The chart shows the percentage distribution of questions on the Neonatal Pediatric Transport exam across the major content categories covered on the examination.
EXAMINATION CONTENT
FOR TESTS TAKEN BEFORE APRIL 1, 2020

EXAM OUTLINE
Areas of knowledge to be tested on the Neonatal Pediatric Transport examination are listed in the following outline. This list is not intended as an all-inclusive review. It is provided only to help candidates evaluate their own practice.

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

10.00 Core Knowledge (content is applicable to both neonatal & pediatric transport situation and/or population) (50%)
   Professional Issues
   Transport Environment
   Transport-related Clinical Management and Skills

11.00 Neonatal (content reflects disorders/situations more commonly associated with the neonatal period including pharmacologic management) (25%)
   Pulmonary
   Cardiovascular
   Gastrointestinal
   Metabolic
   CNS/Neurological
   Surgical Emergencies
   Special Situations -- Care of the Extremely Low Birthweight (ELBW) patient in transport

12.00 Pediatric (content reflects disorders/situations more commonly associated with the pediatric period including pharmacologic management) (25%)
   Pulmonary
   Cardiovascular
   Gastrointestinal
   Hematologic
   Metabolic/Endocrine
   CNS/Neurological
   Special Situations
   Trauma
   Multi-system
EXAMINATION CONTENT
FOR TESTS TAKEN BEFORE APRIL 1, 2020

ASSOCIATED COMPETENCIES

• Obtain and interpret a pertinent history

• Systematically assess all body systems utilizing physical examination, developmental assessment and neurobehavioral assessment

• Utilize biophysical monitoring techniques to identify body system alterations.

• Identify life-threatening states and initiate appropriate interventions for the neonatal and pediatric patient.

• Recognize normal lab values and deviations in clinical laboratory and diagnostic data and identify potential significance.

• Formulate and implement a plan of care in collaboration with physicians and other health care professionals.

• Evaluate benefits and risks of diagnostic and therapeutic interventions

• Understand the impact of transport physiology on both the neonatal/pediatric patient population and the accompanying transport team members.

• Evaluate and document responses to interventions

• Apply safety principles of transport as applicable to both the neonatal/pediatric patient population and the accompanying transport team members.

• Integrate legal and ethical principles into neonatal and pediatric transport.

• Recognize the psychosocial aspects of pediatric/neonatal transport and potential impact on the family.
I. Professional Issues
• Scope of practice of all team members
• Federal regulations regarding transport
  EMATA
  FAA
• Informed consent
• Documentation

II. Transport Environment
• Environmental Influences
  Barometric pressure effects
  Gravitational forces
  Noise
  Thermal & humidity effects
  Vibration
• Safety
  Scene safety
  Evacuation protocols
  Survival training
  Disaster planning
• Crew Stressors
  Environmental
  Physical
  Psychological
• Communication
  Peer to peer
  Patient (age appropriate)
  Parents & family members

III. Transport-Related Clinical Management and Skills
• Cardiopulmonary Arrest
  (NRP & PALS)
  Airway
  Breathing
  Circulation
• Thermal Management
  Hypothermia
  Hyperthermia
• Special Skills
  Intubation
  Laryngeal mask airway
  Needle cricothyroidotomy
  Intravenous /Intraosseous Access
  Insert UVC/UAC
  Needle aspiration/chest tube insertion
  Pericardiocentesis
  Troubleshooting
• Physical assessment
  Anatomic abnormalities
• Developmental/behavioral status
• Fluid & electrolyte therapy
  Dehydration
  Fluid overload
  Electrolyte abnormalities
• Infection control issues
• Principles of mechanical ventilation support
  during transport
• Pharmacology
  Pain management
  Sedation
• Physiologic impacts
  Fluid dynamics
  Gas changes
  Laws of science
  Boyle
  Charles
  Dalton
  Oxygen consumption
  Spatial changes
  Third spacing
NEONATAL
(content reflects disorders/situations more commonly associated with the neonatal period including pharmacologic management)

I. Pulmonary
• Upper Airway
  Congenital anomalies
  Choanal atresia
  Pierre Robin syndrome
• Lower Airway
  Chronic lung disease
  Parenchymal
  Aspiration
  Pneumonia/pneumonitis
• Respiratory distress syndrome
  Air leak syndrome
  Respiratory Failure

II. Cardiovascular
• Congenital heart conditions
  Cyanotic
  Ductal dependent lesions
  Left-to-right shunting
  Persistent pulmonary hypertension of newborn (PPHN)
• Shock States
  Anaphylactic
  Cardiogenic
  Distributive (septic)
  Hypovolemic
• Congestive heart failure
  Pericarditis
  Dysrhythmias
  Bradycardia
  Tachycardia
  Supraventricular tachycardia (SVT)

