ANVC 2024 Conference Poster Abstracts

Methods to Improve Stroke Systems of Care

Door in Door Out: Reducing Transfer Times for Stroke Patients using Pulsara

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Winner of the ANVC 2024 Conference Poster Award

Background: In the state of Arkansas, there are only 4 certified thrombectomy-capable stroke centers (TSC) accepting patients for transfer due to LVO, and 2 centers are located within the same metropolitan area as our primary stroke center (PSC). DIDO for LVO was higher than to be expected; therefore, we sought to evaluate DIDO for LVO after implementing the Pulsara communications application for transfer initiation. **Methods:** A total of 22 patients were transferred between July 2023-July 2024 from our PSC with LVO. After CTA LVO diagnosis, Pulsara was used to initiate transfer, document acceptance times by the receiving facility, and document transport request time to transport arrival. **Results:** DIDO times were reduced by 54.6% with use of Pulsara for transfer initiation; barriers to decreasing DIDO times included slow times to patient acceptance at TSCs due to staffing and hospital bed shortages. Time from hospital arrival to transport ambulance dispatch was lengthy indicating a lack of cortical sign detection amongst regional facilities. **Conclusions:** Use of the Pulsara emergency communications application decreases DIDO times when ambulance pre-notification is provided to receiving hospitals.

Communication Error? Does Primary Language Slow Down Stoke Activations?

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Background: Racial equity is achieved when race no longer factors into or determines socioeconomic outcomes; both racial equality and equity are important within healthcare organizations to ensure optimal patient care. A stand-alone academic, safety-net, urban hospital in the Midwest explored whether race and primary language were factors in the timely receipt of emergent treatments. **Methods:** Our patients, families, and caregivers are very diverse, with the need to support 170 different languages. We examined whether times to emergent stroke interventions including IV-thrombolysis and mechanical thrombectomy were impacted by language diversity. From 2018 through 2022, patients with acute stroke symptoms presenting to the emergency department by private vehicle or ambulance were reviewed. Patients who received thrombolytic or thrombectomy from an outside hospital or an inpatient unit were excluded. Treatment times were defined by door-to-drug and door-to-puncture for each procedure. **Results:** A total of 250 patients were identified in the chart review. When emergent stroke treatments were involved, there were no differences in treatment times by language, race, or the ability to consent for either IV thrombolytic therapy or mechanical thrombectomy. **Conclusions:** In our academic center, processes supporting the timely receipt of emergent reperfusion treatment for patients speaking diverse languages are sufficient, resulting in similar treatment times to English-speaking patients.

Keeping Everyone In The Loop: A Nurse Navigator's Role in Tracking, Reporting, and Ensuring Treatment of Atrial Fibrillation in

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Ischemic Stroke Patients after Implantable Loop Recorder Insertion.

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Background: Our institution has used cardiology to monitor implantable loop recorders (ILR) although these patients are treated by neurology when inserted after an ischemic stroke. When monitoring revealed atrial fibrillation (AF), we identified a break in communication between cardiology and neurology about patient management; therefore, we explored whether use of the nurse navigator could bridge the gap in delayed communication between neurology, cardiology, and AF secondary stroke prevention. **Methods:** Using a prospective Comprehensive Stroke Center database, we reviewed our ischemic stroke patients with ILRs from January 2024 to July 2024. After insertion, the navigator logged the patient into the database and tracked the patient's monthly interrogation report. When AF positive, the neurology provider who last saw the patient was notified and the navigator continued to track the patient until a secondary stroke prevention plan was initiated. **Results:** A total of 62 individuals were implanted with an ILR. The median time from implantation to the first AF detection was 115.7 days, with only 2 patients diagnosed with AF within the first 30 days of ILR monitoring; overall, 12 (19%) patients were diagnosed with AF. Oversight by the stroke navigator ensured that AF positive patients were referred for secondary stroke prevention using anticoagulation in a timely manner. **Conclusions:** Extending the role of stroke navigator to include oversight of ILR patients' monitoring findings ensures that appropriate secondary prevention is initiated in a timely manner.

