



# Qualifications, Orientation, Competencies, and Continuing Education for Transport Nurses

## **BACKGROUND**

The Air & Surface Transport Nurses Association (ASTNA) is the specialty nursing organization representing nurses who provide patient care during all phases of transport. The mission statement of ASTNA is to “advance the practice of transport nursing and enhance the quality of patient care through commitment to safety and education”. ASTNA, as the professional organization representing transport nurses, defines the qualifications, orientation, competencies, and continuing education necessary for transport nursing.

The primary goal of transport nursing practice is to safely meet the patient's needs in all phases of patient transport. Safe transport of the critically ill or injured patient requires accurate assessment, analysis, diagnosis, outcome identification, planning, implementation of interventions, evaluation of response to treatment, and management of highly technical equipment in preparation for and during transport. Care provided in transport should be commensurate with the level of care that is required to appropriately maintain a continuum of care for each patient transported. All transported patients should receive a level of care meeting or exceeding the level received at the referring and receiving facilities. Appropriately qualified and experienced personnel must be utilized for such transport.

A unique characteristic of transport nursing practice is the application of the nursing process in dynamic environments to a diverse population of patients with a wide range of illnesses or injuries. Patient conditions and situations may require interventions that extend typical nursing practice and the transport nurse may be required to intervene when direct physician supervision is unavailable.

Transport nursing practice utilizes knowledge and expertise from many areas of specialty nursing practice, including emergency, critical care, pediatric, obstetric, neonatal, trauma and surgical domains. The specialty of transport nursing is further defined through such documents as the Flight and Ground Transport Nursing Core Curriculum, the ASTNA Patient Transport: Principles and Practice, Standards for Critical Care and Specialty Rotor Wing Transport, Standards for Critical Care and Specialty Fixed Wing Transport, Standards for Critical Care and Specialty Ground Transport, the ASTNA Scope of Practice, the ASTNA Code of Ethics, and the Transport Nurse Advanced Trauma Course. Certification in flight nursing (Certified Flight Registered Nurse), as recognized by the ASTNA, measures the attainment and application of a defined body of flight nursing



knowledge needed to function at a competent level for air transport. The Certified Transport Registered Nurse certification is the certification specific to critical care ground transport nursing and measures the attainment of a defined body of nursing knowledge pertinent to that particular specialty.

## **ASSOCIATION POSITION**

- ASTNA believes safe transport of the critically ill or injured patient requires accurate assessment, analysis, diagnosis, outcome identification, planning, implementation of interventions, evaluation of response to treatment, and management of highly technical equipment in preparation for and during transport.
- ASTNA believes transport should not compromise patient outcomes.
- ASTNA believes care provided in transport should be commensurate with the level of care that is required to appropriately maintain a continuum of care for each patient transported.
- ASTNA believes all transported patients should receive a level of care meeting or exceeding the level received at the referring and receiving facilities.
- ASTNA believes appropriately qualified and experienced personnel must be utilized for such transport.
- ASTNA believes the assignment of personnel to care for the patient should be based on the diagnosis and acuity of the patient and the knowledge, skills, judgment, and technical expertise required to care for the patient during transport.
- ASTNA believes transport nurses must complete continuing education related to emergency and/or critical care on a yearly basis.
- ASTNA believes evaluation of knowledge by a credentialing agency contributes to quality patient care. Specialty certification is one mechanism by which attainment of a defined body of knowledge is validated.
- ASTNA believes transport nurses shall meet specified qualifications prior to assuming the independent role of the transport nurse and shall implement nursing care based on current scientific knowledge and within the transport nurses training and scope of practice.

## **RATIONALE**

The practice of transport nursing depends on independent judgment, analytical thinking, decision-making, prioritization and implementation of interventions, and evaluation. The transport nurse must possess the ability to recognize subtle patient symptomology and have the ability to initiate care in accordance with protocols, standards of care, and under local medical control in collaboration with



colleagues and under conditions that may not be optimal to patient care delivery. To this end, transport nurses must possess the educational background and experience that prepares them to assess, diagnose, plan, implement, and evaluate the care of acutely ill or injured patients and to monitor the practice of non-RN caregivers in the transport environment.