III. Gastrointestinal
• Necrotizing enterocolitis

IV. Metabolic
• Hypoglycemia
• Altered electrolyte balance

V. CNS/Neurological
• Seizures
• Perinatal substance abuse
• Increased intracranial hemorrhage

VI. Surgical Emergencies
• Diaphragmatic hernia
• Gastrochisis
• Omphalocele
• Tracheoesophageal fistula

VI. Special Situations – Care of the ELBW neonate during transport
I. Pulmonary

• Upper Airway
  Croup (laryngotracheobronchitis)
  Epiglottis

• Lower Airway
  Asthma
  bronchiolitis
  Parenchymal
  Pneumonia/pneumonitis

• Foreign Body Obstruction

II. Cardiovascular

• Congenital Heart
  Late presentation
  Long term complications
  Postoperative cardiovascular procedure
  Hypertension

• Shock States
  Anaphylactic
  Cardiogenic
  Distributive (septic)
  Hypovolemic

• Congestive heart failure
  Pericarditis
  Dysrhythmias
  Bradycardia
  Tachycardia
  Supraventricular tachycardia
  (SVT)

III. Gastrointestinal

• Acute obstruction
• Hemorrhage
• Volvulus

IV. Hematologic

• Anemia
• Sickle cell crisis

V. Metabolic/Endocrine

• Diabetic ketoacidosis
• Altered electrolyte balance

VI. CNS/Neurological

• Increased intracranial pressure
• Status epilepticus
• Coma
• Meningitis
• Intracranial hemorrhage

VII. Special Situations

• Bites (Poisonous and non-poisonous)
• Ingestions/Poisoning
• Near drowning
• Hypothermia/Hyperthermia

VIII. Trauma

• Accidental
• Non-accidental
• Disaster-Related
  Hazardous materials

IX. Multi-System

• Burns and smoke inhalation
• Sepsis

(content reflects disorders/situations more commonly associated with the pediatric period including pharmacologic management)
The chart shows the percentage distribution of questions on the Neonatal Pediatric Transport exam across the major content categories covered on the examination.
**EXAMINATION CONTENT**

**FOR TESTS TAKEN ON/AFTER APRIL 1, 2020**

**EXAM OUTLINE**

Areas of knowledge to be tested on the Neonatal Pediatric Transport examination are listed in the following outline. This list is not intended as an all-inclusive review. It is provided only to help candidates evaluate their own practice.

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

<table>
<thead>
<tr>
<th>Section</th>
<th>Percentage</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.00 Transport Core Knowledge (48%)</td>
<td></td>
<td>Regulation, Legal and Ethical Safety, Communication and Environment Procedures and Management of Invasive Devices Pharmacology Respiratory Physiology Principles of Mechanical Ventilation Thermoregulation Resuscitation and Stabilization Flight Physiology Fluid and Electrolytes History and Physical assessment</td>
</tr>
<tr>
<td>11.00 Clinical Issues in Neonatal Transport (26%)</td>
<td></td>
<td>Pulmonary Cardiovascular Glucose and Electrolyte Management Neurological Surgical Emergencies Extremely Low Birth Weight Neonate</td>
</tr>
<tr>
<td>12.00 Clinical Issues in Pediatric Transport (26%)</td>
<td></td>
<td>Pulmonary Cardiovascular Metabolic and Hematologic Neurological Exposure to Drugs, Poisons and Toxins Accidental and Non-accidental Trauma (e.g. burns and smoke inhalation, penetrating, blunt and submersion injuries)</td>
</tr>
</tbody>
</table>
EXAMINATION CONTENT
FOR TESTS TAKEN ON/AFTER APRIL 1, 2020

ASSOCIATED COMPETENCIES

• Obtain and interpret a pertinent history

• Systematically assess all body systems utilizing physical examination, developmental assessment and neurobehavioral assessment

• Utilize biophysical monitoring techniques to identify body system alterations.

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• Recognize normal lab values and deviations in clinical laboratory and diagnostic data and identify potential significance.

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• Evaluate and document responses to interventions

• Apply safety principles of transport as applicable to both the neonatal/pediatric patient population and the accompanying transport team members.

• Integrate legal and ethical principles into neonatal and pediatric transport.

• Recognize the psychosocial aspects of pediatric/neonatal transport and potential impact on the family.
I. Regulation, Legal and Ethical
• Scope of practice of all team members
• Federal regulations regarding transport EMATALA
  FAA
• Informed consent
• Documentation

II Safety, Communication and Environment
• Environmental Influences
  Barometric pressure effects
  Gravitational forces
  Noise
  Thermal & humidity effects
  Vibration
• Safety
  Scene safety
  Evacuation protocols
  Survival training
  Disaster planning
• Crew Stressors
  Environmental
  Physical
  Psychological
• Communication
  Peer to peer
  Patient (age appropriate)
  Parents & family members

