



Air & Surface Transport Nurses Association

Rapid Sequence Intubation (RSI) Consensus Statement

Preserving life, restoring health, and alleviating suffering is inherent to the nursing profession. Patients with emergency medical conditions frequently experience treatable airway compromise. Airway management is an essential life-saving procedure that is routinely practiced by emergency-trained professionals and skilled transport teams throughout the world.^{1,8,24-25} Registered nurses play a significant role in advanced airway management. Research has demonstrated that with the appropriate education and continued clinical competency, registered nurses can manage difficult airways.^{4,15-18,23,28}

In emergency and transport settings, the immediate availability of interventions including rapid sequence intubation (RSI) is critical to serving the needs of our patients.^{2,3,5,21,25} There is ample evidence to support the routine use of these techniques by appropriately trained and credentialed emergency and inter-facility critical care transport nurses. To properly fulfill this role, emergency, transport, specialty nurses require the assurance that each and every patient has an adequate airway. Often, this assurance requires the placement of an endotracheal tube into the patient's airway.

GUIDING PRINCIPLES FOR THE USE OF RAPID SEQUENCE INTUBATION (RSI) IN THE EMERGENCY AND TRANSPORT SETTING

1. **Patients** have a right to expect that:
 - ▶ their survival and recovery will always be top priorities;
 - ▶ their care will be provided in a safe and patient centered manner;
 - ▶ their comfort will be assessed and pain managed in an equitable, timely, and efficient manner;
 - ▶ their care in emergency, transport and specialty settings will be consistent with current clinical evidence and practice;
 - ▶ their emergency, transport and specialty caregivers will be appropriately trained and credentialed to perform interventions; and
 - ▶ when possible, they will be provided sufficient information to allow them to participate in therapeutic decisions and provide informed consent
2. The primary goal of RSI is to secure and protect a definitive airway.



3. Care must be customized to both the patient and the clinical situation, and care-givers must be able to recognize and manage complications.
4. RSI is safe and effective when performed by appropriately trained, credentialed, privileged, and supported emergency, transport and specialty nurses.



We the undersigned agree:

1. Medications including, but not limited to, etomidate, propofol, ketamine, fentanyl, and midazolam are utilized by emergency, transport, and specialty nurses to facilitate management of a continuum of conditions. These extend from simple pain management and maintenance sedation to moderate-deep sedation for painful procedures and rapid sequence intubation for airway control. Because of the myriad ways these medications might be used, it is best to focus on the goal of the intervention rather than the medication itself.
2. RSI is defined as a technique where a potent sedative or induction agent is administered virtually simultaneously with a paralyzing dose of a neuromuscular blocking agent to facilitate rapid tracheal intubation. The technique reduces the risk of aspiration of gastric contents, provides excellent access to the airway for intubation, and permits pharmacologic control of adverse responses to illness, injury, and the intubation itself. (ACEP Clinical Policy Statement on Rapid-Sequence Intubation, October 2006, <http://www.acep.org>).
3. Evidence supports that advanced airway management; primarily endotracheal intubation improves patient outcomes when properly initiated.^{9,10,12} It has also been demonstrated that drug-assisted intubation, particularly succinylcholine, provides a method of improving the success rate of intubation.^{7,10,12-13,21,25-26}
4. Medications for rapid sequence intubation during pre-hospital and/or inter-facility transport may be administered by a RN **at the direction of** a physician, advanced practice registered nurse, or other health care professional credentialed and privileged in emergency airway management and cardiovascular support.
5. Administration of medications for RSI by a RN is a specialized skill that requires specific knowledge and competencies including, but not limited to:
 - a. Airway management and cardiovascular support.
 - b. Identification and differentiation of the various levels of sedation.
 - c. Demonstrated knowledge of anatomy, physiology, pharmacology, cardiac dysrhythmia recognition, and complications related to the use of sedatives and paralytic agents.
 - d. Demonstrated competence in pre-administration, during administration, and post-administration nursing care from the initial patient assessment to transfer of care.
 - e. Validation of an understanding of the principles of oxygen delivery, respiratory physiology, as well as demonstrated competency in the understanding and use of oxygen delivery devices.
 - f. Demonstrated competency in advanced airway management and resuscitation appropriate to the age of the patient.
 - g. The ability to recognize complications and intervene appropriately.
 - h. Knowledge of the legal/liability ramifications associated with administering RSI medications, which is the responsibility of the RN by virtue of being independently licensed.