TIME IS BRAIN: Improving AIS Outcomes by Reducing Time to Treatment

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Background: The American Heart Association established Target Stroke metrics for hospitals to strive to treat at least 50% of stroke patients with IV thrombolytics within 30 minutes or less. Our hospital currently achieves the target IV thrombolytics treatment time within 60 minutes in the emergency department (ED) but struggles to meet the 30-minute goal. We aimed to achieve door to needle times of 30 minutes or less for at least 50% of applicable patients by January 1, 2025. **Methods:** A retrospective analysis of prior stroke cases was performed along with targeted group interviews. Five interventions were identified and implemented: 1) Avoiding waiting for GFR prior to CT imaging; 2) weighing the patient prior to CT; 3) ED provider accompanying the patient to CT for thrombolytic decision; 4) direct communication between the ED provider and pharmacist prior to departing the stroke alert; and 5) improved communication between the ED nurse and phlebotomist regarding venous access for CT. **Results:** Our process improvement is still underway, with the team implementing the first 3 strategies and trialing the final two to further evaluate the impact on treatment times. A team debriefing tool has been implemented to provide evidence of compliance with improvement strategies so that feedback can be provided to the clinical team. Trends show improvement in IV thrombolytic administration times within the designated time window. **Conclusions:** Use of retrospective data may support identification of methods that can enhance reperfusion timeliness in acute stroke patients.

Improving Compliance with Daily Stroke Education: A Health System Approach

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Background: Patients should be provided with information, advice and the opportunity to talk about the impact of their illness on their lives. The 2021 *AHA/ASA Guideline for the Prevention of Stroke in Patients with Stroke and TIA* highlights behavior change interventions, targeting stroke literacy, lifestyle factors, and medication adherence to reduce cardiovascular events. We sought to improve the frequency (minimum daily) and quality of stroke patient education on inpatients at our system hospitals. **Methods:** Extensive retrospective review of nursing documentation related to education of our stroke patients was performed along with nursing staff discussion of barriers to performing education and appropriate documentation. Inconsistencies with necessary documentation and timeliness of documentation were found by the improvement team. Front-line nursing staff were educated, highlighting stroke education topics and patient specific risk factors. To improve timeliness and documentation, the team added a task to the nursing task list in the medical record system that was piloted manually with stroke coordinators and later added by the information services team for the health system to utilize. **Results:** The community stroke centers (CSC and PSC) saw improvement in education documentation compliance at 25% and 18% respectively compared to baseline following the addition of the patient education task to the nursing worklist. **Conclusions:** Providing front-line nurses with education related to necessary documentation and stroke education requirements, along with documentation triggers in the medical record can improve compliance in the frequency and quality of stroke patient education.

Implementation of A Provincial, System Wide, Stroke Registry

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Background: The province of Saskatchewan, Canada has a robust stroke system of care that has been consistently implementing quality improvement initiatives over the last 10 years. Throughout this time, key performance indicators (KPIs) have evolved and been adopted by the 9 provincial stroke centers. An innovative stroke registry was created to allow for continuous monitoring of the hyperacute stroke processes. **Methods:** KPIs collected by stroke centers were developed based on Canadian Stroke Best Practice Recommendations (CSBPR). KPIs are recorded within the Saskatchewan Provincial Stroke Registry, a web-based data collection tool. KPIs were developed to assess: 1) Total number of stroke alerts; 2) stroke diagnoses; and 3) length of stay (LOS) on the acute stroke unit. The following time parameters are collected: Door to imaging (DTI), door to needle (DTN), and door to revascularization (DTR). **Results:** From April 1, 2023, to March 31, 2024, 1,019 stroke alert patients received a final diagnosis of stroke: 17% were intracranial hemorrhage; 60% were ischemic stroke; and 23% were transient ischemic attacks. Median DTI was 14.2 minutes, median DTN was 55 minutes, and median DTR was 101 minutes. Median LOS was 7 days. **Conclusions:** Successful implementation of an acute stroke registry has occurred in Saskatchewan, Canada. KPIs are compared to national benchmarks and process improvements are continuously occurring. Future work includes expansion of KPIs at primary stroke centers to include clinical outcome for all stroke patients as well as stroke prevention clinic metrics.

