed)
- Recognize indications for and manage patients with/ requiring:
 - o EGD
 - o enteral and parenteral nutrition
 - enteral tubes
 - o feeding and supplementation
 - o gastrointestinal drains

Renal and Genitourinary

- · Identify nephrotoxic agents
- Recognize indications for and manage patients requiring renal therapeutic intervention (e.g., hemodialysis, CRRT, peritoneal dialysis)

Musculoskeletal

- Recognize indications for and manage patients with/ requiring:
 - o compartment syndrome
 - o early mobility

Multisystem

- Early sepsis identification
- Monitor and implement strategies to prevent hospital acquired infections
- Recognize and manage signs and symptoms of toxin/ drug exposure
- Risk factor recognition and management of malignant hyperthermia
- Recognize indications for and manage patients with/ requiring:
 - o end-of-life and palliative care
 - extracorporeal membrane oxygenation (ECMO)
 - o intra-abdominal pressure monitoring
 - o organ donation
 - targeted temperature management
 - o temperature monitoring and regulation devices

Behavioral and Psychosocial

- conduct behavioral therapeutic interventions
- respond to behavioral emergencies (e.g., nonviolent crisis intervention, de-escalation techniques)
- utilize behavioral assessment tools (e.g., delirium, alcohol withdrawal, mini-mental status)

Adult CCRN Sample Questions

The purpose of the sample questions is to familiarize candidates with the style and format of the certification exam items.

- 1. A patient with advanced heart failure secondary to ischemic cardiomyopathy is admitted with increasing orthopnea, bilateral crackles, dyspnea, and 3+ pitting edema in the lower bilateral extremities. The echocardiogram shows an ejection fraction of 20%. The nurse anticipates which medication combination would be MOST beneficial to improve cardiac remodeling and reduce symptoms of fluid overload?
 - A. carvedilol and lisinopril
 - B. captopril and spironolactone
 - C. cdigoxin and diltiazem
 - D. flecainide and hydralazine
- 2. An elderly patient with a history of diabetes and hepatic insufficiency is recovering from hip replacement surgery. Twelve hours postoperatively, the nurse notes:

BP 88/54 HR 118

RR 24

T 101.8° F (38.7° C)

Surgical site: erythema, swelling, and urulent drainage WBC 18,500/mm3

Cultures grow Staphylococcus species.

Which intervention should the nurse anticipate as the highest PRIORITY?

- A. Administer antipyretics and monitor temperature trends
- B. Intiate broad-spectrum IV antibiotics while monitoring hemodynamics.
- C. Prepare for urgent surgical debridement and possible return to the operating room.
- D. Initiate agressive wound dressing changes at the bedside.

- 3. A patient with a four-year history of type I diabetes is admitted with influenza. The patient is lethargic, responds only to name, and follows simple commands. Skin is dry with poor turgor and dry oral mucous membranes. Which condition is the MOST LIKELY cause of the patient's presentation?
 - A. hyponatremia
 - B. hypovolemia
 - C. hypoglycemia
 - D. ketosis
- 4. A patient with acute respiratory distress syndrome (ARDS) is receiving mechanical ventilation with increasing oxygen requirements. The nurse notes decreasing breath sounds in both lower lobes and diminished chest expansion. Which pathophysiologic change is MOST likely contributing to these findings?
 - A. loss of surfactant and interstitial fluid accumulation
 - B. decreased pulmonary vascular resistance and hypoxemia
 - C. increased pulmonary compliance and hypoxemia
 - D. mucosal edema and mucus plugging

Adult CCRN Sample Questions (continued)

- 5. A patient with a history of angina underwent surgical repair of an AAA. The patient is receiving a sodium nitroprusside drip for severe postoperative hypertension. Twelve hours later, the patient reports new-onset back pain. Current assessment findings are:
 - **BP** 80/60
 - HR 120
 - UO 20 mL/hr
 - +1 left dorsalis pedis pulse
 - +1 right dorsalis pedis pulse

After notifying the provider, which intervention should the nurse anticipate as the IMMEDIATE intervention?

- A. Prepare for insertion of an intra-aortic balloon pump.
- B. Administer isotonic fluid at 200 mL/hr and prepare for Doppler studies.
- C. Obtain a computed tomography scan and prepare for pericardiocentesis.
- D. Discontue the nitroprusside infusion and prepare for surgical intervention.

Answers

- 1. B
- 2. C
- 3. B
- 4. A

Pediatric CCRN Test Plan

Applies to exams taken on and after November 12, 2025.

