



2021 CANDIDATE GUIDE

NEONATAL NURSE PRACTITIONER

NNP-BC®

Congratulations on taking the next step in your career – earning your NNP-BC certification!

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THIS EXAM'S PURPOSE

The purpose of the Neonatal Nurse Practitioner Core Certification is to provide an entry level, competency-based examination that tests specialty knowledge and the application of that knowledge for licensed registered nurses in the US and Canada who have completed a US accredited nurse practitioner program in the role of a Neonatal Nurse Practitioner to provide care to acutely and critically ill neonatal patients and their families within hospitals or outpatient settings.

IT IS IMPORTANT TO READ THE INFORMATION IN THIS GUIDE. IT WILL ANSWER YOUR QUESTIONS AND WILL EXPLAIN ALL POLICIES TO WHICH YOU WILL BE SUBJECT.

ABOUT THIS GUIDE

This guide lists fees and provides information that will help you prepare for the examination. It includes the exam content in outline form, competency statements and study guide. It also provides sample exam questions to familiarize you with question format, study resources and lists some of NCC administrative policies & procedures. It is recommended that you familiarize yourself with the information in this guide.

NCC examinations are offered in several different test administrations options. The NCC publication **Guide to Testing Methods** will explain the different rules and policies based on how you are taking the examination. Please download this publication from the NCC website and review the exam administration options. It should answer your questions about the NCC examination process.

If you have other questions, please feel free to contact NCC through the NCC website at NCCwebsite.org.

NCC'S PHILOSOPHY OF TESTING

Certification is an evaluative process that provides the opportunity for advanced practice nurses in the obstetric, gynecologic and/or neonatal specialty to demonstrate publicly what they know and to be recognized for the special knowledge they possess. The NCC certification carries no licensing authority. The ability to practice as an advanced practice nurse is regulated by the state boards of nursing, and while certification may be required in some states for advanced practice roles, NCC has no regulatory power to require states to recognize NCC certification for this purpose. Practice and educational standards are reflected in the certification process, but the responsibility for development of such standards rests with the professional nursing specialty organizations and the nursing educational community. NCC encourages individual advanced practice nurses to seek out information about how certification relates to state licensure requirements, program accreditation of the educational institutions attended, the educational and practice standards of national nursing specialty organizations, and employment expectations.

FEES & GENERAL POLICIES

EXAMINATION AND RELATED FEES

EXAMINATION FEES*

Computer Exam Fees are \$325 which includes the non-refundable \$50 application fee.

**Examination fees are subject to change.*

CHANGE REQUEST

Candidates who cannot take their currently scheduled examination, have missed their testing date or need to take a different exam - can request a change for a fee of \$125. Details are on the NCC website.

WITHDRAWAL FEE

A computer testing candidate who withdraws from testing is subject to a \$165 withdrawal fee. The candidate will receive \$160 of their \$325 payment, minus any outstanding charges. PEC candidates cannot withdraw.

RETEST FEE

Retest candidates must pay full application and examination fees. There are no discounts and they must complete a 90-day wait period* before resubmitting an application for testing. (*see Retest Policy page 4). Certifications exams of the same specialty can only be taken TWICE in a calendar year for the same candidate.

SUBSTITUTION FEE

Candidate substitutions are not allowed for any reason.

THIRD PARTY PAYMENTS

Applicant fees paid by third parties will be refunded to the third party in accordance with stated refund policies, in the event the applicant is determined ineligible or withdraws within the specified time.

Computer exam candidates can change their scheduled testing date to another date within their window **once for free**.

Candidates must handle this directly with PSI/AMP.

Refer to the NCC testing guide for details.

NO REFUNDS WILL BE CONSIDERED FOR ANY CANDIDATE

- who has taken an examination
- who is not successful in achieving certification
- who failed to take the exam via computer within the 90-day testing window and did not submit a change request within stated time frames
- who is beyond the first 30 days of their eligibility window and is unable to schedule their exam within their eligibility window.

FEES & GENERAL POLICIES

PAYMENT INFORMATION

- All applications are subject to a nonrefundable application fee.
- All fees are nonrefundable except where otherwise noted.
- Payments can be made by credit card (Visa, American Express and MasterCard only).
- Payments can be made by check: bank routing number and account number required.
- For payments made by third parties, any refund will be issued to the third party and not to the applicant.
- All payments must be in US funds.
- NCC does not accept debit cards or split payments (part check and part credit card).
- Exam fees can only be submitted online at the NCC website. Applications will not be accepted by mail, phone or fax.
- NCC will accept group payments for certification exams from institutions. Details are on the NCC website.

OTHER NON-REFUNDABLE PAYMENT RELATED FEES

INCOMPLETE APPLICATION FEE

All incomplete applications are subject to a non-refundable \$30 reprocessing fee upon the submission of proper documentation. Incomplete applications are those submitted with missing information, (e.g. required licensure information and corroborating uploaded documentation; containing incomplete or incorrect information; or do not include full fee payment).

RETURNED CHECKS AND CREDIT CARD CHARGEBACK FEE

A \$30 fee will be assessed for any check or e-check returned or a credit card payment disputed for any reason. Remittance thereafter of all fees and applications must be in the form requested by NCC.