III. Procedures and Management of Invasive Devices
• Special Skills
  Intubation
  Laryngeal mask airway
  Needle cricothyroidotomy
  Intravenous /intraosseous Access
  Insert UVC/UAC
  Needle aspiration/chest tube insertion
  Pericardiocentesis
  Troubleshooting

IV. Pharmacology
• Pain management
• Sedation
• Antibiotics
• Cardiovascular drugs

V. Respiratory Physiology

VI. Principles of Mechanical Ventilation
• Principles of mechanical ventilation support during transport

VII. Thermoregulation
• Thermal Management
  Hypothermia
  Hyperthermia

VIII. Resuscitation and Stabilization
• Cardiopulmonary Arrest (NRP & PALS)
  Airway
  Breathing
  Circulation

IX. Flight Physiology
• Physiologic impacts
  Fluid dynamics
  Gas changes
  Laws of science
    Boyle
    Charles
    Dalton
  Oxygen consumption
  Spatial changes
  Third spacing

X. Fluid and Electrolytes
• Fluid & electrolyte therapy
  Dehydration
  Fluid overload
  Electrolyte abnormalities

XI. History and Physical assessment
• Physical assessment
  Anatomic abnormalities
• Developmental/behavioral status
CLINICAL ISSUES IN NEONATAL TRANSPORT

I. Pulmonary

• Upper Airway
  Congenital anomalies
  Choanal atresia
  Pierre Robin syndrome

• Lower Airway
  Chronic lung disease
  Parenchymal
  Aspiration
  Pneumonia/pneumonitis

• Respiratory distress syndrome
  Air leak syndrome
  Respiratory Failure

II. Cardiovascular

• Congenital heart conditions
  Cyanotic
  Ductal dependent lesions
  Left-to-right shunting
  Persistent pulmonary hypertension of newborn (PPHN)

  Shock States
    Anaphylactic
    Cardiogenic
    Distributive (septic)
    Hypovolemic

• Congestive heart failure
  Pericarditis
  Dysrhythmias
  Bradycardia
  Tachycardia
  Supraventricular tachycardia (SVT)

III. Glucose and Electrolyte Management

• Hypoglycemia
• Altered electrolyte balance

IV. Neurological

• Seizures
• Perinatal substance abuse
• Increased intracranial hemorrhage

V. Surgical Emergencies

• Diaphragmatic hernia
• Gastroschisis
• Omphalocele
• Necrotizing enterocolitis
• Tracheoesophageal fistula

VI. Extremely Low Birth Weight Neonate
STUDY GUIDE
FOR TESTS TAKEN ON/AFTER APRIL 1, 2020

CLINICAL ISSUES IN PEDIATRIC TRANSPORT

I. Pulmonary
• Upper Airway
  Croup (laryngotracheobronchitis)
  Epiglottis

• Lower Airway
  Asthma
  bronchiolitis
  Parenchymal
  Pneumonia/pneumonitis

• Foreign Body Obstruction

II. Cardiovascular
• Congenital Heart
  Late presentation
  Long term complications
  Postoperative cardiovascular procedure
  Hypertension

• Shock States
  Anaphylactic
  Cardiogenic
  Distributive (septic)
  Hypovolemic

• Congestive heart failure
  Pericarditis
  Dysrhythmias
  Bradycardia
  Tachycardia
  Supraventricular tachycardia (SVT)

III. Metabolic and Hematologic
• Anemia

• Sickle cell crisis

• Diabetic ketoacidosis

• Altered electrolyte balance

IV. Neurological
• Increased intracranial pressure

• Status epilepticus

• Coma

• Meningitis

• Intracranial hemorrhage

V. Exposure to Drugs, Poisons and Toxins
• Bites (Poisonous and non-poisonous)

• Ingestions/Poisoning

• Disaster-Related
  Hazardous materials

VI. Accidental and Non-accidental Trauma (e.g. burns and smoke inhalation, penetrating, blunt and submersion injuries)
• Accidental

• Non-accidental

• Near drowning

• Hypothermia/Hyperthermia

• Burns and smoke inhalation
STUDY RESOURCES

The following references are used by content team members and outside item writers to generate test questions for the NPT examination. This list is not intended as an all-inclusive list of references, nor does it imply that items on the current examinations were necessarily referenced from any of these publications.

JOURNALS
- Advances in Neonatal Care
- Air Medical Journal
- Clinics in Perinatology
- Newborn and Infant Nursing Reviews
- Paediatrics and Child Health
- Pediatric Clinics of North America
- Pediatrics
- Respiratory Clinics of North America
- Seminars in Perinatology
- The Journal of Perinatal & Neonatal Nursing

BOOKS
- Fanaroff & Martin’s Neonatal-Perinatal Medicine, Elsevier Saunders, 2019.
- Walls, et. al., Rosen’s Emergency Medicine: Concepts and Clinical Practice, Elsevier, 2018
- Walsh et al., Neonatal and Pediatric Respiratory Care, Elsevier, 2019.