## **QUALIFICATIONS FOR TRANSPORT NURSES**

Personnel must possess minimum qualifications prior to working in the critical care and specialty care transport environment. Minimum qualifications for employment as a transport nurse will vary depending upon the location of the service (rural versus urban), demographics of the patient population (neonatal, pediatric, maternal, adult), the mission profile of the program (scene versus interfacility, distance, etc.), and type of transport vehicle (ground, fixed wing, or rotor wing). ASTNA recommends the following minimum qualifications for transport nurses upon hire:

- Registered nurse (with appropriate state/provincial licensure)
- Minimum of three years of critical care and/or emergency department experience
- Specialty certification commensurate with previous experience (Certified Emergency Nurse [CEN], RNC (specialty teams), CNPT (pediatrics), or Critical Care Registered Nurse [CCRN]) upon hire; Certified Flight Registered Nurse within two years, if transporting via fixed- or rotor-wing. Certified Transport Registered Nurse (CTRN) if transporting by ground.
- Basic Cardiac Life Support (BCLS) or equivalent
- Age Specific Advanced Cardiac Life Support (ACLS and/or PALS, NRP, PEPP, ENPC) or equivalent, Pre-hospital provider trauma course (PHTLS) or equivalent.
- Transport Nurse Advanced Trauma Course (TNATC) and/or Advanced Trauma Life Support (ATLS) or equivalent prior to assuming independent practice
- An objective assessment of the transport nurse applicant's qualifications for transport shall be based, but not limited to, the following characteristics:
  - Educational and experiential background
  - Technical and clinical competence
  - Leadership skills
  - Critical thinking skills
  - Proficient communication and interpersonal skills
  - Appreciation of public and community relations

## **ORIENTATION OF TRANSPORT NURSES**

- The transport nurse candidate shall demonstrate successful completion of an orientation program, which shall be:
  - Based upon a specific job description and set of responsibilities



- Of sufficient scope and duration to assure competency
- Conducted prior to the performance of independent transport care activities
- Based upon the individual learning needs of the transport team member
- Appropriately documented in the employee's personnel file
- Didactic components shall include:
  - Medical transport operations
  - Industry organizations and regulations/standards
    - State EMS rules and regulations
  - Transport physiology and the stresses of flight
  - Aircraft orientation and safety
    - Basic aerodynamics
    - Aircraft components
    - Navigation/ basic map reading
    - Meteorology
  - Ground transport vehicle orientation and safety to include ground component.
  - Scene safety
  - Emergency procedures – aircraft, ground, and medical
  - Personal safety (OSHA)
  - Survival training/ ELT location and frequency
  - EMS radio communications
  - Search and rescue
  - Mass casualty incident (MCI) to include field triage
  - Human factors – crew resource management/ AMRM
  - Just culture or equivalent
  - Stress recognition and management
  - Sleep deprivation, inertia, and signs of fatigue
  - Pre- and post-transport briefings
  - Airport security
  - Communications/Dispatch
  - Infection control
  - Hazardous materials recognition and response
  - Advanced Airway management
  - Anatomy, physiology, and assessment – specific to the program's transport patient population
  - Patient packaging for transport
  - Medical equipment
  - Pharmacology
  - Medical-legal issues
    - Scope of practice for team members
    - State / Provincial and Federal or other applicable regulations regarding advanced practice
    - Consent issues
    - EMTALA issues
    - HIPPA / FOIP issues (depending on location)
    - Ethical concerns
  - Charting and documentation
  - Organizational policies and procedures



- Continuous Quality Improvement Program/Quality Management
- Public relations/interpersonal skills
- Regulations and recommendations by other accrediting agencies and regulatory bodies (i.e. FAA / Transport Canada, CAMTS, etc.)
- Clinical components shall include:
  - Emergency/trauma care
  - Cardiac Emergencies and Advanced Cardiac Critical Care
  - Critical care unit
    - Adult
    - Pediatric
    - Neonatal
  - Prehospital
  - High-Risk labor and delivery to include EFM with interpretation.
  - Intubation practice (operating room, non-embalmed cadaver, or dynamic, interactive human patient simulator, no less than 5 live or Simulator intubations for populations served yearly)
  - Hemodynamic monitoring devices – pacemakers, ICD, Invasive lines, etc
  - Invasive procedures
- CTVU/CCU- IABP/VAD exposure; continued training

### **COMPETENCIES FOR TRANSPORT NURSES**

- Minimum recommended competencies based on program scope of practice, shall include, but not be limited to:
  - Advanced patient assessment skills to include anatomy, pathophysiology, assessment, and treatment of the following categories for all patient age groups (neonatal, pediatric, adult, geriatric):
    - Acute and chronic respiratory disease
    - Cardiovascular abnormalities
    - Surgical problems
    - Infectious diseases
    - Musculoskeletal abnormalities
    - Neurological and spinal cord emergencies
    - Gastrointestinal emergencies
    - Genitourinary disorders
    - Integumentary disruption
    - Hematologic disorders
    - Metabolic/endocrine disorders
    - Genetic/disorders of dysmorphism
    - Disorders of the head, eyes, ears, nose, and throat
    - Trauma
    - Burn management
    - Environmental and toxicological emergencies
    - Adult and child maltreatment
  - Airway management (basic and advanced)
    - Bag-valve-mask ventilation with basic airway adjuncts (oropharyngeal airway, nasopharyngeal airway)
    - Endotracheal intubation (oral, nasal, digital, in-line, retrograde,



