



## 2018 CANDIDATE GUIDE

### LOW RISK NEONATAL NURSING

*Congratulations on taking the next step in your career*

*– earning your RNC-LRN certification!*

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**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.**

***NCC core and subspecialty programs are accredited by the National Commission for Certifying Agencies***

#### ABOUT THIS GUIDE

This guide lists fees, general policies and provides information that will help you prepare for the examination including sample questions to familiarize you with question format, competency statements and examination content in outline form. Study resources are also suggested for your review. 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](http://NCCwebsite.org).

#### NCC'S PHILOSOPHY OF TESTING

Certification is an evaluative process that provides the opportunity for 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 a 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 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 in the community

# FEES & GENERAL POLICIES

## EXAMINATION AND RELATED FEES

### EXAMINATION FEES\*

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

Professional Education Center (PEC) Exam Fees are \$275 which includes the non-refundable \$50 application fee.

Institutional Certification Program (ICP) Exam Fees are pre-paid by your institution.

*\*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 will receive \$160 of their \$325 payment. PEC and ICP candidates cannot withdraw.

### RETEST FEE

Retest candidates must pay full application and examination fees. There are no discounts and they must wait at least 90 days before resubmitting an application for testing.

### SUBSTITUTION FEE

Candidate substitutions are not allowed for ineligible, withdrawal, or candidates who filed a change request.

### THIRD PARTY PAYMENTS

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

### NO REFUNDS WILL BE CONSIDERED

- after the candidate has taken an examination
- for any candidate that is not successful in achieving certification
- for candidates who failed to take the exam via computer within their 90 day testing window and did not submit a change request within stated time frames

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.

# 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 reimbursement 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 be submitted only 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 PAYMENT RELATED FEES

### INCOMPLETE APPLICATION FEE

Incomplete applications are those missing any requested information or documentation, contain wrong or no fees, or for any other reason results in an inability to determine applicant eligibility status. Such applications, are subject to a **\$30 re-processing fee** and all documents and fees must be reconciled in full no later than 21 days prior to the exam.

### INELIGIBLE FEE

Any applicant determined ineligible (for any reason) will be assessed the **\$50 nonrefundable application fee**. The examination fee will be refunded.

### RETURNED CHECK FEE

A **\$30 fee** will be assessed to any applicant whose check or e-check is returned to NCC for any reason. Remittance thereafter of all fees and applications must be in the form requested by NCC. Contact NCC for requirements.

### CREDIT CARD CHARGEBACK

A **\$30 fee** will be assessed if an applicant's credit card company issues a notice of retrieval or a chargeback in response to the cardholder's dispute of the credit card charge. Remittance thereafter of all fees and applications must be in the form requested by NCC. Contact NCC for requirements.

### THIRD PARTY PAYMENTS

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

***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

### 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.

### 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.

### EXAM CATEGORY CHANGES

Requests to change examination category must be made prior to making an appointment to take the test. 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 Form 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 90 day window assigned to take the examination. 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 she/he was 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.

### 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 candidates must wait at least **90 days before making application to retake the examination** by computer or paper and pencil. All submission deadlines for application for paper and pencil testing must be met. No accommodation will be given to those who are retesting via paper and pencil mode if they cannot meet application deadline because of the 90 day wait rule. The **maximum number of times a candidate can take the same NCC test in a calendar year is two.**

### AMERICANS WITH DISABILITIES ACT

Special testing accommodations will be provided pursuant to the Americans with Disabilities Act. Contact the NCC office for further information before submitting your application.

# 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 review any purported course of study as being independent of NCC. You should carefully examine the merits of any individual exam preparation offering before you participate.

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

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## GENERAL POLICIES (CONTINUED)

### 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.

### 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](mailto: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.

### 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.

### REVOCAION

Your certification may be revoked for falsifying any information submitted relative to 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.

### ANSWER SHEET REVIEW OF PAPER AND PENCIL EXAMINATIONS

All answer sheets are scored electronically. If you believe there might be a discrepancy in your results, you may request a review of your answer sheet for a fee of \$40. This request must be submitted online at the NCC website within 60 days of the exam date. The online request form is under "Other helpful information" in the Certification Exam section of the "Get Certified" tab. You will be notified of the results by mail.