LICENSE VERIFICATION

If licensure information is requested requiring an additional submission, the candidate will have two weeks to provide the license with all the correct information and pay the non-refundable \$30 reprocessing fee. If this is not provided within the two weeks, the application will be marked ineligible. Ineligible applicants will receive a refund minus the \$50.00 non-refundable application fee. There are no refunds or withdrawals for applications using a bulk code.

VERIFICATION OF CERTIFICATION

Third party notification of status will not be released without authorization from the RNC. A \$30 fee is required for any third party notification or issuance of duplicates of test results reports. Verification requests can only be submitted after official written results have been received in the mail.

Verification requests can only be made via the online verification system on the NCC website. NCC does not issue verifications via the mail or fax.

Certification will be revoked or withheld if a returned check or a chargeback request on a credit card payment results in loss of income to NCC and the monies are not recovered in an alternate payment. Fees received at any time will first be applied to any unpaid prior certification/special fees.

FEES & GENERAL POLICIES

GENERAL POLICIES

UNSUCCESSFUL CANDIDATES

A candidate who sits for the examination and does not receive a passing score is not eligible for any refund nor for any credit on any later NCC exam.

NONDISCRIMINATION

It is the policy of NCC that no individual will be excluded from the examinations as a result of age, sex, race, religion, national origin, ethnicity, disability, marital status, sexual orientation, military status or gender identity.

AMERICANS WITH DISABILITIES ACT

Special testing accommodations will be provided pursuant to the Americans with Disabilities Act. Any requests for special testing accommodations must be made in writing and submitted with the application. The accommodation request form can be downloaded from the NCC website. Upon receipt of a request for special accommodations, NCC will contact the applicant. Such requests must be signed by a clinician, physician, or other qualified specialist with training and experience appropriate to diagnose and treat the specified disability.

EXAM CATEGORY CHANGES

You can only request an exam category change by completing a **Change Request Form** on the NCC website and submitting with non-refundable payment of \$125. **Candidates are only allowed one change option** (e.g. if you reschedule your exam date, you will not be able to change your exam category). All change requests must be approved by NCC. **There will be no refund of original or Change Request fees.** Eligibility must be re-established for the new exam category, and additional documentation and fees may be required. The time to consider eligibility for the new category will count toward the original assigned 90-day computer testing window.

Examination category cannot be changed from a subspecialty or RN Core application to a NNP or WHNP certification. *Examinees must take the exam for which they have been determined eligible. No changes will be permitted on examination day.* If a candidate knowingly or unknowingly takes an examination other than the one they were found eligible to take, the examination will not be scored. No refunds will be allowed, and all fee policies will apply if the candidate reapplies for an examination. See website for complete details.

RETEST POLICY

You may retake the examination if you do not pass. You must reapply, submit all applicable fees and documentation, and re-establish eligibility according to the appropriate deadlines. There is no limit to the number of times you may retake the examination. **However, the maximum number of times a candidate can take the same NCC test in a calendar year is two.**

All retest candidates must wait 90 days from the date their exam was scored before they can submit a new application to retest.

- this date is provided in the candidate's results notification
- this 90-day wait period affects all modes of testing

Any loss of power or internet during an exam in which there was more than 15 minutes of testing with exposure to more than 10% of the exam requires a retest after 90-days. There is no need to complete a new application but you will need to notify NCC to move your eligibility window so it begins 90-days after the exam attempt. Please notify NCC immediately if this occurs so that a new window can be set.

If a retest application is submitted prior to the 90-day wait period, the application will be returned as ineligible. The applicant will be subject to the \$50 non-refundable application fee.

FEES & GENERAL POLICIES

REVIEW COURSES AND MATERIALS

NCC does not offer or sponsor review courses or review materials for its certification examinations. Examination candidates should view any course of study as being independent of NCC. You should carefully examine the merits of any individual exam preparation offering before you participate.

TEST DISCLOSURE

NCC does not make test questions available for review. Because test questions may be used for more than one examination administration, distributing this information would compromise the security of the test questions and would increase the cost of certification if the questions had to be replaced each year.

REVOCACTION

Your certification may be revoked for falsifying any information submitted to determine eligibility to take the certification examination or for maintaining certification, for losing your license to practice nursing, or for failing to pay designated certification or maintenance fees.

**POLICIES ARE SUBJECT
TO CHANGE
WITHOUT NOTICE.**

GENERAL POLICIES (CONTINUED)

INTERNET DISCONNECTIONS

If you start the exam and are disconnected please use the PSI tech lines if you are testing with LRP or if at a test center please discuss with the proctor to attempt to get reconnected and continue testing.

If you are unable to get reconnected after starting the exam, the timing for a second attempt to take the exam will be based on how much time and how many questions you were exposed to. If you are disconnected and cannot be reconnected and have tested for under 15 minutes and were exposed to less than 10% of the exam you will be rescheduled within your current eligibility window. **You must work directly with PSI that day to reschedule and if you run into any issues you must notify NCC within 3 days of testing.** If you tested for longer than 15 minutes and/or saw more than 10% of the questions on the exam you will have to wait 90 days and will be rescheduled. A decision on the timing of your second attempt will be made after reviewing the test exposure. Please note, you will need to retest at a computer center. Please notify NCC of the internet disconnection issue as soon as you have convenient computer access.