8. RNs administering RSI medications must possess a more advanced knowledge base and competencies, including but not limited to:
 - a. Comprehensive education related to the use of RSI medications including the indications, contraindications, side-effects and associated complications to any medications that may be used to facilitate endotracheal intubation.
 - b. The use of equipment needed to safely monitor a patient requiring intubation including a pulse oximeter, end-tidal capnography, endotracheal tube aspiration devices (esophageal detector devices) which in addition to assuring correct tube placement are also used to monitor continued retention of the endotracheal tube within the trachea.

(Air & Surface Transportation Nurses Association [ASTNA] Position Statement on Advanced Airway Management, 2007)

RNs performing RSI without physician presence shall require an even more advanced knowledge base and competency level, including, but not limited to:

- a. Patient assessment skills and advanced airway skills.
- b. Indications for advanced airway management techniques.
- c. Endotracheal intubation.
- d. Surgical airways.
- e. Alternative or rescue airways.

Mechanisms to assure that knowledge and competency requirements are met and maintained are needed within the institution. Evaluation and documentation of competency shall occur on a periodic basis.

9. Resuscitation equipment and supplies must be age appropriate and readily available for the patient undergoing RSI. At a minimum, equipment should include oxygen, suction, and advanced life support equipment (e.g., medications, a bag-valve mask device, intubation equipment, alternative airways), and equipment to allow secondary confirmation of endotracheal tube placement.^{2,3,25}
10. Written policies, procedures, clinical guidelines, and protocols for RSI should be in place in the institution. These policies should be age appropriate and should include, but not be limited to:
 - a. Equipment and supplies
 - b. Mandatory education and competency validation
 - c. Risk management
 - d. Quality monitoring to include patient outcomes
 - e. Required documentation



References

1. Air and Surface Transport Nurses. (2006). Transport nurse advanced trauma course. Denver: Author.
2. Air and Surface Transport Nurses. (2007). Advance airway management. Position paper. Denver: Author.
3. American College of Emergency Physicians. (2005). Drug-assisted intubation in the prehospital setting. Policy statement. Dallas: Author.
4. Boyle MF, Hatton D, Sheets C. (1993). Surgical cricothyrotomy performed by air ambulance flight nurse: A five-year experience. *J Emerg Med* 11: 41-45.
5. Braude, D. (2006). RSI: Standard of care for airway management. *Emergency Medicine News* 28(6): 22-23.
6. Caro, D. (2008). Neuromuscular blocking agents (NMBA) for intubation. Up to Date, Available on www.uptodate.com. 16(2).
7. Cole, C, Wang, H, Abo, BN, Yealy, DM. (2006). Drug-assisted effects on protective airway reflexes during out-of-hospital endotracheal intubation (Preliminary report). *Prehospital Emergency Care* 10: 472-475.
8. Commission on Accreditation of Medical Transport Systems. (2006). Accreditation standards. 7th (Ed). Anderson, SC: Author.
9. Davis, D, Peay, J, Serrano, JA, Buono, C, Vilke, GM, Sise, MJ, Kennedy, F, Eastman, AB, Velkt, T, Hoyt DB. (2005). The impact of aeromedical response to patients with moderate to severe traumatic brain injury. *Ann Emerg Med* 46: 115-122.
10. Davis, DP, Hoyt, DB, Ochs, M, Fortlage, D, Holbrook, T, Marshall LK, Rosen P. (2003). The effect of paramedic rapid sequence intubation on outcome in patients with severe traumatic brain injury. *J Trauma* 54:444-453.
11. Emergency Nurses Association. (2005). Care of the critically ill or injured patient during interfacility transfer. Position paper. Chicago: Author.
12. Fakhry, SM, Scanlon JM, Robinson L, Askari R, Watenpaugh RL, Fata P, Hauda WE, Trask A. (2005). Prehospital rapid sequence intubation for head trauma: Conditions for a successful program. *J Trauma* 60:997-1001.
13. Falcone, RE, Herron, H, Dean, B, Werman, H. (1996). Emergency scene endotracheal intubation before and after the introduction of a rapid sequence induction protocol. *Air Med J* 15: 163-167.