### RETENTION OF ANSWER SHEETS AND EXAMINATION BOOKLETS

All answer sheets are kept for one year from the date of the examination. Examination booklets used by the candidates are kept for six months from the date of the examination. Computer answer strings are kept for at least one year from the date of the examination.

# ABOUT THE EXAM

## ABOUT THE EXAM

### TIMED EXAMINATION

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

### EXAM FORMAT

The Low Risk Neonatal Nursing examination consists of up to 175 test questions. 150 are counted for scoring 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:

RNCs 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 RNC population and through recommendations.

### REVIEWERS:

Reviewers are RNCs 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 RNC (Registered Nurse Certified) population, NCC item writer workshop participants and from experts in the field. To see the current membership composition of the Content Team responsible for the Low Risk Neonatal Nursing examination, please visit the NCC website under the section on NCC Leadership.

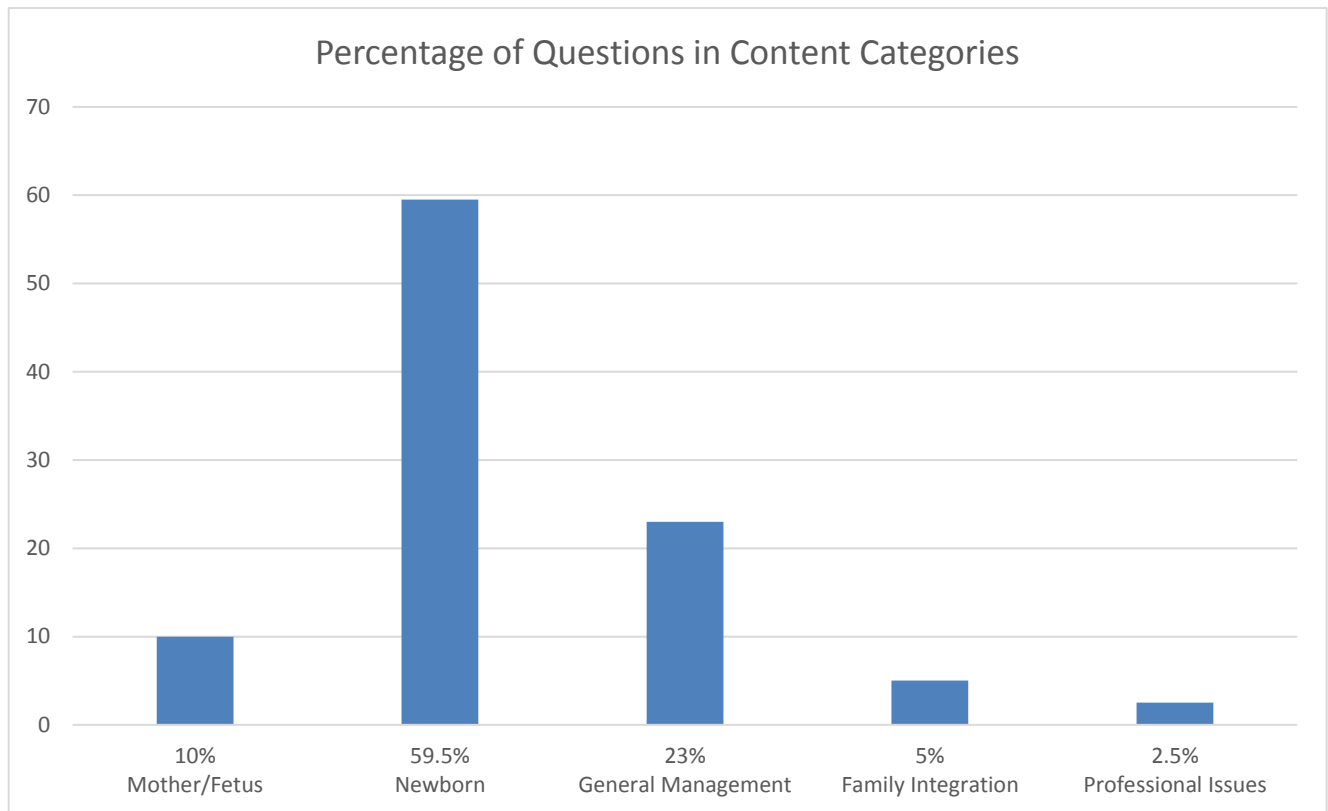
Content team members are RNCs or other identified experts who:

- develop and update the test outline and competency statements
- review test items developed by item writers
- set the pass/fail standard
- review item statistics from exam administrations and pretest examinations
- approve the exam forms to be administered
- review item banks
- undertake content validation studies

EXAMINATION CONTENT  
CONDENSED EXAM OUTLINE



Low Risk Neonatal Nursing exam



The above chart shows the percentage distribution of questions on the Low Risk Neonatal Nursing exam across the major content categories covered on the examination. The major focus of the examination is the Newborn section and this area has the most emphasis. Lesser emphasis is on Mother/Fetus and General Management and Family Integration and Professional Issues having the least number of questions assigned to these content categories.