APPEALS PROCEDURE

Any request to waive any policy of the NCC Board of Directors relative to eligibility, administration, examination content issues, or certification maintenance must be received in writing within 60 days of the dispute. All requests should be sent to the attention of the NCC President at nccpresident@nccnet.org. The correspondence should contain a detailed account as to why the NCC policy should be waived or the candidate's status should be changed. Such requests are referred to the NCC Policy Review Committee of the Board of Directors. All decisions will be provided in writing. Cases not resolved by the Policy Review Committee will be referred to the full Board of Directors.

DESIGNATION AUTHORIZATION

Certification is a non-transferable, revocable, limited, non-exclusive license to use the certification designation "NNP-BC®", subject to compliance with the policies and procedures, as may be revised from time to time.

Any use or display of NCC certification marks and/or logos without the prior written permission of the NCC is prohibited. Any candidate or certificant who manufactures, modifies, reproduces, distributes or uses a fraudulent or otherwise unauthorized NCC certificate, NCC designation or other credential may be subject to disciplinary action, including denial or revocation of eligibility or certification. Any individual who engages in such behavior also may be subject to legal action.

ABOUT THE EXAM

ABOUT THE EXAM

TIMED EXAMINATION

Three (3) hours are allotted to complete the examination.

EXAM FORMAT

The Neonatal Nurse Practitioner examination consists of up to 175 test questions. 150 are scored and the remainder are embedded in the exam as pretest items. The pretest items do not count toward the examinee's final results.

- There is one question format used for all NCC examinations.
- Each question has a premise (stem) and three alternative answers.
- The answer options are alphabetized by the first word in each answer option to randomize the answers.
- Computer tests are delivered in a different random order for each candidate.
- Questions will test both basic knowledge and application of knowledge.
- Questions that contain laboratory data will show results in conventional units of measure with international units in parentheses.
- Drugs are listed in both generic and trade names where appropriate.

EXAMINATION CONTENT DEVELOPMENT

The development of NCC certification involves many individuals and involves a meticulous process of review. There are three major groups that contribute to the test development process:

ITEM WRITERS:

NPs and others identified with special expertise have the responsibility of drafting test items per designated assignment for review by the content team and expert reviewers. Item writers are solicited from the NCC certified population, by recommendations or through the volunteer portal.

REVIEWERS:

Reviewers are NPs or other designated experts who assist the content teams in review of test items developed by the item writers. Reviewers are responsible for reviewing items for content relevance and confirming that references cited for the questions support the items as written.

CONTENT TEAMS:

Content team members are experienced practitioners and are appointed on an annual basis by the NCC President. Content teams are solicited from the NCC certified population, by recommendations or through the volunteer portal. To see the current membership composition of the Content Team responsible for the Neonatal Nurse Practitioner examination, please visit the NCC website under the section on NCC Leadership.

Content team members are NPs or other identified experts who:

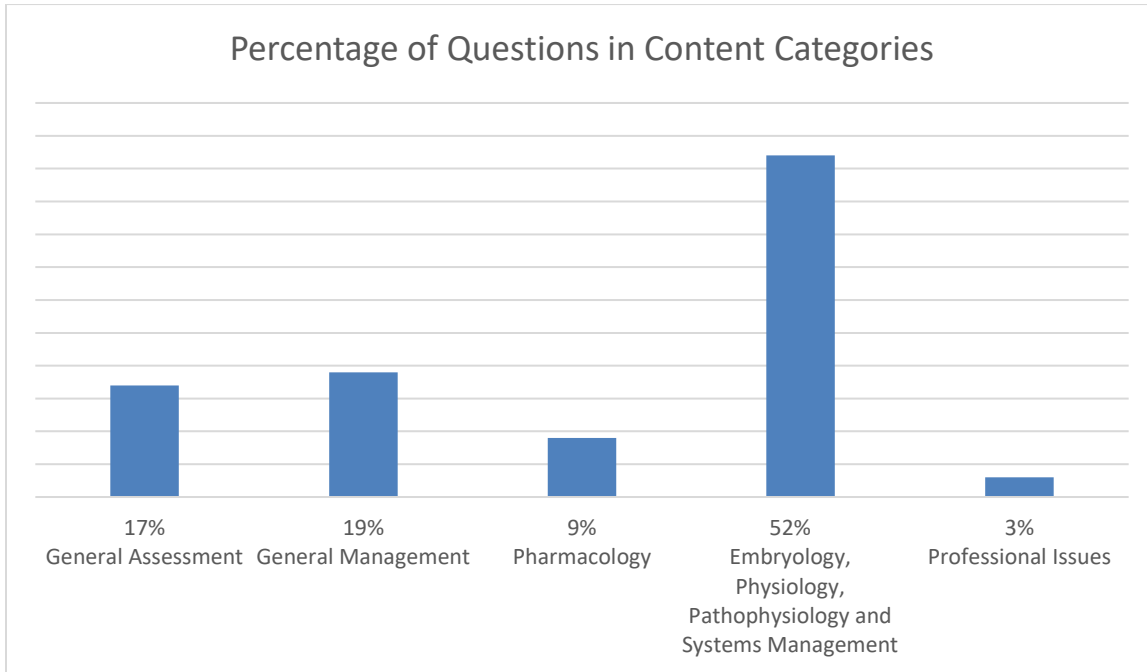
- develop and update the test outline and competency statements
- review test items developed by item writers
- review item statistics from exam administrations and pretest examinations
- approve the exam forms to be administered
- review item banks

In addition, NCC uses volunteers for standard setting and content validation studies.