I. CLINICAL JUDGMENT (80%)

A. Cardiovascular (11%)

- 1. Cardiac infection and inflammatory diseases
- 2. Cardiac malformations
- 3. Cardiac surgery
- 4. Cardiac transplant
- 5. Cardiac/vascular catheterization
- 6. Cardiogenic shock
- 7. Cardiomyopathies
- 8. Dysrhythmias
- 9. Heart failure
- 10. Hepertensive crisis
- 11. Myocardial conduction system defects (e.g., prolonged QT interval, Wolff-Parkinson-White)
- 12. Vascular occlusions

B. Respiratory (13%)

- 1. Acute pulmonary embolus
- 2. Acute respiratory distress syndrome (ARDS)
- 3. Acute respiratory failure
- 4. Acute respiratory infection
- 5. Chronic respiratory failure
- 6. Chrnoic pulmonary conditions
- 7. Airway malformations
- 8. Pulmonary hypertension
- 9. Status asthmaticus
- 10. Thoracic and airway trauma (e.g., fractured rib, lung contusion, tracheal perforation)
- 11. Thoracic surgery

C. Endocrine, Hematology/Immunology, GI, Renal/ GU, Integumentary (25%)

- 1. Endocrine
 - a. Diabetes mellitus
 - b. Diabetic ketoacidosis (DKA)
 - c. Hyperglycemia
 - d. Hypoglycemia
 - e. Diabetes insipidus (DI), syndrome of inappropriate antidiuretic hormone secretion (SIADH), cerebral salt wasting (CSW)

- 2. Hematology and Immunology
 - a. Anemia
 - b. Bone marrow transplant
 - c. Coagulopathies (e.g., ITP, DIC, HIT)
 - d. Immune deficiencies
 - e. Myelosuppression (e.g., thrombocytopenia, neutropenia)
 - f. Oncologic complications (e.g., tumor lysis syndrome, neutropenia)
 - g. Sickle cell crisis
 - h. Transfusion reactions (e.g., TRALI, TACO)
- 3. Gastrointestinal
 - a. Abdominal compartment syndrome
 - b. Acute abdominal trauma
 - c. Acute GI hemorrhage
 - d. Bowel infarction/obstruction/perforation (e.g., mesenteric ischemia, adhesions)
 - e. GI abnormalities
 - f. GI surgeries (e.g., Whipple, esophagectomy, resections)
 - g. Hepatic disease and failure/coma
 - h. Liver transplant
 - i. Malnutrition and malabsorption
 - j. Peritonitis
- 4. Renal and Genitourinary
 - a. Acute kidney injury (AKI)
 - b. Chronic kidney disease (CKD)
 - c. Hemolytic uremic syndrome (HUS)
 - d. Kidney transplant
 - e. Life-threatening electrolyte imbalances
- 5. Integumentary
 - a. IV infiltration/extravasation
 - b. Pressure injury
 - c. Skin failure (e.g., hypoperfusion)
 - d. Wounds

Pediatric CCRN Test Plan (continued)

D. Musculoskeletal, Neurological, Behavioral/ Psychosocial (15%)

- 1. Musculoskeletal
 - a. Compartment syndrome
 - b. Musculoskeletal trauma
 - c. Rhabdomyolysis
- 2. Neurological
 - a. Acute spinal cord injury
 - b. Brain death
 - c. Congenital neurological abnormalities
 - d. Delirium
 - e. Encephalopathy
 - f. Intracranial hemorrhage
 - g. Stroke
 - h. Hydrocephalus
 - i. Neurologic infectious disease
 - j. Neuromuscular disorders
 - k. Neurosurgery
 - l. Seizure disorders
 - m. Space-occupying lesions
 - n. Spinal fusion
 - o. Traumatic brain injury
- 3. Behavioral and Psychosocial
 - a. Abuse/neglect/maltreatment
 - b. Medical non-adherence
 - c. Mood disorders, depression, anxiety
 - d. Post-intensive care syndrome (PICS)
 - e. Suicidal ideation and/or behaviors

E. Multisystem (17%)

- 1. Acid-base imbalance
- 2. Burns, thermal injury/exposure
- 3. End-of-life
- 4. Palliative care
- 5. Healthcare-acquired conditions (HAC)
- 6. Multi-organ dysfunction syndrome (MODS)
- 7. Tissue and organ donation
- 8. Pain: acute and chronic
- Systemic inflammatory response syndrome (SIRS)
- 10. Sepsis
- 11. Shock states (e.g., distributive, hypovolemic, obstructive)
- 12. Submersion injuries (near-drowning)
- 13. Toxic ingestion/inhalation/exposure

II. PROFESSIONAL CARING & ETHICAL PRACTICE (20%)

- A. Advocacy/Moral Agency
- **B.** Caring Practices
- C. Clinical Inquiry
- D. Collaboration
- E. Facilitation of Learning
- F. Response to Diversity
- **G.** Systems Thinking

The sum of these percentages may not equal 100 due to rounding.

Order of content does not necessarily reflect importance.