# EXAMINATION CONTENT

## CONDENSED EXAM OUTLINE

### CONDENSED EXAM OUTLINE

This is an outline of topics and areas which may be included in the Low Risk Neonatal Nursing examination. It should be noted that the emphasis of the examination is on the newborn (birth to one month) and family components.

Content of the examination will cover assessment of all body systems and knowledge of normal and deviations from normal.

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#### 10.00 Mother/Fetus (10%)

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10.01 Assessment and Evaluation of Intrauterine Environment

10.02 Maternal Factors and Complications Affecting the Fetus/Neonate

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#### 11.00 Newborn (59.5%)

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Focus of the newborn section will be on physical examination techniques, procedures and findings, as well as assessment and management of normal and abnormal findings and identification of potential complications.

11.01 General Physiologic Assessment

- a. Gestational Age
- b. Clinical Laboratory & Diagnostic Data
- c. Thermoregulation
- d. Behavioral/Developmental Care

11.02 Physical Assessment and Management of Complications

- a. Systems
  1. Cardiac
  2. Respiratory
  3. Gastrointestinal
  4. Integumentary
  5. Musculoskeletal
  6. Head, Ears, Eyes, Nose and Throat
  7. Hematopoietic
  8. Neurological
  9. Immune System
  10. Endocrine/Metabolic
  11. Genitourinary
- b. Genetic Disorders
- c. Hyperbilirubinemia
- d. Perinatal Substance Abuse

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#### 12.00 General Management (23%)

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12.01 Resuscitation & Stabilization

12.02 Neonatal Nutrition, Feeding and Lactation

12.03 Pharmacology

12.04 Fluid and Electrolytes

12.05 Oxygenation and Acid-bas balance

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#### 13.00 Family Integration (5%)

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13.01 Role Adaptation/Grieving Process

13.02 Discharge Planning/Home Care

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#### 14.00 Professional Issues (2.5%)

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*including: Evidence Based Practice, Legal/Ethical/Communication Issues, Research, Patient Safety*



# EXAMINATION CONTENT

## TEST CONTENT OUTLINE & ASSOCIATED COMPETENCIES

### ASSOCIATED COMPETENCIES

- Demonstrate knowledge of maternal/fetal and neonatal anatomy, physiology, pharmacology and pathophysiology
- Identify antepartal, intrapartal and postpartal risk factors related to the mother and fetus that impact the neonate
- Systematically assess the neonate, the family and their environment
- Interpret assessment data to determine health status of the neonate based on maternal history, gestation age examination and neurobehavioral assessment
- Develop, implement and evaluate an individualized plan of care, in collaboration with other health care providers to facilitate the neonate's adaptation to extrauterine life and to provide care to the low risk neonate and the family.
- Apply knowledge of anatomy, physiology and pathophysiology to assess and care for the neonate, differentiating abnormal from normal
- Identify life-threatening states and initiate appropriate interventions
- Apply knowledge of general concepts of care that determine and promote the health of the postpartal family in the hospital, in ambulatory settings and in the home environment
- Educate families about the biophysical, psychosocial and environmental needs of the neonate
- Demonstrate knowledge of factors that influence the integration of the neonate into the family and community
- Demonstrate knowledge of professional issues relative to the role of the level II Nurse

# EXAMINATION CONTENT

## TEST CONTENT OUTLINE & ASSOCIATED COMPETENCIES

### MOTHER - FETUS

#### FACTORS AFFECTING THE FETUS AND NEWBORN (ANTEPARTUM, INTRAPARTUM & POSTPARTUM)

##### I. Assessment & Evaluation of Intrauterine Environment

- Fetal Anatomy and Physiology
- Fetal Assessment
- GBS screening
- Nonstress testing
- Biophysical profile
- Antepartal screening
- Cord gases