EXAMINATION CONTENT



Neonatal Nurse Practitioner exam



The above chart shows the percentage distribution of questions on the Neonatal Nurse Practitioner exam across the major content categories covered on the examination. The major focus of the examination is on Embryology, Physiology, Pathophysiology and Systems Management. Less emphasis is on General Management, General Assessment and Pharmacology while the Professional Issues category has the lowest percentage of content covered on the exam.

EXAMINATION CONTENT

EXAM OUTLINE

Areas of knowledge to be tested on the Neonatal Nurse Practitioner examination are listed in the following outline.

This list is not intended as an all-inclusive review of the role and scope of knowledge of the neonatal nurse practitioner. It is provided only to help certification candidates evaluate their own nursing practice.

Percentages identified for the topic areas represent the number of test questions assigned to each content area. These areas do not necessarily reflect the content of future examinations.

11.00 General Assessment (17%)

Maternal History Affecting the Newborn

- Antepartum
- Intrapartum
- Intrauterine Drug Exposure

Neonatal

- Physical Examination & Gestational Age/Behavioral Assessment
- Clinical Laboratory Tests
- Diagnostic Procedures, Techniques and Equipment

Family Integration

- Family Integration and Communication
- Grieving Process

Discharge Planning and Follow Up Care

12.00 General Management (19%)

Thermoregulation

Resuscitation and Stabilization

Growth and Nutrition

Fluids and Electrolytes

15.00 Pharmacology (9%)

Pharmacokinetics and Pharmacodynamics

Drugs and Breastfeeding

Common Drug Therapies

13.00 Embryology, Physiology, Pathophysiology and Systems Management (52%)

Cardiac

Respiratory

Gastrointestinal

Renal/Genitourinary

Metabolic/Endocrine

Hematopoietic

Infectious Diseases

Musculoskeletal

Integumentary

Genetics

Neurological

Ears, Eyes, Nose & Mouth/Throat

14.00 Professional Issues (3%)

including: Evidence Based Practice, Legal/Ethical Principles, Quality Improvement, Patient Safety

EXAMINATION CONTENT

ASSOCIATED COMPETENCIES

- Demonstrate the knowledge inherent in the role and scope of NNP practice
- Apply knowledge of basic sciences to the provision of neonatal health care
- Obtain and interpret a comprehensive perinatal history and a systematic assessment of all body systems
- Obtain clinical laboratory information and interpret the resultant data
- Institute diagnostic procedures and techniques and interpret the resultant data
- Apply critical thinking to diagnose reasoning and clinical decision make with the care giver and family
- Evaluate the benefits and risks of diagnostic and therapeutic intervention
- Use adult learning principles when teaching about the care, growth and development of the high risk infant up to 2 years of age
- Formulate a diagnosis and a plan of care in collaboration with physicians, other health care professionals and family.
- Initiate appropriate therapeutic and educational interventions including consultations and referral
- Evaluate and document responses to interventions and modify the plan of care as indicated
- Maintain current knowledge regarding advances in neonatal health care
- Apply knowledge of basic research principles to practice
- Integrate legal and ethical principles into neonatal health care

STUDY GUIDE

GENERAL ASSESSMENT

I. Maternal History Affecting the Newborn

Antepartum

- Neonatal complications: maternal risk factors & complications
 - gestational hypertension
 - cardiac/pulmonary disease
 - diabetes
 - common infectious diseases
 - common hematologic diseases
 - placental insufficiency
 - substance abuse
 - medication effects
 - common prescription or non-prescription drugs
- Fetal assessment
 - fetal fibronectin
 - nonstress test
 - biophysical profile
 - ultrasound/doppler flow
 - amniocentesis
 - antenatal screening/quad screen
- Fetal procedures

Intrapartum

- Fetal Heart Rate (FHR) Patterns
- Effects on the Fetus/Neonate
 - tocolysis/induction
 - analgesia
 - anesthesia
 - neuroprotective agents
- Intrapartum Complications
 - amniotic fluid volume
 - oligohydramnios
 - polyhydramnios
- Rupture of Membranes
 - premature
 - prolonged

Intrauterine Drug Exposure

- Nicotine
- Alcohol
- Prescription/nonprescription
- Illicit Drug

II. Neonatal

Physical Examination & Gestational Age/Behavioral Assessment Identify Normal, Normal Variants and Abnormal Findings