14. Helm, M, Hossfeld, B, Schafer, S, Hoitz, J, and Lampl, L. (2006). Factors influencing emergency intubation in the pre-hospital setting – a multicentre study in the German helicopter emergency medical service. *British J of Anaesthesia*. 96(1): 67-71.
15. Miklus RM, Elliott C, Snow N. (1989). Surgical cricothyrotomy in the field: experience of a helicopter transport team. *J Trauma* 29:506-508.
16. Mushark, KJ, Vukov LF, Gudgell SF. (1992). Airway management and air medical transport. *J Air Med Transport* 11: 7-9.
17. Nugent WL, Rhee KJ, Wisner DH. (1991). Can nurses perform surgical cricothyrotomy with acceptable success and complication rates? *Ann Emer Med* 20: 367-370.
18. O'Brien DJ, Danzl DF, Sowers MB, Hooker EA. (1988). Airway management of aeromedically transported trauma patients. *J Emerg Med* 6: 49-54.
19. Ozgur, K. (2003). Dilemma in rapid sequence intubation: Succinylcholine vs. rocuronium. *Internet J of Emergency and Intensive Care Medicine*. 7(1).
20. Proste, JC, Davis, DP, Ochs, M, Vilke, GM, Castillo. EM, Stern, J, Hoyt, DB. (2004). Airway medical transport of severely head-injured patients undergoing paramedic rapid sequence intubation. *Air Medical Journal*. 23(4): 36-40.
21. Slater, EA, Weiss, SJ, Ernst AA, Haynes, M. (1998). Preflight versus en route success and complications of rapid sequence intubation in an air medical service. *J Trauma* 45:588-592.
22. Souza, LF, Pereira, AC, Lavinias PS. (2007). Use of preoxygenation with the laryngeal mask airway in critical care. *American J of Respiratory and Critical Care Medicine*. 175: 521.
23. Syverud, S, Borron S, Storer DL, Hedges J, Dronen SC, Braunstein LT, Hubbard BJ. (1988). Prehospital use of neuromuscular blocking agents in a helicopter ambulance program. *Ann Emerg Med* 17: 236-242.
24. Thomas F. (1986). The early years of flight nursing. *Hospital Aviation*.
25. Wang, H, Davis, D, O'Connor, R, and Domier, R. (2006). Drug-assisted intubation in the prehospital setting (Resource document to NAEMSP position statement). *Prehospital Emergency Care* 10: 261-271.
26. Wayne, MA and Friedland, E. (1999). Prehospital use of succinylcholine: A 20-year review. *Prehosp Emerg Care*. 3: 107-109.



27. Whittaker, S, Winifred, C, Smolemski, MC. (1999). Assuring continued competence – policy questions and approaches: How should the profession respond? Online J of Issues in Nursing. A Subsidiary Journal of the American Nurses Association. 4(3).
28. Xeropotamos NS, Coats TJ, Wilson AW. (1993). Prehospital airway management: 1 year's experience from the helicopter emergency medical service. Injury 24: 222-224.

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ADDENDUM

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DEFINITIONS

Advanced Practice Registered Nurse (APRN) is an umbrella term given to a RN who has met advanced educational and clinical practice requirements beyond the two to four years of basic nursing education required of all RNs. APRNs include **nurse practitioners, clinical nurse specialists, nurse anesthetists, and nurse midwives**. Nurse practice acts vary widely among states. They define the scope of practice for APRNs within that particular state. (American Nurses Association [ANA] Nursing Facts, www.nursingworld.org)

Certified Registered Nurse Anesthetists are master's prepared advanced practice nurses who provide anesthetics to patients in every practice setting, and for every type of surgery or procedure. (<http://www.aana.com>)

Credentialing is a term applied to processes used to designate that an individual, program, institution or product have met established standards set by an agent (governmental or non-governmental) recognized as qualified to carry out this task. The standards may be minimal and mandatory or above the minimum and voluntary. Licensure, registration, accreditation, approval, certification, recognition or endorsement may be used to describe different credentialing processes but this terminology is not applied consistently across different settings and countries. Credentials are marks or "stamps" of quality and achievement communicating to employers, payers, and consumers what to expect from a "credentialed" nurse, specialist, course or program of study, institution of higher education, hospital or health service, or healthcare product, technology, or device. Credentials may be periodically renewed as a means of assuring continued quality and they may be withdrawn when standards of competence or behavior are no longer met. (Styles and Affara, 1997, International Council of Nurses Fact Sheet, http://www.icn.ch/matters_credentiaing_print.htm)

Demonstrated Competencies refer to competencies identified as recommended or required for compliance with the scope of practice or approved practice as defined by applicable regulatory agencies.