Pediatric CCRN Test Plan Testable Nursing Actions

CLINICAL JUDGMENT

General

- Identify signs and symptoms of clinical deterioration, initiate nursing interventions, and seek assistance as needed
- Conduct a comprehensive physical and psychosocial assessment
- Evaluate diagnostic test results and anticipate interventions
- Interpret laboratory and blood gas results and anticipate interventions
- Provide family-centered care
- Conduct developmentally appropriate pain assessment
- · Manage tissue and organ donors
- Manage monitor alarms based on protocols and changes in patient condition
- Prevention and management of healthcare acquired conditions/events
- Recognize indications for and manage patients with/ requiring:
 - complementary alternative medicine and/or non-pharmacologic interventions
 - intra-procedural and post-procedural care
 - medications (e.g., safe administration, monitoring, polypharmacy, sedation)
 - o fluid and electrolyte replacement
 - palliative care
 - o end-of-life care
 - o pre- and post-operative care
 - procedural sedation
 - temperature monitoring and regulation devices
 - o bone fracture prevention and/or treatment
 - vascular access

Cardiovascular

- Identify, interpret and respond to cardiac rhythms
- Monitor hemodynamic status and recognize signs and symptoms of hemodynamic instability
- Recognize indications for and manage patients with/ requiring:
 - o 12-lead ECG
 - cardioversion (pharmacologic, nonpharmacologic, electrical)
 - defibrillation
 - invasive hemodynamic monitoring (e.g., arterial catheter, central venous pressure monitoring)
 - o near infrared spectroscopy (NIRS)
 - o temporary pacing
 - o ventricular assist device (VAD)

Respiratory

- Assess and prevent complications related to mechanical ventilation
- Recognize indications for and manage patients with/ requiring:
 - artificial airways (e.g., endotracheal tube, tracheostomy, LMA)
 - non-invasive ventilation (e.g., BiPAP, CPAP, high-flow nasal cannula)
 - invasive ventilation (e.g., conventional mechanical ventilation)
 - non-conventional mechanical ventilation (e.g., high-frequency, jet)
 - o chest tubes
 - o prone positioning
 - rapid sequence itubation (RSI)
 - therapeutic gases (e.g., oxygen, nitric oxide, heliox, CO2)

Hematology and Immunology

- Recognize indications for and manage patients with/ requiring:
 - plasmapheresis, exchange transfusion, or leukocyte depletion
 - transfusion of blood and blood products

Pediatric CCRN Test Plan Testable Nursing Actions (continued)

Neurological

- Recognize indications for and manage patients with/ requiring:
 - o neuroprotective protocols
 - neurologic monitoring devices and drains (e.g., ICP, ventricular drain)
 - seizure precautions
 - spinal precautions
 - o brain death assessment

Integumentary

- · Prevent and manage surgical site infection
- Manage patients requiring wound prevention and/or treatment

Gastrointestinal

- Recognize indications for and manage patients with/ requiring:
 - o intra-abdominal pressure monitoring
 - o inadequate nutrition and fluid intake
 - o enteral and parenteral nutrition
 - o enteral tubes
 - gastrointestinal drains
 - o necrotizing enterocolitis (NEC)

Renal and Genitourinary

 Recognize indications for and manage patients requiring renal therapeutic intervention (e.g., hemodialysis, CRRT, peritoneal dialysis)

Multisystem

- Early and late sepsis identification and treatment
- Monitor and implement strategies to prevent hospital acquired infections
- Recognize indications for and manage patients requiring progressive mobility
- Manage patients requiring extracorporeal membrane oxygenation (ECMO)

Behavioral and Psychosocial

- Conduct behavioral assessment (e.g., delirium, withdrawal)
- Manage patients requiring behavioral and mental health interventions
- Respond to behavioral emergencies (e.g., nonviolent crisis intervention, de-escalation techniques)
- Recognize indications for and manage patients requiring restraints

Pediatric CCRN Sample Questions

The purpose of the sample questions is to familiarize candidates with the style and format of the certification exam items.

 A toddler with a history of unrepaired Tetralogy of Fallot (TOF) is undergoing IV insertion. During the procedure, the child begins to cry and becomes cyanotic and diaphoretic. Vital signs are:

BP 82/54 HR 160 RR 38 SpO2 72%

Which intervention is the most appropriate IMMEDIATE nursing action?

- A. prepare for a red blood cell transfusion
- B. apply a face mask with supllemental oxygen
- C. place the child in a knee-chest position
- D. administer a premedication for IV insertion
- 2. An adolescent with a history of recurrent admissions for chronic status asthmaticus is being prepared for discharge. During discharge teaching, the nurse determines that the patient has not been compliant with prescribed medications, stating they make them feel "too different" from their peers. Which nursing action is the most appropriate NEXT step?
 - A. Explore the patient's feelings about peer acceptance and collaboratively plan strategies to improve adherence.
 - B. Review the risks of nonadherence and collaboratively develop a written action plan.
 - C. Encourage the patient to demonstrate proper inhaler technique and reinforce daily usage.
 - D. Contact the provider to review the regimen and discuss possible medication adjustments.

- A child is admitted with colitis develops increased respiratory distress, progressive abdominal distention, and delayed capillary refill greater than 4 seconds, eight hours after admission. The nurse should suspect
 - A. splenic rupture.
 - B. intussusception.
 - C. malrotation with volvulus.
 - D. bowel perforation.
- 4. An infant admitted with encephalitis becomes increasingly lethargic, exhibits irregular respirations with brief periods of apnea, and has a weak cry. Vital signs are:

BP 82/48 HR 158 RR 22, irregular

T 102.6° F (38.6° C) SpO2 93% on room air

Which assessment should the nurse perform FIRST?