##### II. Maternal Factors and Complications Affecting the Fetus/Neonate

- Maternal age
- Medical Conditions
  - Maternal age
  - Hypertension (Chronic, gestational hypertension, HELLP syndrome)
  - Diabetes
  - Blood disorders
  - Infectious diseases (CMV, Toxoplasmosis, syphilis, herpes, hepatitis HIV, gonorrhea, Chlamydia, GBS)
  - Maternal depression
- Pregnancy Related
  - Hypertensive Disorders

- Eclampsia
- HELLP syndrome
- Amniotic fluid disorders (Amniotic bands, Polyhydramnios, Oligohydramnios)
- Maternal hemorrhage
- Placental abruption
- Placenta previa
- Multiple gestations
- Chorioamnionitis
- Cord Accidents
- Maternal medications during labor and delivery (tocolytics, analgesia, anesthesia)
- Complications of Labor
  - Abnormal labor patterns
  - Abnormal fetal heart rate patterns (altered variability, decelerations[early, late, variable]; tachycardia, bradycardia (category I, II and III fetal heart rate tracings)
  - Operative/instrument assisted birth
  - Preterm/postterm
  - Meconium
  - Breech and other malpresentation
- Life-style and Environmental Conditions
  - Substance use
  - Teratogen exposure
  - Medication use

# EXAMINATION CONTENT

## TEST CONTENT OUTLINE & ASSOCIATED COMPETENCIES

### NEWBORN

Focus of the newborn section will be on physical examination techniques, procedures and findings, as well as assessment and management of normal and abnormal findings and identification of potential complications

#### I. General Physiologic Assessment

##### **Gestational Age**

- Physical Characteristics, Etiologies and/or Risks and Complications of
  - Preterm
  - Term
  - Post-term
  - Late preterm
  - AGA
  - SGA
  - LGA
- Intrauterine growth restriction
  - Symmetrical
  - Asymmetrical

##### **Clinical Laboratory Tests (Interpretation of values, methods and techniques)**

- Blood
- Glucose
- Complete blood count with differential
- Cultures
- Rh (Coombs)
- Blood gases
- Bilirubin
- Electrolytes
- Newborn screening

##### **Thermoregulation**

- Mechanisms of Thermoregulation
  - Heat production
  - Temperature maintenance
- Complications
- Temperature assessment and interpretation
- Equipment (e.g. infant warmers, incubators, servocontrol)

- Mechanisms of Heat Loss
  - Insensible water loss
  - Evaporation
  - Conduction
  - Convection
  - Radiation

##### **Behavioral/Developmental Care**

- Neurobehavioral development
  - habituation
  - motor organization
  - sensory/interaction capabilities
  - state/sleep cycles
- Environmental impact on development
  - Interventions (Reducing noise, light level, diurnal patterns Handling, positioning, kangaroo care/skin to skin)
  - Nonnutritive sucking

#### II Physical Assessment (normal and abnormal findings) and Management of Complications (By system)

##### **Cardiac**

- Basic physiology and anatomy
- Adaptation to extrauterine life
- Physical Assessment
  - Heart rate, rhythms and sounds
  - Point of maximal intensity
  - Blood pressure
  - Peripheral pulses
  - Perfusion
  - Color

# EXAMINATION CONTENT

## TEST CONTENT OUTLINE & ASSOCIATED COMPETENCIES

- Complications/Variations
  - Pulmonary vascular resistance
  - Abnormal rhythms
  - Congenital heart disease
    - Patent ductus arteriosus
    - Coarctation of the aorta
    - Septal defects
    - Tetralogy of Fallot
    - Transposition of the great vessels
  - Congestive heart failure
  - Hypertension/Hypotension
  - Shock

### Respiratory

- Basic physiology and anatomy
- Adaptation to extrauterine life
- Physical Assessment
  - Respiratory rate and breath sounds
  - Respiratory patterns
  - Thorax and Chest
- Complications/Variations
  - Air leaks
  - Apnea of prematurity
  - Chronic lung disease
  - Pneumothorax
  - Pneumomediastinum
  - Pneumonia
  - Respiratory distress syndrome
  - Transient tachypnea of the newborn
  - Persistent pulmonary hypertension
  - Meconium aspiration syndrome
  - Diaphragmatic hernia
- Oxygen administration /monitoring
  - Pulse oximetry
  - Cardiorespiratory monitoring