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Improving Door to Transfer: A Single Center Process Improvement Project

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Background: Patients presenting to our primary stroke center with stroke-like symptoms requiring transfer to a higher level of care are experiencing longer than desired door to transfer times. The time it takes to transfer a patient to higher level of care for possible intervention strongly correlates with post-stroke outcomes. In fiscal year 2022, Delnor Hospital met door to transfer goals in ≤ 90 minutes for 17% of eligible patients. Therefore, this project aimed to improve time to transfer to a higher level of care with a goal of ≤ 90 minutes in 40% of patients transferred during fiscal year 2024. **Methods:** Ischemic stroke patients requiring transfer for potential intervention in 2022 were reviewed examining the stroke care timeline and any barriers to transfer. A process map was created and opportunities for improvement were identified. Five interventions were developed to improve door to transfer time: 1) Early stroke alert activation; 2) timely communication of imaging results; 3) a process to support call backs to the receiving hospital; 4) ambulance service availability; and 5) use of artificial intelligence CT software (Rapid). **Results:** Following implementation of the 5 interventions, a trend showing improvement from the baseline 17% (n=6) of patients meeting time goals, to 36% (n=14) post intervention was noted. Findings led to development of 2 additional interventions that may further reduce transfer times for acute ischemic stroke patients. **Conclusions:** Our quality study shows that a multidisciplinary, multi-intervention approach to improving door to transfer times for the eligible ischemic stroke patients can be successful.

Teleneurology Collaboration D2N Process Improvement Project

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Background: American Heart Association's Phase III Target: Stroke is one of the leading benchmarking publications for door to thrombolytic times. A secondary goal of the Target Stroke initiative is to achieve door to needle (D2N) times within 45 minutes of arrival and is based on scientific findings showing that thrombolytic initiation times below 45 minutes of arrival results in improved patient outcomes. Therefore, this project was implemented in an effort to decrease our D2N thrombolytic times. **Methods:** We collaborated with our teleneurology (TN) partners on methods to decrease our D2N times, identifying several factors contributing to delays to achieving D2N times under 30 minutes. The most significant barrier to D2N time reduction was delayed initiation of TN consultations until after CT scan completion; therefore, a PI plan was initiated where the TN robot was rehomed within CT, TN would stay until treatment decision was established, and thrombolytics were readily available in CT for rapid administration. **Results:** The PI project is still ongoing; however, preliminary findings after implementing the project show a decrease of our median D2N times from 45.5 minutes to 42 minutes (excluding cases with legitimate delays); 43% of these cases had D2N times ≤30 minutes, compared with 7% prior to project implementation. **Conclusions:** Implementation of our TN D2N Project has improved our D2N times to meeting the Target Stroke benchmark of 45 minutes, but not below 30 minutes. Continued data collection and

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analyses are underway with provision of feedback to both our nurses and TN providers.

Implementation of a Virtual Provincial Stroke Rounds

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Background: Guided by the hub and spoke model, Saskatoon, Saskatchewan's Royal University Hospital, serves as the province's comprehensive stroke center hub to 8 primary stroke centers. Throughout 2022-2023, the Saskatoon Stroke Program (SSP) connected with primary stroke centers across the province to determine program needs; a resounding theme was the desire for enhanced stroke care knowledge. **Methods:** A virtual pilot project was created with support from the Saskatoon Stroke Program, University of Saskatchewan, and the Saskatchewan Health Research Foundation. The aim of the project was to support health care providers (HCP) providing stroke care via monthly, virtual, interprofessional, case-based stroke rounds. Sessions were guided by evidence-based practice, Canadian Stroke Best Practice Recommendations, and expert experience. Post session surveys allowed for real time feedback. **Results:** Engagement was high as reflected in the sustained number of live and recorded program views. Specifically, 344 individuals registered to participate, consisting of a variety of HCPs with broad provincial representation; 28% of participants provided care in primary stroke centers. Average live attendance was 128 individuals, and there were 83 average viewers for recorded sessions. Feedback from participants spoke to knowledge gained from each session while a secondary outcome was building a stronger stroke community. Participants reported feeling grateful for this unique opportunity to learn while connecting with others facing the same challenges in providing care across the stroke continuum. **Conclusions:** Use of virtual provincial case-based rounds meets the perceived needs of HCPs for evidence and expert-based knowledge.

Case Reports

"You know I know." INO and Nystagmus - A Case Report

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The brachium pontis (BP), also referred to as the middle cerebellar peduncle, is a paired structure that connects the cerebellum to the pons; it serves as a connector between the cerebellum and cerebral cortex via the pons. As the largest of the three peduncles, it conveys the largest number of fibers and is utilized in the primary cortico-cerebellar-cortical loop, which helps facilitate motor planning. These fibers convey afferent information from the frontal and temporal lobes of the cortex to the posterior lobe of the contralateral cerebellum. Being composed primarily of white matter, BP lesions are most commonly seen in patients with multiple sclerosis; rarely are BP lesions caused by stroke. Because of this, often these patients are often initially treated inappropriately due to the concern that they do not match a "classical" presentation for acute ischemic stroke. We report a case of stroke located in the right BP resulting in fast-beating nystagmus to the left, and right lateral rectus palsy. Key clinical pearls of treatment wisdom are discussed in these patients with rare hyperacute presentations.

