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

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.

10.00 Mother/Fetus (15%)

10.01 Assessment and Evaluation of Intrauterine Environment

10.02 Maternal Factors and Complications Affecting the Fetus/Neonate

11.00 Newborn (59.5%)

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

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

12.00 General Management (15%)

12.01 Resuscitation & Stabilization

12.02 Neonatal Nutrition, Feeding and Lactation

12.03 Pharmacology

13.00 Family Integration (8%)

13.01 Role Adaptation

13.02 Discharge Planning/Home Care

14.00 Professional Issues (2.5%)

   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 nutrition

• 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 to facilitate the neonate’s adaptation to extrauterine life and to promote the health of the neonate

• Apply knowledge of anatomy and physiology, pathophysiology and nutrition to assess the neonate and differentiate 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 maternal/neonatal
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
- Alpha-fetoprotein/triple screening
- Cord gases

II. Maternal Factors and Complications Affecting the Fetus/Neonate

- Medical Conditions
  - Maternal age
  - Chronic hypertension
  - Diabetes
  - Blood disorders
  - Infectious diseases
  - Maternal depression

- Pregnancy Related
  - Gestational hypertension/ eclampsia/HELLP syndrome
  - Amniotic fluid disorders
  - Polyhydramnios
  - Oligohydramnios
  - Maternal hemorrhage
  - Placental abruption
  - Placenta previa
  - Multiple gestations
  - Postdatism

- Complications of Labor
  - Use of anesthesia and analgesia
  - Abnormal labor patterns
  - Abnormal fetal heart rate patterns
  - Operative birth

- 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
• Metabolic screening
  Urine
  Stool

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
• Sensory Capabilities
• Motor organization
• Neonatal States

II Physical Assessment and Management of Complications (By system)

Cardiac
• Basic physiology and anatomy
• Adaptation to extrauterine life
• Physical Assessment
  Heart rate and sounds
  Point of maximal intensity
  Blood pressure
  Peripheral pulses
  Perfusion
  Color
• Pulmonary vascular resistance
  Complications/Variations
  Congenital heart disease
  Patent ductus arteriosus
  Coarctation of the aorta
  Congestive heart failure
  Septal defects
  Tetralogy of Fallot
  Transposition of the great vessels
Examining Content
Test Content Outline & Associated Competencies

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
  - 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

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

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

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
- Complications/Variations
  - Skull/neck variations & abnormalities
  - Molding
  - Cephalhematoma
  - Caput succedaneum
  - Craniosynostosis
  - Craniotabes
  - Cystic hygroma
  - Pierre Robin
- Variations & abnormalities
  - Conjunctivitis
  - Cataracts
  - Cleft lip and palate
  - Epstein’s pearls
  - Natal teeth
  - Choanal atresia
EXAMINATION CONTENT
TEST CONTENT OUTLINE & ASSOCIATED COMPETENCIES

Hematopoietic
- Basic physiology
- Complications
  Anemia (Physiologic and non-physiologic)
  Bleeding disorders
  ABO incompatibility
  Polycythemia/hyperviscosity

Neurological
- Basic physiology
- Motor function
- Physical Assessment
  Reflexes
  Moro
  Rooting and sucking
  Palmar grasp
  Plantar grasp
  Stepping
  Babinski
  Tonic neck
  Anal wink reflex
- Techniques
  Pull to sit
  Truncal tone assessment
- Complications/Variations
  Seizures
  Jitteriness
  Intracranial hemorrhage
  Brachial plexus injuries
  Neural tube defects
  Cooling for asphyxia

Immune System
- Basic physiology
- Antibody function
  IgA
  IgG
  IgM
- Infection Control
  Handwashing
  Visitation
  Standards precautions
- Complications/Variations
  Neonatal sepsis
  Septic shock
  Viral infections
  Cytomegalovirus
  Rubella
  Hepatitis B
  Varicella
  Toxoplasmosis
  Bacterial infections
  Group B streptococcus
  Staphylococcus
  E. coli
  Sexually Transmitted infections
  AIDS/HIV
  Gonorrhea
  Chlamydia
  Syphilis
  Herpes
  Human papilloma virus

Endocrine/Metabolic
- Basic physiology
- Newborn screening
- Complications
  Hypoglycemia
  Infant of a diabetic mother

Genitourinary
- Basic physiology
- Physical Assessment
- Complications
  Hypospadias
  Undescended testes
  Testicular abnormalities
  Hydrocele
  Inguinal hernia
  Vaginal discharge/abnormalities
  Renal abnormalities
  Circumcision
  Postoperative care
EXAMINATION CONTENT
TEST CONTENT OUTLINE & ASSOCIATED COMPETENCIES

**Genetic Disorders**
- Patterns of Inheritance
- Complications
  Common chromosomal abnormalities
  (trisomy 21, 18 & 13)
  Birth defects/congenital anomalies

**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
  Prescription drug abuse
EXAMINATION CONTENT
TEST CONTENT OUTLINE & ASSOCIATED COMPETENCIES

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
- 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
  Therapeutic medications
  Infection/Mastitis
  Maternal illness
  Perinatal substance abuse (TCN)
  Maternal/newborn separation
- 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
  Mastitis/yeast infection
  Nipple soreness
  Breast engorgement
  Medication effects
  Breast reduction/augmentation
  Insufficient milk supply
  Donor milk
- Formula feeding
  Composition of formula
  Techniques
  Special needs (e.g. cleft palate, PKU)

III. Pharmacology
- Principles of administration
  Dosage
  Route
- Common drugs used in neonates
  Vitamin K
  Antibiotics
  Eye prophylaxis
  HBIG/hepatitis B vaccine
  Phenobarbital
  Zidovudine
  Vaccines
  GI motility drugs

Pain Assessment and Management
- Signs and symptoms
- Nonpharmacological interventions
- Pharmacological interventions
EXAMINATION CONTENT
TEST CONTENT OUTLINE & ASSOCIATED COMPETENCIES

FAMILY INTEGRATION

I. Role Adaptation
   • Parent-infant interaction - normal characteristics
   • Family response to stress and crisis
   • Grieving process
   • Adoption

II. Discharge Planning/Home Care (Hospital, Ambulatory Settings, Home)
   • Follow up Care
     Apnea monitoring
     Oxygen therapy
   • Screening
     CND
     Car Seat Challenge

• Parent education
   Hygiene
   Cord care
   Circumcision
   Bathing
   Genital care
   Feeding/elimination
   Immunizations
   Assessment of problems
   Fever
   Diarrhea
   Dehydration
   Jaundice
   Safety Issues
   Plagiocephaly
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