### Gastrointestinal

- Basic physiology and anatomy
- Physical Assessment
  - Abdominal examination findings
  - Stooling patterns

- Complications/Variations
  - Diastasis of recti muscles
  - Duodenal atresia
  - Bowel obstruction
  - Esophageal atresia/ tracheoesophageal fistula
  - Imperforate anus
  - Omphalocele/gastroschisis
  - Umbilical hernia
  - Meconium ileus/plug
  - GE reflux
  - Necrotizing enterocolitis
  - Short gut syndrome
  - Malrotation/Volvulus

### Integumentary

- Basic Physiology and Anatomy
- Characteristics of normal neonatal skin
- Physiologic bases for general skin care
- Physical Assessment
- Variations
  - Erythema toxicum
  - Milia
  - Mongolian spots (hyperpigmented skin)
  - Hemangiomas/birth marks
  - Petechiae
  - Cafe au lait spots
  - Other skin lesions, e.g. pustules, vesicles
  - Umbilical cord
  - Fat necrosis
  - Diaper Dermatitis

### Musculoskeletal

- Physical Examination
- Complications
  - Congenital hip dysplasia
  - Metatarsus adductus
  - Polydactyly and syndactyly
  - Torticollis
  - Talipes equinovarus
  - Fracture

# EXAMINATION CONTENT

## TEST CONTENT OUTLINE & ASSOCIATED COMPETENCIES

### Head, Ears, Eyes, Nose and Neck

- Physical Assessment
  - Fontanelles and cranial sutures
  - Neck appearance
  - Ear appearance, shape and placement
  - Hearing
  - Nasal patency
  - Symmetry of the mouth
  - Evaluation of pigmentation and movement
  - Evaluation of cornea/sclera
  - Eye prophylaxis
- Complications/Variations
  - Skull/neck variations & abnormalities
  - Molding
  - Cephalhematoma
  - Caput succedaneum
  - Craniosynostosis
  - Craniotabes
  - Cystic hygroma
  - Pierre Robin
- Variations & abnormalities
  - Conjunctivitis
  - Cataracts [Note says to delete if no questions]
  - Cleft lip and palate
  - Epstein's pearls
  - Natal teeth
  - Choanal atresia
  - Retinopathy of prematurity
  - Tracheomalacia
  - Micronathia

### Hematopoietic

- Basic physiology
- Interpret lab values (CBC; hematocrit, hemoglobin, retic, platelets, total and direct serum bilirubin, direct and indirect antibody tests)
- Complications
  - Anemia (Physiologic and non-physiologic)
  - Bleeding disorders
  - ABO/Rh incompatibility
  - Polycythemia/hyperviscosity
  - Sickle Cell
  - Administration of blood and blood products

### Neurological

- Basic physiology
- Motor function
- Physical Assessment
  - Reflexes
  - Moro
  - Rooting and sucking
  - Palmar grasp
  - Plantar grasp
  - Stepping
  - Babinski
  - Tonic neck
  - Gag
  - Anal wink reflex
  - Tone
- Techniques
  - Pull to sit
  - Truncal tone assessment
- Complications/Variations
  - Seizures
  - Jitteriness
  - Intracranial hemorrhage (subdural)
  - Intraventricular hemorrhages
  - Periventricular leukomalacia
  - Hydrocephalus
  - Neuromuscular birth Injuries
  - Brachial plexus injuries
  - Facial nerve injuries
  - Neural tube defects
  - Cooling for asphyxia

### Immune System

- Basic physiology
- Interpret laboratory values
- WBC and differential
- CRP
- Antibody function
  - IgA
  - IgG
  - IgM