- A. Evaluate pupillary size and reactivity.
- B. Assess Glasgow Coma Scale and document level of consciousness.
- C. Check capillary blood glucose level.
- D. Assess airway patency and prepare for possible ventilatory support.

Pediatric CCRN Sample Questions (continued)

5. A 15-year-old is admitted with hypovolemic shock following three days of severe vomiting and poor oral intake. The patient is pale, anxious, and has cool, clammy skin. Vital signs are:

BP 85/54

HR 128

RR 26

SpO2 91% on room air

Which action should the nurse perform FIRST?

- A. Administer oxygen via nonrebreather mask.
- B. Prepare for endotracheal intubation.
- C. Anticipate placement of a central venous catheter.
- D. Prepare for rapid infusion of isotonic fluids.

Answers

- 1. C
- 2. A
- 3. D
- D
 A

Neonatal CCRN Test Plan

Applies to exams taken on and after November 12, 2025.

I. CLINICAL JUDGMENT (80%)

A. Cardiovascular (10%)

- 1. Acquired cardiac conditions
- 2. Alteration in the transition to extrauterine life (e.g., PDA, PFO, PPHN)
- 3. Cardiac tamponade
- 4. Congenital heart defects
- 5. Dysrhythmias
- 6. Heart failure (e.g., high output, congestive, secondary)
- 7. Hemodynamic instability
- 8. Surgery

B. Respiratory (15%)

- 1. Acute respiratory distress and/or failure
- 2. Alteration in the transition to extrauterine life (e.g., surfactant deficiency, secondary apnea)
- 3. Apnea of prematurity
- 4. Aspiration (e.g., meconium, secretions, milk, gastric contents)
- 5. Chronic conditions (e.g., CLD/BPD, PIE)
- 6. Congenital anomalies (e.g., CDH, TEF-EA, choanal atresia, tracheal malacia/stenosis/ atresia, CPAM, chylothorax)
- 7. Infection (bacterial, viral, and fungal)
- 8. Pleural space abnormalities (e.g., pneumothorax, hemothorax, empyema, pleural effusions)
- 9. Pulmonary hemorrhage
- 10. Pulmonary hypertension (e.g., PPHN, structural failure)
- 11. Respiratory distress syndrome (RDS)
- 12. Surgery
- 13. Transient tachypnea of the newborn (TTN)

C. Endocrine, Hematology/Immunology, GI, Renal/ GU, Integumentary (20%)

- 1. Endocrine
 - a. Adrenal disorders
 - b. Calcium homeostatis disorders
 - c. Glucose homeostasis (hypo- and hyperglycemia)
 - d. Metabolism disorders (e.g., glucose, protein, fat)
 - e. Thyroid disorders

- 2. Hematology and Immunology
 - a. Blood cell disorders (e.g., anemias, polycythemia, sickle cell disease, leukopenia)
 - b. Coagulopathies (e.g., DIC, thrombocytopenias, hemorrhagic disease of the newborn, factor deficiencies)
 - c. Hemolytic disease of the newborn (e.g., Rh incompatibilities, ABO incompatibilities)

3. Gastrointestinal

- a. Abnormalities congenital or acquired (e.g., omphalocele, gastroschisis, malrotation/ volvulus, imperforate anus, Hirschsprung disease, intussusception, pyloric stenosis, atresias)
- b. Gastroesophageal reflux
- c. Hepatic failure (e.g., portal hypertension, biliary atresia, cholestasis)
- d. Necrotizing enterocolitis (NEC)
- e. Nutritional conditions
 - i. Intolerance (e.g., feeding, protein absorption, milk allergy)
 - ii. Malabsorption
 - iii. Surgery

4. Renal and Genitourinary

- a. Conditions congenital and acquired (e.g., hypospadias, polycystic kidney disease, hydronephrosis, bladder exstrophy, posterior urethral valves, ambiguous genitalia, AKI, CKD)
- b. Infections
- c. Surgery

5. Integumentary

- a. Complications related to neonatal skin (e.g., injury, transepidermal water loss, contact dermatitis)
- b. Congenital abnormalities

 (e.g., epidermolysis bullosa, skin tags, hemangiomas)
- c. Diaper dermatitis
- d. Infection (bacterial, viral, and fungal)
- e. IV infiltration/extravasation
- f. Skin conditions associated with gestational age
- g. Wounds (non-surgical and surgical)

Neonatal CCRN Test Plan (continued)