- General appearance
- Head, eyes, nose, ears and mouth
- Neck and throat
- Chest
- Abdomen
- Spine/back
- Extremities
- Genitalia
- Musculoskeletal
- Skin
- Vital signs
- Gestational age assessment physical
 - Characteristics of
 - preterm
 - term
 - post-term
 - AGA
 - SGA
 - LGA
- Associated risks/Complications of variations in gestational age
- Abnormalities of intrauterine parameters
- Behavioral assessment
 - state
- Muscle movement/tone/reflexes
- Autonomic control/responses
- Neurosensory capabilities
- Neurological assessment

STUDY GUIDE

Clinical Laboratory Tests

- Microbiological
- Biochemical
- Hematological
- Endocrine
- Immunologic
- Genetic

Diagnostic Studies, Techniques and Equipment

Diagnostic studies

- Ultrasound/Doppler
- CT scan
- MRI
- X-ray/fluoroscopy
- EKG
- EEG
- Echocardiogram
- Voiding Cystourethrogram

Techniques & Equipment

- Procedures
 - bag and mask ventilation and T-piece
 - LMA's
 - endotracheal intubation
 - umbilical vessel and peripheral catheterization
 - chest tube insertion/removal
 - needle aspiration
 - spinal/lumbar tap
 - intraosseous access
 - intravenous line placement (central/peripheral)
 - blood sampling
 - circumcisions - complications/contraindications

- Equipment

- cardiopulmonary monitors
- oxygenation equipment/end tidal CO2 monitoring
- invasive/non-invasive blood gas monitoring
- indwelling catheters
- incubators/radiant warmers
- ventilators
- phototherapy

III. Family Integration

Communication

- Family centered care
- Barriers to parent/infant interaction

Grieving Process

- Stages of grieving and common behaviors
- Factors influencing enhancement or impediment of grief process
- Palliative care/End of life
- Parental depression

IV. Discharge Planning and Follow Up

- Anticipatory guidance
- Follow up screening
- Hearing
- Vision - ROP
- Developmental
- Health risks
- Discharge preparation
- Follow-up care

STUDY GUIDE

GENERAL MANAGEMENT

I. Thermoregulation

- Mechanisms and management of heat transfer
 - evaporation
 - conduction
 - convection
 - radiation
- Rewarming techniques
- Mechanisms of heat production
- Temperature assessment
- Neutral thermal environment

II. Resuscitation and Stabilization

- Transition to extrauterine life
- Delivery room assessment
- Techniques of resuscitation
- Indications for interventions
- Cord blood gas interpretation
- Neonatal transport

III. Growth and Nutrition

- Physiology of Digestion and Absorption
- Nutritional Requirements
- Enteral Feeding
- Parenteral Nutrition
- Composition of Breast Milk/Formulas/Donor milk
- Dietary Supplementation

IV. Fluids and Electrolytes

- Common problems and conditions
- Fluid & Electrolyte requirements
- Insensible water loss/gain
- Central & peripheral infusion
- Acid base balance
- Fish oil emulsion (Omegaven) SMOF

STUDY GUIDE

PHARMACOLOGY

I. Pharmacokinetics & Pharmacodynamics

- Pharmacokinetics
 - distribution
 - excretion
 - absorption
 - metabolism
 - withdrawal
- Principles of administration
 - dosage/interval
 - route
 - tolerance/weaning

II. Drugs and breastfeeding

- Drug transfer
- Drug safety

III. Common Drug Therapies

- Analgesia/narcotics
- Anticoagulants
- Anticonvulsants
- Antihypertensive drugs
- Antimicrobials
 - biologics/immunities
 - vaccinations
- Cardiovascular drugs
 - vasodilators/vasopressors
 - antidysrhythmia drugs
- Diuretics
- GI drugs
 - antacids
 - prokinetic
 - proton pump inhibitors
- Inhalants
 - iNO
- Neurologic agents
 - anesthetics agents
 - sedatives
 - hypnotics
- Respiratory drugs
 - bronchodilators
 - respiratory stimulants
 - surfactant therapy
- Steroids

STUDY GUIDE

EMBRYOLOGY, PHYSIOLOGY, PATHOPHYSIOLOGY & SYSTEMS MANAGEMENT

I. Cardiac

- Congenital Cardiac Defects
 - cyanotic
 - Ebstein's Anomaly
 - Tetralogy of Fallot
 - truncus arteriosus
 - transposition of great vessels
 - total anomalous pulmonary venous return
 - tricuspid atresia
 - acyanotic
 - ventricular septal defect
 - coarctation of aorta (interrupted arch)
 - atrial septal defect
 - hypoplastic left heart syndrome
 - endocardial cushion defect (AV canal)
 - aortic stenosis
- Patent ductus arteriosus
- Congestive heart failure
- Hypertension/Hypotension
- Shock
- Dysrhythmias
- PGE's

II. Respiratory

- Respiratory distress syndrome
- Transient tachypnea
- Pneumothorax and air leaks/chylothorax
- Congenital pulmonary airway malformation (CPAM)
- Cystic pulmonary
- Apnea of prematurity
- Meconium aspiration
- Diaphragmatic eventrations
- Persistent pulmonary hypertension
- Pneumonia
- Pulmonary hemorrhage
- Pulmonary hypoplasia
- Diaphragmatic hernia
- Chronic lung disease
- Laryngeal, tracheomalacia/stenosis