# EXAMINATION CONTENT

## TEST CONTENT OUTLINE & ASSOCIATED COMPETENCIES

- Infection Control
  - Handwashing
  - Visitation
  - Standards precautions
- Complications/Variations
  - Neonatal sepsis
  - Septic shock
  - Viral and fungal infections
    - Cytomegalovirus
    - Rubella
    - Hepatitis B
    - Varicella
    - Toxoplasmosis
    - Herpes
    - Human papilloma virus
  - Enterovirus
  - Bacterial infections
    - Group B streptococcus
    - Staphylococcus
    - E. coli
    - Sexually Transmitted infections
    - AIDS/HIV
    - Gonorrhea
    - Chlamydia
    - Syphilis
    - Early and late onset infections
- **Endocrine/Metabolic**
  - Basic physiology
  - Interpreting lab values (Calcium, phosphorus, magnesium, glucose)
  - Metabolic Disorders (PKU, Thyroid, CAH, Galactosemia)
  - Complications
    - Hypoglycemia
    - Hypocalcemia
    - Rickets/metabolic bone disease
    - Infant of a diabetic mother
- **Genitourinary**
  - Basic physiology
  - Renal function/urinary output
  - Physical Assessment
- Complications
  - Hypospadias
  - Undescended testes
  - Testicular abnormalities
  - Hydrocele
  - Inguinal hernia
  - Vaginal discharge/abnormalities
  - Renal abnormalities
  - Circumcision
  - Postoperative care
- **Genetic Disorders**
  - Patterns of Inheritance
  - Autosomal recessive, autosomal dominant, sex linked
  - Complications
    - Common chromosomal abnormalities (trisomy 21, 18 & 13)
    - Birth defects/congenital anomalies
    - Skeletal dysplasia
    - Cystic Fibrosis
    - DiGeorge
    - Turners
- **Hyperbilirubinemia**
  - Basic physiology
  - Complications
    - Jaundice
      - Physiologic jaundice
      - Pathologic jaundice
      - Breast feeding and jaundice
    - Kernicterus
    - Phototherapy
    - G6PD
- **Perinatal Substance Abuse**
  - Complications of Substance Exposure in Utero
    - Alcohol
    - Heroin
    - Methadone
    - Cocaine
    - Nicotine
    - Subutex
    - Cannabis (marijuana)
    - Prescription drug abuse
  - Neonatal Abstinence Syndrome (NAS)

# EXAMINATION CONTENT

## COMPETENCY STATEMENTS, TEST CONTENT OUTLINE & STUDY RESOURCES

### GENERAL MANAGEMENT

#### **I. Resuscitation and Stabilization**

- General assessment of status and need for resuscitation
- Management of resuscitation
  - Airway
  - Breathing
  - Circulation
- Drug Therapy
- Evaluation of effectiveness of interventions
- Apgar scores
- CHD Screening

#### **II. Neonatal Nutrition, Feeding and Lactation**

- Growth patterns (Growth curves)
- Fluid/Calorie requirements
- CHO, Fats, Proteins
- Lactation
  - Anatomy and physiology of lactation
  - Composition of breast milk
  - Maternal nutritional needs
  - Normal breastfeeding process
  - Positioning
  - Latch On
  - Suck/swallow/sequence
  - Timing (frequency and duration)
  - Feeding cues
  - Contraindications to breastfeeding
- Maternal Complications
  - Latch on problems
  - Nipple problems
  - Breast engorgement
  - Insufficient milk supply
  - Medication effects
  - Therapeutic medications
  - Infection/Mastitis
  - Maternal illness
  - Perinatal substance abuse (TCN)
  - Maternal/newborn separation
  - Breast reduction/augmentation

- Newborn complications
  - Drug screening
  - Hypoglycemia
  - Multiple births
  - Prematurity
- Patient Education
  - Breast/nipple care
  - Use of supplementary/ complementary feedings
  - Use of breastfeeding devices
  - Expressing and storing breast milk
  - Colostrum
- Complications/Contraindications
  - Donor milk
- Formula feeding
  - Composition of formula
  - Techniques
  - Special needs (e.g. cleft palate, PKU)
- Dietary Supplements (Iron, MCT, Vitamins, probiotics, Fortifiers)
- Feeding techniques
- Tube feedings
- Feeding cues
- Special Nutritional considerations
  - Chronic Lung Disease (CLD)
  - Prematurity
  - Short Gut syndrome

# EXAMINATION CONTENT

## TEST CONTENT OUTLINE & ASSOCIATED COMPETENCIES

### III. Pharmacology

- Principles of administration
  - Dosage
  - Route
  - 5 rights of medication administration
  - Blood drug levels (toxic vs therapeutic)
- Pharmacokinetics
- Common drugs used in neonates
  - Vitamin K
  - Antibiotics
  - Antibiotics
  - Anticonvulsants
  - Antimicrobials
  - Antiretroviral
  - Immunologic agents
  - Bronchodilators
  - CNS stimulants (Caffeine, etc)
  - Diuretics
  - Drugs for NAS
  - Eye prophylaxis
  - Vaccines
- Pain Assessment and Management
  - Signs and symptoms
  - Nonpharmacological interventions
  - Pharmacological interventions