- rapid sequence induction)
    - Cricothyroidotomy (needle and/or surgical)
    - Alternative Airway Management (laryngeal mask airway and esophageal tracheal combitube, King airway, Bougie utilization)
    - Ventilatory support and ventilatory management (inc. CPAP, BiPAP, NIPPV, administration of NO<sub>2</sub>, modes to include pressure support)
- o Ventilator troubleshooting
- o OB pharmacology
- o Vascular access
  - Central line placement (external jugular, internal jugular, subclavian, femoral)
  - Peripheral venous cannulation
  - Arterial cannulation
  - Intraosseous line placement
  - Port access (PICC, Port-a-cath, Hickman, etc.)
  - Umbilical vein/artery cannulation
- o Medication administration, including drug calculations
  - Fluid and electrolyte therapy
  - Blood and blood products
  - Advanced cardiac life support medications
  - Vasoactive medications
  - Experimental medications
- o Intra-aortic balloon pump management
- o Ventricular assist device management
- o Needle decompression
- o Chest tube insertion
- o Pericardiocentesis
- o Pacing devices (transcutaneous and transvenous)
- o Immobilization skills
  - Spinal immobilization
  - Extremity/fracture immobilization
- o 12-lead ECG interpretation
- o Arrhythmia analysis – interpretation and treatment
- o Invasive monitoring
  - Arterial lines
  - Pulmonary artery catheters
  - Central venous pressure lines
  - Intracranial pressure monitoring
- o Fetal heart rate monitoring
- o Radiographic interpretation
- o Interpretation and treatment of clinical laboratory data
  - Arterial and venous blood gases
  - Complete blood count
  - Blood chemistries
  - Coagulation studies
- o Thermoregulation
- o Psychological/bereavement support and crisis intervention



- o Pain management
- o Transport equipment management:
  - Transport ventilators
  - Intravenous infusion pumps
  - Transport monitors, defibrillators, and pacemakers
  - Intra-aortic balloon pumps
  - Ventricular assist devices
  - Pulse oximetry
  - End-tidal CO2 monitoring
  - Isolettes
  - Adult and pediatric restraint systems for transport
  - Compressed gas systems
  - Transport vehicle lifts and loading systems
  - Theoretical and clinical competency shall be evaluated and documented. Evaluation methods may include, but are not limited to:
    - Written examination
    - Simulated practice/skills laboratories
    - Transport preceptor/mentor supervised skills/actual transports
    - Case presentations
    - Oral examinations conducted by the preceptor/mentor, transport manager, or medical director

### **CONTINUING EDUCATION FOR TRANSPORT NURSES**

- Transport nurses must be committed to continuous professional development, training, and education. Minimum recommended continuing training shall include, but not be limited to:
  - o Annual aircraft safety and emergency training
  - o Annual ground transport vehicle orientation and safety
  - o Survival
  - o State EMS rules and regulations regarding ground and air transport
  - o Human factors – CRM/AMRM
  - o Just Culture
  - o Hazardous materials recognition and response
  - o Infection control
  - o Stress recognition and management
  - o Sleep deprivation, inertia, circadian rhythms and signs of fatigue
  - o Safety and Risk management training
  - o Annual performance appraisal
  - o Certification maintenance (BLS, ACLS, TNATC/ATLS, PALS, NRP, Nursing certifications, etc.)
  - o Recurrent competency-based training sessions
  - o Annual documentation of performance in the clinical setting of each applicable advanced procedure performed (intubations, advanced procedures, etc.)
  - o Clinical rotations – critical care areas, pediatrics, labor and delivery.
  - o Equipment and medication competency assessment
  - o Chart and case study reviews
  - o Continuing education contact hours



- Research critique and application to practice
- Continuous Quality Improvement
- Use of nursing networks and professional membership organizations

## **ASSOCIATION POSITION**

The Air & Surface Transport Nurses Association (ASTNA) believes transport nurses must have the education background and experience that prepares them to assess, diagnose, plan, implement, and evaluate the care of acutely ill or injured patients. Transport nurses should not participate in medical patient transport when they are unable to provide safe care commensurate with their educational preparation and current standards of transport nursing practice due to lack of access to appropriate equipment, supplies, medical direction, or protocols.

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