D. Musculoskeletal, Neurological, Behavioral/ Psychosocial (13%)

- 1. Musculoskeletal
 - a. Acquired conditions (e.g., osteopenia, fractures, brachial plexus injury, infection)
 - b. Congenital conditions (e.g., craniofacial, limb, muscle, spine, osteogenesis imperfecta)
- 2. Neurological
 - a. Congenital abnormalities (e.g., AV malformation, myelomeningocele, encephalocele, hydrocephalus)
 - b. Hemorrhage (e.g., extracranial, intracranial, intraventricular)
 - c. Infection (bacterial, viral, and fungal)
 - d. Ischemic insult (e.g., stroke, periventricular leukomalacia, HIE)
 - e. Seizures
 - f. State dysregulation (e.g., stress, pain, agitation)
 - g. Surgery
- 3. Behavioral and Psychosocial
 - a. Alterations in family systems (e.g., engagement, resource limitations, caregiver confidence, PTSD, postpartum mood disorder)
 - b. Abuse/neglect/maltreatment
 - Families in crisis (e.g., grief, lack of coping, violent behavioral escalation, obstruction of care)
 - d. Culture/communication/language

E. Multisystem (20%)

- 1. Acid-base and fluid/electrolyte imbalance
- 2. Birth trauma
- 3. Conditions requiring advanced therapy (e.g., ECMO, CRRT, dialysis, therapeutic hypothermia)
- 4. Delay in growth and/or developmental milestones
- 5. Genetic conditions
 - a. Metabolic
 - Syndromes (e.g., Turner, Noonan, Beckwith-Wiedemann, Prader-Willi, Angelman, CHARGE)
 - c. Trisomies (13, 18, 21)
- 6. Healthcare-acquired conditions (e.g., CAUTI, CLABSI, VAE, HAPI, PIVIE, MDRO)
- 7. Hydrops fetalis

- 8. Hyperbilirubinemia
- 9. Infant of a diabetic mother (IDM)
- 10. Life-threatening maternal/fetal complications (e.g., eclampsia, HELLP syndrome, maternal-fetal transfusion, placental abruption, placenta previa)
- 11. Multi-organ failure
- 12. Sensory impairment (e.g., retinopathy of prematurity, glaucoma, congenital hearing impairment)
- 13. Sepsis (early and late onset)
- 14. Sequences (e.g., VACTERL, Pierre Robin)
- 15. Shock states (e.g., hypovolemic, septic, cardiogenic, obstructive)
- 16. Terminal conditions (e.g., end-of-life, palliative care, death and dying)
- 17. Thermoregulation
- 18. Toxin/drug exposure (e.g., withdrawal from maternal or iatrogenic substances, fetal alcohol spectrum syndrome)

II. PROFESSIONAL CARING & ETHICAL PRACTICE (20%)

- A. Advocacy/Moral Agency
- **B.** Caring Practices
- C. Clinical Inquiry
- D. Collaboration
- E. Facilitation of Learning
- F. Response to Diversity
- **G.** Systems Thinking

The sum of these percentages may not equal 100 due to rounding.

Order of content does not necessarily reflect importance.

Neonatal CCRN Test Plan Testable Nursing Actions

CLINICAL JUDGMENT

General

- Anticipate and recognize signs and systems of evolving patient condition
- Assess and monitor based on patient's gestational age
- Identify and monitor normal and abnormal diagnostic test results (e.g., labs, radiology, pathology)
- Implement interventions to keep the neonates safe (e.g., transport, security, safe sleep, safe infant handling, infection prevention)
- Manage equipment and/or devices relevant to patient care
- Manage patients receiving enteral/oral and parenteral medications based on gestational age and weight
- Provide age-appropriate developmental care
- Provide care for families considering equity, diversity, and inclusion
- Provide pre- intra- and post-operative/procedural care
- Recognize indications for advanced therapies and follow protocols
- Recognize signs and systems of emergencies, initiate interventions, and seek assistance as needed
- Recognize the impact of genetics on postnatal care

Cardiovascular

- · Identify, interpret and monitor cardiac rhythms
- Recognize normal fetal circulation and transition to extrauterine life
- Recognize signs and symptoms of hemodynamic instability
- Recognize indications for and manage patients with/ requiring:
 - o congenital cardiovascular abnormalities
 - hemodynamic monitoring (non-invasive and invasive)
 - o patent ductus arteriosus (PDA)
 - o pharmacologic and mechanic cardioversion
 - vascular access (e.g., PIVS, UVC, UAC, Midline, PICC, tunneled, non-tunneled)

Respiratory

- Interpret blood gas results
- Manage medications and monitor patients requiring rapid sequence intubation (RSI)
- Prevent complications related to respiratory support
- Recognize indications for and manage patients with/ requiring:
 - alternative airways (e.g., endotracheal tube, laryngeal mask airway (LMA))
 - assisted ventilation (traditional and high frequency)
 - o chest tubes
 - congenital respiratory/pulmonary abnormalities
 - non-invasive positive pressure ventilation (e.g., CPAP, NIPPV, high-flow nasal cannula)
 - respiratory monitoring devices (e.g., SP02, SV02, ETC02)
 - therapeutic gases (e.g., oxygen, nitric oxide, heliox, CO2)
 - thoracentesis
 - tracheostomy