Demonstrated Knowledge is knowledge identified as recommended or required for compliance with the scope of practice or approved practice as defined by applicable regulatory agencies.



Deep sedation/Analgesia is a drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully following repeated or painful stimulation. The ability to independently maintain ventilatory function may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained. (American Society of Anesthesiologists [ASA] policy statement on Continuum of Depth of Sedation Definition of General Anesthesia and Levels of Sedation/Analgesia, Approved by ASA House of Delegates on October 13, 1999, and amended on October 27, 2004)

Dissociative agents/dissociative sedation is described as a “trancelike cataleptic state characterized by profound analgesia and amnesia, with retention of protective airway reflexes, spontaneous respirations, and cardiopulmonary stability. (American College of Emergency Physicians [ACEP] Clinical Policy for Procedural Sedation and Analgesia in the Emergency Department, *Annals of Emergency Medicine* 2005)

Drug assisted intubation is the use of medication by EMS personnel to facilitate endotracheal intubation. (Drug Assisted Intubation in the Prehospital Setting, Position Statement of the National Association of EMS Physicians, March 2001.)

General anesthesia is a drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. The ability to independently maintain ventilatory function is often impaired. Patients often require assistance in maintaining a patent airway, and positive pressure ventilation may be required because of depressed spontaneous ventilation or drug-induced depression of neuromuscular function. Cardiovascular function may be impaired. (ASA policy statement on Continuum of Depth of Sedation Definition of General Anesthesia and Levels of Sedation/Analgesia, Approved by ASA House of Delegates on October 13, 1999, and amended on October 27, 2004)

Minimal sedation (Anxiolysis) is a drug-induced state during which patients respond normally to verbal commands. Although cognitive function and coordination may be impaired, ventilatory and cardiovascular functions are unaffected. (ASA policy statement on Continuum of Depth of Sedation Definition of General Anesthesia and Levels of Sedation/Analgesia, Approved by ASA House of Delegates on October 13, 1999, and amended on October 27, 2004)

Moderate sedation/Analgesia (Conscious Sedation) is a drug-induced depression of consciousness during which patients respond purposefully to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained. (ASA policy statement on Continuum of Depth of Sedation Definition of General Anesthesia and Levels of Sedation/Analgesia, Approved by ASA House of Delegates on October 13, 1999, and amended on October 27, 2004)

Privilege is an exceptional or extraordinary right, immunity or exemption belonging to a person in virtue of their office or status. **Clinical privileges** include, as appropriate to the organization, privileges, membership on the medical staff and other circumstances pertaining to the furnishing of medical care under which a physician, dentist or other licensed health care practitioner is permitted to furnish such care by a health plan or by a



federal or state agency that either administers or provides payment for the delivery of health care services. (<http://www.oig.hhs.gov/authorities/docs/datacollection.pdf>)

Rapid-sequence intubation (RSI) is an important technique for airway management of patients in the emergency department and is in the domain of emergency medicine practice. RSI is defined as a technique where a potent sedative or induction agent is administered virtually simultaneously with a paralyzing dose of a neuromuscular blocking agent to facilitate rapid tracheal intubation. The technique includes specific protection against aspiration of gastric contents, provides excellent access to the airway for intubation, and permits pharmacologic control of adverse responses to illness, injury, and the intubation itself. (Rapid Sequence Intubation policy statement, ACEP, October 2006)

Specialty Nurse is a registered nurse who has completed specific, advanced nursing education in a chosen healthcare specialty and training in the diagnosis and management of common medical conditions in a specialty typically required for a novice registered nurse to transition toward an expert. Specialties include fields such as Cardiac, Emergency, Transport, Trauma, Surgical, OB-GYN, Interventional (Gastroenterology, Radiology), or other acute care areas. Specialty nurses have specialized knowledge, skills, and experience demonstrated by the achievement of standards identified by a nursing specialty to promote optimal health outcomes and train in advanced simulation competencies, specialized classes, and guided clinical practicums within their chosen specialty.

Specialty Settings include critical care areas such as Cardiac, Emergency, Transport, Trauma, Surgical, OB-GYN, and Intensive Care environments.

Support refers to any and all support needed to perform defined procedures safely and efficiently to include but not limited to recommended equipment, experienced personnel, recurrent training, and equipped facilities.