- Respiratory support
 - principles and methods of oxygen
 - administration/ventilation
 - risk factors affecting oxygenation/ventilation
 - oxyhemoglobin dissociation curve
 - high frequency ventilation (HFV)
 - extracorporeal membrane oxygenation (ECMO)
 - nitric oxide
 - neurally adjusted ventilatory assist (NAVA)
 - nasal intermittent positive pressure ventilation (NIPPV)
 - noninvasive ventilation (NIV)

III. Gastrointestinal

- Development of the GI tract
- Digestive and absorptive disorders
 - diarrhea/short gut
- Disorders of suck/swallow/motility
 - GERD
 - cleft lip palate
 - Duodenal atresia
 - tracheoesophageal fistula
 - esophageal atresia
 - small left colon syndrome
 - Hirschsprung disease
 - volvulus
 - imperforate anus
 - pyloric stenosis
- Malabsorption/maldigestion
- Diarrhea/short gut
- Anomalies/obstruction of upper and lower GI tract
 - small left colon syndrome
 - Hirschsprung's disease
- Abdominal wall defects
 - gastroschisis
 - omphalocele
- Obstructions
- Perforations
- Meconium ileus
- Tracheoesophageal fistula
- Necrotizing enterocolitis
- Inguinal hernia

STUDY GUIDE

IV. Renal/Genitourinary

- Renal vein/artery thrombosis
- Acute renal failure/insufficiency
- Polycystic/multicystic dysplastic kidneys
- Urinary outflow tract obstruction
- Testicular torsion
- Exstrophy of the bladder
- Hypospadias/epispadias
- Hydronephrosis grading system/hydroureter

V. Endocrine/Metabolic

- Adrenal disorders
- Ambiguous genitalia
- Calcium disorders
- Glucose disorders
- Magnesium disorders
- Phosphorus disorders
- Pituitary disorders
- Thyroid disorders
- Infants of diabetic mothers
- Osteopenia of prematurity

VI. Hematopoietic

- Hematological disorders
 - anemia
 - polycythemia
 - platelet disorders
 - coagulopathies
 - vitamin K deficiency
 - disseminated intravascular coagulation
 - factor deficiencies
 - neutropenia/neutrophilia
 - Rh disease and ABO incompatibility
- Blood component therapy
- Jaundice and liver disease
- Hyperbilirubinemia (direct and indirect)
 - Breastmilk jaundice
- Kernicterus
- Phototherapy
- Exchange transfusion
- Biliary atresia

VII. Infectious Diseases

- Normal immunologic function
- Common neonatal infections
 - group B streptococcal
 - e-coli
 - staphylococcal
 - klebsiella
 - enterococcus
 - candidiasis
 - pseudomonas
 - enterovirus
 - respiratory syncytial virus (RSV)
 - CMV
 - hepatitis B
 - toxoplasmosis
 - herpes
 - HIV/AIDS
 - chlamydia
 - gonorrhea
 - syphilis
 - varicella
- Neonatal sepsis
- SIRS
- Meningitis
- Septic shock
- Infection control and universal precautions
- MRSA/VRSE
- Osteomyelitis

VIII. Musculoskeletal

- Abnormalities of the skeleton
 - metatarsus adductus
 - achondroplasia
- Clubfoot
- Developmental dysplasia of the hip
- Spinal abnormalities
- Musculoskeletal birth injuries
 - fractures
 - nerve damage
 - torticollis
- Aperts, crouzon, etc.

STUDY GUIDE

IX. Integumentary

- General skin development and care
- Disorders
 - ecchymosis
 - epidermolysis bullosa
 - hemangiomas
 - ichthyosis
 - subcutaneous fat necrosis
- Milia/miliara
- Hyperpigmented macule
- Erythema toxicum
- Neonatal pustular melanosis
- Auricular tags
- Petechiae
- Port wine stain
- Hyper/hypopigmentation

X. Genetics

- Genetic processes
 - multifactorial inheritance
 - nondisjunction
 - translocation
 - deletion/duplication
 - sex linked inheritance
- Inborn errors of metabolism
- Hyperammonemia
- Newborn Screening
 - galactosemia
 - cystic fibrosis
- Chromosomal abnormalities/syndromes
 - Trisomy 21
 - Trisomy 13
 - Trisomy 18
 - Turner syndrome
 - Beckwith-Wiedemann syndrome
 - DiGeorge syndrome
- Osteogenesis imperfecta
- Potter sequence
- VATER/VACTERL
- CHARGE

XI. Neurological

- Perinatal – depression/asphyxia
- Hypoxic ischemic encephalopathy
 - therapeutic hypothermia
- Cranial hemorrhages
- Hydrocephalus
- Neural tube defects
- Seizures
- Jitteriness
- Periventricular leukomalacia
- Auto regulation
- Cerebral palsy
- aEEG
- Near-infrared spectroscopy (NIRS)
- Congenital neuromuscular disorders
- Craniosynostosis