Can I Get a Miracle? A Single Center Case Report

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A 68-year-old female with a history of rheumatoid arthritis presented to the emergency department (ED) following loss of consciousness after a motor vehicle accident and complaining of headache; her brain noncontrast CT demonstrated bilateral subarachnoid hemorrhage and her exam on arrival was consistent with Hunt & Hess grade 1 which carries a 30% mortality. During initial neurosurgical evaluation in the ED, she demonstrated seizure activity and required emergent intubation. Repeat CT showed an increase in hemorrhage consistent with re-bleed. CT angiogram demonstrated an anterior communicating artery aneurysm. The patient's clinical decompensation worsened her clinical grade to a Hunt & Hess grade 5 which carries a 90% mortality rate. External ventricular drain (EVD) was placed emergently and she was admitted to the neurocritical care unit; an episode of coughing was followed by frank blood from the EVD. CT was repeated showing re-rupture of the aneurysm. After discussion with the family regarding her clinical evaluation and poor prognosis, coil embolization was performed to secure a complex dissecting aneurysm. Her hospital course included removal and replacement of the EVD, shunt placement, development of pneumonia, tracheostomy, and feeding tube placement. No vasospasm was detected on vascular imaging. Approximately one month after her admission, she was discharged to a long-term acute care facility for ventilator weaning; 6 weeks later she was decannulated and transferred to an acute rehabilitation facility. She was discharged 3 weeks later without her feeding tube and requiring 25% assistance with activities of daily living (ADL); she was subsequently managed with outpatient therapy. One year after the initial hemorrhage, she was seen in stroke clinic and was performing most ADLs independently; she continues to report short-term memory and balance issues.

Cerebral Venous Thrombosis in Early Pregnancy Presenting with Intracranial Hemorrhage: A Case Report

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Cerebral venous thrombosis (CVT) with intracranial hemorrhage in early pregnancy is an extremely rare event. Its nonspecific signs and symptoms result in difficulty in making the diagnosis. We present a 28-year-old primigravida at eight weeks of pregnancy who suddenly experienced a first-ever focal seizure that recurred several times, which was followed by word-finding difficulties and right-sided hemiparesis in subsequent days. D-dimer was 3090 ng/mL. Brain venography suggested CVT of the superior sagittal sinus with acute hematoma of 10.8 cc in the left temporal lobe. Abnormal EEG showed left temporal slowing. She received levetiracetam and intravenous continuous unfractionated heparin with a targeted aPTT of 1.5-2 times normal. She was discharged thereafter with subcutaneous heparin 2x7,500 units. She gradually improved and regained normal neurological function and muscular strength at 7 months of pregnancy. No significant complication was detected in her fetus.

Innovative Education & Clinical Training Strategies to Better Develop Stroke Team Members

The Upstate Implantable Loop Recorder Training Program; An Inter-professional

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Simulation Workshop for Expanding Nurse Practitioner Clinical Practice.

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Background: An implantable loop recorder (ILR) is a small device that is placed under the skin of the chest that provides continuous monitoring and recording of the heart's electrical rhythm. ILRs are utilized as diagnostic tools with the goal of capturing cardiac arrythmias that would change medical management, specifically in neurological patients diagnosed with cryptogenic stroke. While traditionally ILRs are placed by cardiologists, the role of the stroke nurse practitioner (NP) is pivotal in limiting barriers to implantation at discharge from the acute care setting. This inter-professional workshop aimed to provide NPs with hands-on skills and knowledge required to enhance patient care quality by effectively and efficiently implanting ILRs. **Methods:** An interdisciplinary training program was designed for NPs to learn best practices for ILRs. The half-day workshop was conducted with content including procedure indication, counseling, technique, peri-procedural management and documentation. Pre/post workshop surveys were administered to assess baseline knowledge and efficacy of the simulation-based workshop for ILR procedural training. **Results:** This presentation describes the NP learner experience from our interdisciplinary simulation program led by faculty from cardiology and stroke-neurology subspecialties. The Upstate ILR workshop was the first simulation program of its kind designed specifically for procedural training of NPs in ILR device insertion. Surveys of learner experience were overwhelmingly positive, and feedback reported demand for further development of the program. **Conclusions:** Use of an ILR workshop can effectively enable NPs in successful ILF insertion and patient management.