### IV Fluid and Electrolytes

- Normal fluid and electrolyte requirements
- Monitoring fluid and electrolyte status
  - electrolytes
  - urine output
- Parenteral nutrition (indication, composition, complications)
- Lipids
- Metabolic panel
- PICC lines or midlines
- Umbilical lines

### V. Oxygenation and Acid-base balance

- Oxygenation: interpretation and management
  - Hypoxia/hypoxemia
  - Oxygen saturation (SaO<sub>2</sub>)
- Methods of oxygenation/ventilation
  - non-invasive ventilation (high flow NC, CPAP, Nasal cannula, hood)
- Blood gas: interpretation and management
  - Metabolic acidosis/alkalosis
  - Respiratory acidosis/alkalosis
  - Mixed



# EXAMINATION CONTENT

## TEST CONTENT OUTLINE & ASSOCIATED COMPETENCIES

### FAMILY INTEGRATION

#### **I. Role Adaptation**

- Parent-infant interaction/attachment - normal characteristics
- Family response to stress and crisis
- Barriers to parent infant interaction
- Non-traditional parents
- Sibling response and interventions
- Principles of Culturally sensitive care
- Recognizing post-partum depression
- Foster and Adoptive Issue
- Grieving process
  - stages of grieving, common behaviors and intervention
  - Factors which impede or enhance grief process
  - Pathologic responses
  - Maternal/paternal differences
  - Chronic sorrow
  - Repeat obstetric loss/infertility

#### **• Parent education**

- Hygiene
- Cord care
- Circumcision
- Bathing
- Genital care
- Feeding/elimination
- Immunizations
- Assessment of problems
- CPR for infants
- Signs and symptoms of illness
- RSV eligibility and concerns
- Safety Issues
- Plagiocephaly
- Medication
- Special care needs
- Special equipment
- Motor delays and developmental follow up
- Follow up care/referrals
- Shaken Baby
- Safe sleep

#### **II. Discharge Planning/Home Care (Hospital, Ambulatory Settings, Home)**

- Follow up Care
  - Apnea monitoring
  - Oxygen therapy
- Screening
  - Car Seat Challenge
  - CCHD screening
  - Visual/ROP screening/follow-up
  - Hearing screening

# EXAMINATION CONTENT

## TEST CONTENT OUTLINE & ASSOCIATED COMPETENCIES

### PROFESSIONAL ISSUES

#### Ethical Principles

- Autonomy
- Beneficence
- Non-maleficence
- Justice

#### Professional/Legal Issues

- Professional Regulation Practice
- 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

# EXAMINATION CONTENT

## STUDY RESOURCES

### STUDY RESOURCES

- Cunningham, et al., Williams Obstetrics, McGraw-Hill, New York, 2014.
- Davidson, et al, Maternal Newborn Nursing & Women's Health Care Across the Life Span, Pearson Prentice Hall, NJ, 2016.
- Gardner, et al. Neonatal Intensive Care, Elsevier Mosby, St. Louis, 2016.
- Guido, Legal and Ethical Issues in Nursing, Pearson, 2013.
- Goldsmith, et al., Assisted Ventilation of the Neonate, Saunders Elsevier, 2017.
- Ladewig, et al., Contemporary Maternal-Newborn Nursing Care, 9<sup>th</sup> ed, Pearson, NJ, 2017.
- Lawrence, et al., Breastfeeding: A Guide for the Medical Profession, 8<sup>th</sup> Ed., Elsevier Mosby, St. Louis, 2015.
- Mattison, Donald, R., Clinical Pharmacology During Pregnancy, Academic Press, 2013.
- Mattson, et al., Core Curriculum for Maternal Newborn Nursing, Saunders Elsevier, St. Louis, 2016.
- Polit, et al., Essentials of Nursing Research: Appraising Evidence for Nursing Practice, LWW, 2013.
- Simpson, et al., Perinatal Nursing, LWW, Philadelphia, 2014.
- Snell, et al., Care of the Well Newborn, Jones & Barlett, Burlington, MA, 2017
- Tappero, et. al., Physical Assessment of the Newborn, NICU, Ink, 2015.
- Verklan, et al., Core Curriculum for Neonatal Intensive Care, Saunders Elsevier, St. Louis, 2015.