XII. Ears, Eyes, Nose and Throat

- Eyes
 - eye prophylaxis
 - cataracts
 - coloboma
 - glaucoma
 - retinopathy of prematurity
 - strabismus
 - conjunctivitis
- Nose
 - nasolacrimal duct obstruction
 - choanal atresia
 - deviated septum
- Ears
 - malformations
- Mouth/throat
 - cleft lip and palate
 - micrognathia/retrognathia
 - macroglossia
- airway obstruction

STUDY GUIDE

PROFESSIONAL PRACTICE ISSUES

Ethical Principles

- Autonomy
- Beneficence
- Non-maleficence
- Justice

Professional/Legal Issues

- Professional
 - Regulation
 - Practice
 - HIPPA
- Staffing issues
- Legal liability
 - Consent
 - Documentation/medical records
 - Negligence/malpractice

Evidence based practice

- Terminology
 - Reliability
 - Validity
 - Significance
 - Levels of Evidence
- Quality Improvement
- Research utilization

Patient Safety

- Communication
- Interprofessional practice

STUDY RESOURCES

- Blackburn, Maternal, Fetal, & Neonatal Physiology, Elsevier, 2018.
- Fanaroff, et al., Klaus & Fanaroff's Care of the High-Risk Neonate, Elsevier-Saunders, 2020.
- Gardner, et al., Handbook of Neonatal Intensive Care, Elsevier, 2021.
- Gleason, et al., Avery's Diseases of the Newborn, Elsevier, 2018.
- Goldsmith, et al., Assisted Ventilation of the Neonate 6th ed, Elsevier Saunders, 2017.
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SAMPLE QUESTIONS

NEONATAL NURSE PRACTITIONER SAMPLE QUESTIONS

Listed below are five sample questions to acquaint you with the test question format. These questions do not reflect the scope or the difficulty level of the questions on the actual examination. The reference from which each question is derived is also cited. However, other references might substantiate a different answer, and the answer shown here might be substantiated by other references.

The rigorous review to which actual test questions are subject is not applied to these sample questions. The focus that should be attended to in reviewing these items is format, not content.

1. The goal of treatment of gastroesophageal reflux in the premature neonate is to

- A. achieve normal gastric emptying
- B. decrease lower esophageal sphincter pressure
- C. increase gastric pH

Answer: A

Martin, et al., Neonatal Perinatal Medicine Diseases of the Fetus and Infant, Elsevier Mosby, St. Louis, 2015, 1407-1408

2. When auscultating the lungs of a neonate, the nurse practitioner hears stridor. This most likely indicates

- A. bronchospasm
- B. inflammation of the pleura
- C. subglottic stenosis

Answer: C

Tappero, et al., Physical Assessment of the Newborn, Springer, 2019, p. 88

3. Upper and lower extremity blood pressures should be taken for the neonate with decreased femoral pulses to evaluate for

- A. coarctation of the aorta
- B. patent ductus arteriosus
- C. transposition of the great arteries

Answer: A

Verklan, et al., Core Curriculum for Neonatal Intensive Care, Elsevier, Saunders, 2015, p. 553-554

4. The recommended hepatitis B immunization schedule for a neonate born to a hepatitis B surface antigen (HBsAg) positive mother is

	Initial	Second	Third
A. At birth		1 month	6 months
B. Before discharge		2 months	6 months
C. 0-7 days		1 month	12 months

Answer: A

Verklan, et al., Core Curriculum for Neonatal Intensive Care, Elsevier, Saunders, 2015, p. 65

5. A neonate with bronchopulmonary dysplasia has the following blood gas values:

pH	7.38
PCO ₂	50 mmHg
HCO ₃	29 mEq/L (mmol)
Base excess	+3 mEq/L

The best interpretation of the blood gas is

- A. compensated metabolic acidosis
- B. compensated respiratory acidosis
- C. normal value

Answer: B

Gardner, et al., Handbook of Neonatal Intensive Care, Elsevier, Mosby, St. Louis, 2016, p. 155-156

SCORING & TEST REPORT

HOW EXAMS ARE SCORED

NCC examinations are criterion-referenced. This means the passing score is based on a predetermined criterion. This criterion is a statistical ability level established by the Content Team based on evaluation of criticality of content and the test questions' past statistical performance. Questions used to determine pass/fail have proven statistical history that demonstrates the question is appropriate for use to measure an individual's ability level.

There is no set percentage passing level. **An ability level for each candidate is calculated based on the number of questions they answer correctly (there is no penalty for wrong answers).** Pass/fail is determined based on this ability level as compared to pass/fail standard which is a predetermined ability criterion. When different forms of the examination are used, a process called equating is initiated. This procedure converts all results to a common scale. So someone who takes a slightly more difficult form of the exam will need to answer fewer questions correctly than someone who takes a slightly easier form of the exam.

NCC utilizes the item response theory of psychometrics for the analysis of its examinations. Item response theory (Rasch analysis) is the study of test and item scores based on assumptions concerning the mathematical relationship between abilities and item responses. This is a commonly used system, and such examinations as the NCLEX and other health related certification examinations utilize this type of psychometric analysis.

Test reports identify pass/fail status, and they give feedback on the various content areas of the examination in the form of word descriptors: very weak, weak, average, strong and very strong. No percentages or standard scores are given. These descriptors are based on the items within a given subtest. The overall pass/fail decisions are based on the full test, and the verbal descriptors are intended to provide suggested feedback on strengths and weaknesses in various content areas. Since this feedback is based on relatively few items, general verbal descriptions are given instead of subtest scores. These word descriptors are for information only, and they should be interpreted cautiously due to the small number of items included in each content area.

SCORING & TEST REPORT

SAMPLE TEST REPORT

You will receive an official test results report from NCC. Shown below is a sample test result report for a candidate who has passed the examination.

NEONATAL NURSE PRACTITIONER EXAMINATION

Test Results

NAME

DATE

ADDRESS

Pass/Fail: PASS

EXAM CONTENT REPORT

The following provides information regarding your performance on the different content areas tested on the examination.

Test reports identify pass/fail status, and they give feedback on the various content areas of the examination in the form of word descriptors: Very weak, weak, average, strong and very strong. No percentages or standard scores are given. These descriptors are based on the items within a given subtest. The overall pass/fail decisions are based on the full test, and the verbal descriptors are intended to provide suggested feedback on strengths and weaknesses in various content areas. Since this feedback is based on relatively few items, general verbal descriptions are given instead of subtest scores. These word descriptors are for information only, and they should be interpreted cautiously due to the small number of items included in each content area.

Content Area & Percentage

Your Results:

Range of Questions Asked:

General Assessment
(17%)

WEAK

General Management
(19%)

AVERAGE

Embryology, Physiology, Pathophysiology
and Systems Management
(52%)

VERY STRONG

Pharmacology; Professional Issues
(12%)

AVERAGE

TERMS OF CERTIFICATION AND CERTIFICATION MAINTENANCE

WHEN YOU PASS THE EXAM

CREDENTIAL

Your NCC certification status entitles you to use the credential NNP-BC® (Neonatal Nurse Practitioner-Board Certified)

TERMS OF CERTIFICATION

NCC certification is awarded for a period of three years.

The effective date for certification is the date on the official NCC letter that tells you that you have successfully completed the certification process.

NO CONTINUING EDUCATION IS ISSUED FOR TAKING THE NEONATAL NURSE PRACTITIONER EXAM.

MAINTAINING YOUR CERTIFICATION

- NCC certification must be maintained every three years.
- Certification that is not maintained will expire
- The NCC certification maintenance program allows you to continue your certification status by obtaining specific hours of continuing education credit as defined in your Education Plan, which is generated by your Continuing Competency Assessment (CCA).
- For continuing education credit to be used for certification maintenance it must be earned **AFTER you have taken your Assessment and in the areas defined by your Education Plan** before your maintenance is due.
- The maintenance process includes submitting a maintenance application prior to your maintenance due date with appropriate fees and requested documentation. Using NCC CE modules does NOT automatically maintain your certification. You must submit a maintenance application and pay a maintenance fee in addition to any CE fees.
- Maintenance applications are subject to random audit. If you are chosen for audit, you will be required to upload CE certificates and course descriptions. These records should be maintained during each maintenance cycle, until your maintenance application has been approved. You can upload these documents in your maintenance application throughout your maintenance cycle.

You may apply for maintenance up to 1 year before your maintenance date. As long as you have obtained the required contact hours of continuing education credit—**you do not need to wait until your maintenance deadline to apply**. Maintenance will be due in the quarter in which you were notified of your certification (*not the date on which you took the examination*). Your maintenance due date can be found by signing into your NCC account. Sign into your account using your email and password.

The NCC website has more detailed information

For more information about the certification maintenance program and the Continuing Competency Assessment (CCA), click the purple "Maintain your Certification" box.

TERMS OF CERTIFICATION AND CERTIFICATION MAINTENANCE

VISIT THE NCC WEBSITE AND
DOWNLOAD YOUR
CONTINUING COMPETENCY
ASSESSMENT BROCHURE FOR
COMPLETE DETAILS!

CONTINUING COMPETENCY ASSESSMENT (CCA)

NCC views certification as a process that functions throughout an individual nurse or nurse practitioner's career. It reflects life-long learning, ongoing professional development and is supported by maintaining specialty knowledge competencies.

The standard process for the NCC Certification Maintenance Program makes use of an assessment tool and resulting personal education plan:

- Complete the continuing competency assessment (CCA) that reflects the current knowledge competencies aligned with your certification specialty at the beginning of each new certification maintenance cycle.
- Earn CE as specified by the education plan developed from your assessment. Your education plan outlines the CE needed to maintain your NCC certification. ***Only CE earned after you have taken your assessment can be used to maintain your certification. It must address the CE needs as outlined by your educational plan.***

This program provides continuing validation that NCC certified nurses and nurse practitioners are maintaining their specialty knowledge competencies based on current practice and examination content.

Download Continuing Competency Assessment brochures for details by clicking the links below.

Four Steps to Continuing Competency

<https://www.nccwebsite.org/content/documents/cms/cca-steps.pdf>

Continuing Competency Assessment - Education Plan Examples

<https://www.nccwebsite.org/content/documents/cms/cca-education-plans.pdf>