Implementation of a QI Project on an Inpatient Stroke Unit to Increase Staff Introductions: Effect on Patient Experience.

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Background: On a 20-bed stroke unit in a northeastern United States urban hospital, a former stroke patient provided feedback of their experience on the unit, expressing that not all staff who entered the room used their names. A project team developed an initiative named, "Hi, my name is…" with the goal to understand the impact of introducing oneself to enhance the human connection and improve patient experiences. **Methods:** We implemented three quality improvement interventions: 1) Stroke survivor video testimony of their experience published to the hospital's weekly newsletter and broadcast via email to all staff regionally; 2) larger fonts on facility-issued ID badges for names of staff on the unit; and 3) "Hi, my name is…" signs were created and placed outside patient rooms as a visual reminder that all who enter a patient's room should introduce themselves. HCAHPS surveys results were examined for the number of times patients wrote staff names in the comments. **Results:** Survey reports over an 8-month period prior to the project implementation listed 17 (56.7%) staff names. For the 6-month period following project implementation, 34 (87.7%) staff names were listed on HCAHPS surveys. **Conclusions:** Our quality initiative provided a unique way to examine the impact of improving the frequency of staff introductions and how it impacts the patient experience. Use of HCAHPS surveys provides an opportunity to understand patient recall of staff names and their contribution to care.

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The Forgotten Women: Increasing Stroke Awareness Amongst Labor and Delivery and Postpartum Nurses

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Background: Pregnant and postpartum women are 3 times more likely to suffer stroke than nonpregnant females. Nurses (RNs) serving this population are often unaware of the increased risk and are less likely to identify stroke signs and symptoms. Therefore, we aimed to develop an educational simulation exercise to improve nurse recognition in our comprehensive stroke center. **Methods:** The stroke, labor and delivery (L&D), and postpartum education teams created a mock stroke drill disguised as a routine hypertension drill, and incorporated an engaging escape room activity to increase awareness of increased stroke risk, signs and symptoms, and treatment options for pregnant and postpartum women. Using a VICTORIA Patient Simulator, L&D nurses were guided through a routine hypertension in situ drill designed to practice administering algorithmically supported antihypertensive agents; we incorporated a sudden patient onset of severe headache and slurred speech, resulting in code stroke activation. Post-tests were administered to all participants. The stroke team then attended a Postpartum Skills Blitz to engage with nurses. In a subsequent phase of the project, an stroke escape room highlighting stroke signs and symptoms and treatment pathways was developed. **Results:** Participating nurses reported greater awareness of stroke signs and symptoms, assessment techniques, stroke pathways, and treatment. Post-tests showed an increase in symptom identification and stroke pathway utilization. **Conclusions:** Pregnant and postpartum women are a forgotten high risk stroke population and nurses caring for these patients are often underprepared to identify and manage stroke. Collaboration with other specialties to develop engaging education can empower nurses to better care for high risk stroke patients.

Cracking the Code: Designing a Stroke Escape Room Simulation for ED Nurse Training

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Background: Simulation-based training is widely recognized as an effective educational approach in nursing. Escape room-style simulations represent a novel and emerging method within this field, offering a unique, engaging format for experiential learning. **Methods:** This project outlines the design and development of an escape room simulation focused on an ischemic stroke scenario and specifically tailored for emergency department (ED) nurses. We aimed to strengthen clinical skills, critical thinking, and decision-making through interactive, gamified learning experiences. The simulation was designed to mirror realistic clinical experiences with the scenario requiring participants to complete tasks that replicated real-world nursing challenges in a fun and engaging manner. **Results:** This poster presents the simulation exercise and participant experiences. **Conclusions:** As maintaining nurse engagement and motivation is crucial for ongoing competency in evidence-based stroke care, this innovative escape room approach provides an active learning opportunity that could enhance adherence to standardized stroke protocols.

The Effect of Simulation Based Education on Nursing and EMS Stroke Care

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Background: Treatment options for ischemic stroke include mechanical thrombectomy (MT). Primary stroke centers must quickly identify large vessel occlusions (LVO), treat with thrombolytics when appropriate and transfer to a comprehensive stroke center for MT. