NET SMART Junior
Program Curriculum

Module	Description
Module 1: Introduction to Acute Stroke	This introductory module will review stroke typology and pathophysiology, methods for rating levels of acute stroke scientific evidence, stroke epidemiologic findings, common risk factors for stroke, and determination of pathogenic mechanism. • Introduction of Stroke Typology • Introduction to Evidence-Based Acute Stroke Practice • Stroke Epidemiology • Risk Factor Assessment & Incidence • Determination of Stroke Pathogenic Mechanism
Module 2: Emergency Systems for Acute Stroke Patients – Prehospital, Triage and Emergency Department Systems	This module reviews guideline based recommendations for stroke systems of care, along with examples from highly successful programs. Mechanisms to engage widespread community involvement in acute stroke prevention, early recognition and emergent transport for treatment are presented, along with priority-setting in acute stroke management and stabilization. • Prehospital Systems for Acute Stroke – Protocols, Algorithms, Preferential Transport, and Communication Mechanisms • Field and Emergency Department Triage of Stroke Emergencies • Emergency Assessment: Priorities, Quality Measures, and Practitioner/Systems Alignment • Innovative Telemedicine and Prehospital Emergency Assessment/Management Approaches • Engaging the Community in Stroke Prevention and Recognition • Legislative Efforts for Stroke
Module 3: Clinical Assessment of Stroke: Integrated Anatomy, Physiology and Physical Examination Findings	This module provides an understanding of the anatomy and physiology of the central nervous system in relation to signs and symptoms suggestive of acute stroke. Clinical nurses will learn how to perform a structured neurologic examination that will build toward an understanding of clinical localization to particular vascular territories in the brain. The module concludes with education on the appropriate use of standardized stroke scales and how these support ongoing neurologic and functional assessment in stroke. • Vascular Territories of the Brain • Anatomy, Physiology and Correlated Clinical Assessment • Standardized Stroke Scales: National Institutes of Health Stroke Scale; Glasgow Coma Scale; ICH Score; modified Rankin Score; Hunt & Hess Score
Module 4: Neuroimaging for Acute Stroke	This module reviews the utility of multi-modal computed tomography (CT), multi-modal magnetic resonance imaging (MRI), catheter angiography, and Doppler-based imaging in

	acute stroke diagnosis and management. An overview of the appearance of pathologic changes on neuroimaging is presented with emphasis placed on the importance of the "normal" non-contrast CT which denotes an opportunity to provide reperfusion therapies. The clinical nurse's role in preparing, managing and responding to diagnostic findings is discussed. • Use of Multi-Modal CT (non-contrast CT; CT angiography; CT perfusion) in Acute Stroke • Use of Multi-Modal MRI (diffusion weighted imaging; FLAIR; GRE; MR angiography; MR perfusion) in Acute Stroke • Use of Catheter Angiography in Acute Stroke • Use of Doppler-Based Technologies in Acute Stroke • The Nurses Role in Preparing, Managing and Responding to Neuro-Imaging Findings
Module 5: Indications for and Administration of Reperfusion Therapy	This module covers current evidence based guidelines supporting reperfusion therapy with intravenous tPA (IV-tPA) and indications and techniques for intra-arterial rescue therapies. Clinical nurses will learn indications, dosages, peri-procedural nursing management, and common pitfalls in administration of reperfusion treatment for acute ischemic stroke. • Evidence-base for Use of Reperfusion Therapies • Patient Selection & Preparation for Intravenous tPA Treatment: Neuro-Imaging; Laboratory Diagnostics; Peri-Procedural Blood Pressure Control; Clinical Assessment & Management • Patient Selection and Preparation for Intra-arterial Reperfusion Therapies: Neuro-Imaging, Laboratory Diagnostics, Peri-Procedural Blood Pressure Control; Clinical Assessment & Management • Reperfusion Sequela: Detection and Management of Intracranial or Systemic Hemorrhage, and Oropharyngeal Edema • Monitoring Recanalization and Clinical Improvement
Module 6: Management of Intracranial Hemorrhage	This module covers current and evolving approaches to the management of intracranial hemorrhage. A nursing focus is kept with an eye to anticipated medical management, as well as considerations for patient transfer to a higher level of care. • Nursing and Medical Management of Intraparenchymal Brain Hemorrhages • Nursing and Medical Management of Subarachnoid Hemorrhage • Tertiary Care Transfer for Hemorrhagic Stroke
Module 7: Neurocritical Care of the Acute Stroke Patient	This optional module covers common neurocritical care nursing and medical management for those clinical nurses practicing in high acuity areas. Evidence-based approaches to airway management and ventilation, as well as hemodynamic monitoring are presented to support a scientific approach to the

(*Optional Module; nurses interested in taking the NVRN board certification offered by ANVC* [www.anvc.org] *should complete this module in preparation for the exam*)	assessment and interdisciplinary management of critically ill stroke patients. • Airway Management & Intubation of the Acute Stroke Patient • Modes of Mechanical Ventilation and Weaning Strategies • Principles of Hemodynamic Monitoring: Patient Positioning; Zero-Balancing; Waveform Analyses; Ensuring Accurate Measurement of Hemodynamic Values • Intracranial Pressure, Blood Flow and Brain Tissue Oxygen Monitoring • Integrating Complex Assessment Data with Clinical Examination Findings • Emerging Aggressive Management Regimes for Acute Stroke: Hemi-craniectomy; Hypothermia; Hemodynamic Augmentation
Module 8: Complications of Stroke: Prevention, Recognition and Management	Major, common complications of both ischemic and hemorrhagic stroke will be reviewed along with protocols for prevention, monitoring, detection and treatment. Special emphasis is paid to aspiration pneumonia, skin breakdown, contractures, deep vein thrombosis, post-stroke depression, and urinary tract infections. • Risk Factors for Stroke-Related Complications • Prevention, From Field Through Hospital Management • Early Recognition of Complications • Medical and Nursing Management of Complications
Module 9: Secondary Stroke Prevention	Early institution of secondary stroke prevention and discharge on appropriate medications will be reviewed. Methods for ensuring the adequacy of patient/family education will be discussed, as well as compliance issues related to risk factor modification strategies. Clinical nurses will learn the connection between stroke pathogenic mechanism, risk factors and individualized selection of secondary prevention methods. • Physiologic Actions and Evidence-Base Supporting Selection of Antithrombotic Agents • Statins for Secondary Prevention • Evidence-based Management of Hypertension • Methods to Achieve and Monitor Glucose Control • Effective Smoking Cessation Methods • Patient/Family Education: Strategies that Enhance Learning and Compliance with Secondary Prevention
Module 10: Stroke Units, Stroke Ready Hospitals, and Primary and Comprehensive Stroke Center Certification (*Optional Module; nurses interested in taking the*	Content is presented on Stroke Unit organization, including methods to reconfigure existing space, staffing, and work processes. Preparation for Primary or Comprehensive Stroke Center certification is discussed to prepare clinical nurses for optimal program representation to certification agency reviewers. • Inside the Stroke Unit: System Requirements for Optimal Organization

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