# SAMPLE QUESTIONS

## LOW RISK NEONATAL NURSING SAMPLE QUESTIONS

Listed below are 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. A two day old neonate has been experiencing diarrhea for the last 24 hours. The neonate is irritable and tremors have recently developed. Feeding is poor. There are no other signs or symptoms except for episodes of sneezing. This neonate should be further evaluated for

- A. heroin withdrawal
- B. hypoglycemia
- C. viral infection

Answer: A

Gardner, et al., Neonatal Intensive Care, Elsevier Mosby, 2016, p. 206

2. A normal finding of male genitalia in the term neonate is

- A. retractable prepuce
- B. rugated scrotum
- C. testes in the inguinal canal

Answer: B

Tappero, et al., Physical Assessment of the Newborn, NICU, Ink, 2015, p. 124

3. A physiologic change that occurs with the onset of breathing is

- A. decreased pulmonary blood flow
- B. decreased pulmonary vascular resistance
- C. reversal of shunt via the patent ductus arteriosus

Answer: B

Mattson, et al., Core Curriculum for Maternal Newborn Nursing, Saunders Elsevier, St. Louis, 2016, p. 346

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

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

Answer: A

Verklan, et al, Core Curriculum for Neonatal Intensive Care Nursing, Saunders, Elsevier, St. Louis, 2015, p. 615

5. Removing a neonate from an incubator for procedures without use of an overhead warmer will result in heat loss by

- A. convection
- B. evaporation
- C. radiation

Answer: A

Davidson, et al., Maternal-Newborn Nursing & Women's Health Across the Life Span, Pearson, Prentice Hal, 2016, p. 767

# SCORING & SCORE 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 results reports will identify a pass/fail status and will 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 percentage or standard score will be given.

# SCORING & SCORE REPORTS

## SAMPLE SCORE REPORT

Whether you take the computer or paper and pencil version of the examination, 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.

### LOW RISK NEONATAL NURSING 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.

This report is provided for informational purposes only to assist in identifying your areas of strength and weakness. There is no requirement that a certain number of questions in each content category must be answered correctly to pass the examination. Passing the examination is based on the total number of questions answered correctly on the entire examination.

#### Content Area & Percentage

#### Your Results:

#### Range of Questions Asked:

Mother/Fetus  
(10-20%)

WEAK

Newborn  
(55-65%)

VERY STRONG

General Management  
Family Integration, and  
Professional Issues  
(15-25%)

AVERAGE

# TERMS OF CERTIFICATION AND CERTIFICATION MAINTENANCE

## WHEN YOU PASS THE EXAM

### CREDENTIAL

Your NCC certification status entitles you to use the credential RNC-LRN (Registered Nurse Certified – Low Risk Neonatal Nursing)

### 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.

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**NO CONTINUING  
EDUCATION IS ISSUED FOR  
TAKING THE  
LOW RISK NEONATAL  
NURSING EXAM.**

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## MAINTAINING YOUR CERTIFICATION

- NCC certification must be maintained on an ongoing basis 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 Specialty Assessment and in the areas defined by your Education Plan** before your maintenance is due.
- The maintenance process includes filing 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 file 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 may apply for maintenance up to 1 year prior of 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*). Please refer to the following for guidance:

### Date of Notification of Certification

*January-March 2018*  
*April-June 2018*  
*July-September 2018*  
*October-December 2018*

### Certification Maintenance Due Dates

*March 15, 2021*  
*June 15, 2021*  
*September 15, 2021*  
*December 15, 2021*

### The NCC website has more detailed information

For more information about the certification maintenance program, click the purple "Maintain your Certification" box.

For more information on your Education Plan and the Continuing Competency Assessment (CCA), click on the green "Continuing Competency Specialty Assessment" box.

# TERMS OF CERTIFICATION AND CERTIFICATION MAINTENANCE

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

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## 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

<http://www.nccwebsite.org/resources/docs/cca-steps.pdf>

Continuing Competency Assessment - Education Plan Examples

<http://www.nccwebsite.org/resources/docs/cca-education-plans.pdf>