Hematology and Immunology

- Recognize indications for and manage patients with/ requiring:
 - bleeding disorders and other blood pathophysiology
 - blood conservation techniques
 - congenital hematology/immunology abnormalities
 - transfusion of blood products

Neurological

- Implement strategies for neurologic protection/ promotion
- Recognize indications for and manage patients with/ requiring:
 - o congenital neurological abnormailities
 - neurologic monitoring devices and drains (e.g., ICP, ventricular drain)
 - o pain (non-pharmacologic and pharmacologic)
 - sedation (e.g., procedural, intermittent, continuous)
 - o therapeutic hypothermia

Neonatal CCRN Test Plan Testable Nursing Actions (continued)

Integumentary

- Recognize indications for, and manage patients with/ requiring:
 - o altered skin integrity based on gestational age
 - o congenital integumentary abnormalities
 - o infiltration/extravasation
 - preventative and therapeutic intervention (e.g., neonatal skin care, humidity, bathing, adhesives)
 - therapeutic devices (e.g., wound VACs, pressure reduction surfaces, ostomy device)

Gastrointestinal

- Recognize indications for and manage patients with/ requiring:
 - congenital GI abnormalities
 - o enteral and parenteral nutrition
 - enteral tubes (gastic and post-pyloric)
 - o feeding diffulties and disorders
 - lactation support
 - necrotizing enterocolities (NEC)
 - o peritoneal drains
 - transition to oral feedings

Renal and Genitourinary

- Recognize indications for and manage patients with/ requiring:
 - congenital renal and genitourinary abnormalities
 - fluid/electrolyte management
 - diagnostic procedures (e.g., renal biopsy, ultrasound)

Multisystem

- Follow protocol for newborn screening (e.g., car seat testing, metabolic, hearing and congenital heart disease)
- Recognize the impact of developmental physiology on postnatal care
- Promote thermoregulation based on gestational age
- Recognize indications for and manage patients with/ requiring:
 - o birth trauma
 - o early and late onset sepsis
 - o acid-base and fluid/electrolyte management
 - o palliative and end of life care
 - toxin/drug exposure (e.g., withdrawal from maternal or iatrogenic substances, fetal alcohol spectrum syndrome)

Behavioral and Psychosocial

- Faciliate progressive family involvement in care
- Recognize indications of stress and provide support to family
- Respond to behavioral emergencies (e.g., nonviolent crisis intervention, de-escalation techniques)
- Provide care for diverse families (e.g., cultural, spiritual, LGBTQ+ community)
- Recognize the impacts of social determinants of health
- Facilitate trauma informed care for families

Neonatal CCRN Sample Questions

The purpose of the sample questions is to familiarize candidates with the style and format of the certification exam items.

 A 23-week gestational age infant is reintubated at two weeks of life due to worsening respiratory distress after five days on CPAP. An echocardiogram reveals a moderate-sized patent ductus arteriosus (PDA). Vital signs are:

HR 178

BP 52/28

RR 68

SpO2 86% on 70% FiO2

What is the MOST LIKELY cause of the infant's respiratory failure?

A. sepsis

B. penumothorax

C. acute pulmonary edema

D. pneumonitis

 After delivery, a full-term infant was placed on a radiant warmer. The infant has received thermal management and airway clearing. The Apgar score is 3 at one minute, and apnea is noted. Vital signs are:

HR 50

RR Absent

SpO2 70% on supplemental oxygen

Which NEXT step should the nurse take?

A. positive pressure ventilation

B. naloxone administration

C. immediate intubation

D. cardiac compression initiation

 An infant of a diabetic mother who charts in the 95th percentile on a growth curve is born, and at delivery appears plethoric, lethargic, and with a requirement of CPAP. The nurse suspects the most likely cause for the infant's condition is

A. respiratory distress syndrome.

B. hypoglycemia.

C. transient tachypnea of the newborn.

D. polycythemia.

4. A newborn presents with a fluid-filled sac protruding from the lumbar region. There is no movement in the lower extremities. The infant is spontaneously breathing. Vital signs are:

HR 150

RR 60

T 97.7° F (36.5° C)

SpO2 94%

Which nursing action should be implemented FIRST?

A. Cover the sac loosely and leave it exposed to air.

B. Position the infant to prevent injury to the sac.

C. Administer prophylactic antibiotics immediately.

D. Swaddle the infant supine to maintain warmth.

5. A two-month-old infant, delivered at home, presents lethargic and jaundiced with poor oral intake since birth. Weight is below the second percentile for age. Which newborn screening test would the nurse expect to detect this condition before symptoms appear?

A. metabolic screening

B. Coombs' blood test

C. pre- and post-ductal pulse oximetry screening

D. preprandial glucose

Answers

1. C

2. A

D
 B

4. L

5. A

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Exam Preparation Tools

How to Prepare for Your Certification Exam

Having a thoughtful study plan can boost your confidence and help you feel ready for your exam. AACN Certification Corporation surveys newly certified nurses, and most report they began preparing about three months before the exam, using the methods below.





Test Plan

The test plan in your exam handbook includes specific content areas, with each assigned a percentage reflecting how that area is weighted on the exam. The test plan also includes a list of competencies or testable nursing actions that will be assessed. Consider starting with a practice exam, noting your scores in each content area, and balancing your study time accordingly. If you are retaking a certification exam, refer to your previous score report to identify key areas of focus.



Practice Questions & Exams

Practice questions are certificants' most preferred study method. AACN offers subscription-based practice exams, with questions written in the style and format of exam items, with rationales for correct answers. Strengthen your test-taking skills with timed practice exams.



Review Courses

Formal exam preparation courses, whether online or in person, provide an in-depth review of relevant content areas and often include test-taking strategies. Some review courses also offer continuing education (CE) hours.



Books

When considering books for study, look for authors who are still in clinical practice and have earned the credential you're working toward. Focus on books published in the last five years. The bibliography in your exam handbook lists references used to create/validate items on the exam.



Group Study

Teaming up with colleagues can make learning fun and help boost confidence. Consider collaborating with nurses who have earned the credential you're seeking and/or starting a study group in your workplace or local AACN chapter.

Browse a wide selection of exam preparation resources, including books, online review courses and practice exam options: www.aacn.org/cert-review-products

Check for review courses in your area: www.aacn.org/cert-review-events

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Certification Organization for the American Association of Critical-Care Nurses

AACN Certification Corporation does not approve, endorse or require for eligibility the use of any specific exam preparation products.



1. REGISTRATION INFORMATION

STAPLE CHECK HERE

CCRN Exam Application - Direct Care Pathway

PLEASE PRINT CLEARLY. PROCESSING WILL BE DELAYED IF INCOMPLETE OR NOT LEGIBLE.

L NAME:	Number	RN/APRN Exp. Date		ımber	State	Exp. Date
	Last					
E ADDRESS:	Last					
E ADDRESS:		First		MI		Maiden
			City		State	Zip
L:			HOME PHONE:			
OYER NAME:			BUSINESS PHONE:			
OYER ADDRESS:						
			City		State	Zip
AACN membership includes spectively. AACN dues with Internal Revenue S Member exam f EXAM FOR WHICK	udes nonrefundable \$ s are not deductible as service regulations. ee (\$255) + 1-year	12 and \$15 one-year subsc s charitable contributions f r Membership (\$78) =	criptions to <i>Critical Care N</i> for tax purposes, but may	Nurse® and the Amer y be deducted as a b	ousiness e	Membership Fee \$
CCRN Adult LI C						Exam Fee:
CCRN			AACN Member			=
Check one box only	\$255	\$370	\$180	\$285		Total Payment:
☐ Check this box if yo	u've attached a requ	est and supporting docur	nentation for special te	sting accommodat	ions.	\$
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	would also like to j (check one box or 1-year AACN 2-year AACN 3-year AACN ACN membership includes pectively. AACN dues with Internal Revenue S Member exam f EXAM FOR WHICH CCRN CCRN Check one box only Check this box if you Check or money Check or money Credit Card #	(check one box only) 1-year AACN membership 2-year AACN membership 3-year AACN membership ACN membership includes nonrefundable \$ espectively. AACN dues are not deductible as with Internal Revenue Service regulations. Member exam fee (\$255) + 1-year EXAM FOR WHICH YOU ARE APPL CCRN Adult	would also like to join/renew/extend my AACN membershi (check one box only) 1-year AACN membership	would also like to join/renew/extend my AACN membership at this time and se (check one box only) 1-year AACN membership	would also like to join/renew/extend my AACN membership at this time and select member pri (check one box only)	would also like to join/renew/extend my AACN membership at this time and select member pricing for (check one box only) 1-year AACN membership

This application form may be photocopied and is also available online at www.aacn.org/certification.

Please complete pages 2 & 3 of application.



2 of 3

CCRN Exam Application - Direct Care Pathway

NAME:			AACN CUSTOMER #:				
	Last	First	MI				
5.	DEMOGRAPHIC INFORMATION						
	Check one box in each category. Information used for statistical purposes and may be used in eligibility determination.						
	Primary Area Employed Acute Hemodialysis Unit (21) Burn Unit (13) Cardiac Rehabilitation (26) Cardiac Surgery/OR (36) Cardiovascular/Surgical ICU (09) Catheterization Lab (22) Combined Adult/Ped. ICU (23) Combined ICU/CCU (01) Coronary Care Unit (03) Corporate Industry (24) Crit. Care Transport/Flight (17) Direct Observation Unit (39) Emergency Dept. (12) General Med./Surg. Floor (18) Home Care (25) Intensive Care Unit (02) Interventional Cardiology (31) Long-Term Acute Care (27) Medical Cardiology (34) Medical Cur (04) Medical Surgical ICU (35) Neonatal ICU (06) Neuro./Neurosurgical ICU (10) Oncology Unit (19) Operating Room (15) Outpatient Clinic (29) Pediatric ICU (05) Private Practice (32) Progressive Care Unit (16)	□ Subacute Care (28) □ Surgical ICU (07) □ TeleICU (37) □ Telemetry (20) □ Trauma Unit (11) □ Other – specify below □ (99) □ Primary Position Held □ Academic Faculty (07) □ Acute Care Nurse Practitioner (09) □ Bedside/Staff Nurse (01) □ Case Manager (39) □ Charge Nurse (45) □ Clinic Nurse (40) □ Clinical Coordinator (44) □ Clinical Director (04) □ Clinical Nurse Specialist (08) □ Corporate/Industry (11) □ Hospital Administrator (38) □ Internist (37) □ Legal Nurse Consultant (47) □ Manager (03) □ Nurse Anesthetist (02) □ Nurse Educator (46) □ Nurse Midwife (13) □ Nurse Practitioner (05) □ Outcomes Manager (42) □ Physician (16)	□ Technician (21) □ Unit Coordinator (22) □ Other - specify below ———————————————————————————————————	□ Home Health (13) □ Long-Term Acute Care Hosp. (16) □ Military/Government Hospital (04) □ Non-Academic Teaching Hosp. (14) □ Registry (10) □ Self-Employed (09) □ State Hospital (06) □ Travel Nurse (15) □ University Med. Ctr. (03) □ Other – specify below ————————————————————————————————————			
	☐ Recovery Room/PACU (14) ☐ Respiratory ICU (08) ☐ Stepdown Unit (30)	☐ Physician Assistant (17) ☐ Researcher (18) ☐ Respiratory Therapist (19)	☐ County Hospital (07) ☐ Federal Hospital (05) ☐ HMO/Managed Care (12)	Gender: ☐ Male ☐ Female ☐ Non-binary			

6. HONOR STATEMENT

Complete the Honor Statement on page 34.

7. SUBMIT APPLICATION

Attach Honor Statement to this application and submit with payment to:

AACN Certification Corporation 27071 Aliso Creek Road Aliso Viejo, CA 92656-3399

or fax to: 949-362-2020

DO NOT mail AND fax your application - please choose only ONE method.

NOTE: Allow **2 to 4 weeks** from the date received by AACN Certification Corporation for application processing. Questions? Please visit www.aacn.org/certification, email certification@aacn.org or call us at 800-899-2226.

Please complete page 3 of application (honor statement).



3 of 3

CCRN Exam Honor Statement - Direct Care Pathway

PROCESSING WILL BE DELAYED IF INCOMPLETE OR NOT LEGIBLE.

NAME:	AACN CUSTOMER #:		
Last I hereby apply for the CCRN certif policies and eligibility requireme Certification Exam Policy Handbook	nts as documented in the CCRN Exam H	cation indicates I have read and understand the exam landbook - Direct Care Eligibility Pathway and the	
nursing license An unencumbered license is not I am practicing and has no provis	sions or conditions that limit my nursin		
PRACTICE : I have fulfilled <i>one</i> of	the following clinical practice requiren	nent options:	
	or 1,750 hours in direct care of acutely, he most recent year preceding applicat	/critically ill patients during the past 2 years, with 875 ion.	
	during the previous 5 years with a mining the previous 5 years with a mining the hours accrued in the most recent years.	mum of 2,000 hours in direct care of acutely/critically ar preceding application.	
	ct care of the following acutely/criticall eonatal (check <u>one</u> box only)	y ill patient population:	
A majority of the total practice he critically ill patients.	ours and those within the year prior to	application for exam eligibility were focused on	
Hours were completed in a U.SI standard of acute/critical care nu accreditation.	pased or Canada-based facility or in a fairsing practice as evidenced by Magnet	acility determined to be comparable to the U.S. designation or <u>Joint Commission International</u>	
PRACTICE VERIFICATION : Follow physician) who can verify that I had a second s	wing is the contact information for my c nave met the clinical hour eligibility req	clinical supervisor or a professional colleague (RN or uirements:	
Verifier's Name:	Facility Nam	e:	
Last	First		
Verifier's Phone Number:	Verifier's Em	ail Address:	
You may not list yourself or a relati	ve as your verifier.		
AUDIT : I understand that my cert revocation of certification. If selestatus, or completing CERPs/CE I	ected for audit, I understand that switch	and failure to respond to or pass an audit will result in ning to renewal by exam, selecting Inactive or another	
ETHICS : I understand the import for Nurses.	ance of ethical standards and agree to	act in a manner congruent with the ANA Code of Ethics	
exam confidential and not disclo	NTENT: Submission of this application is or discuss specific exam content wite olicy, sharing of exam content is cause	indicates my agreement to keep the contents of the th anyone except AACN Certification Corporation. Perefor revocation of certification.	
RETAKE POLICY : I understand that I may apply for that after 12 months signing a ne		up to four times in a rolling 12-month period, and	
	e information contained in this applicat read this honor statement and meet th	tion is accurate and submitted in good faith. My ne eligibility requirements as outlined.	
Applicant's Signature:		Date:	

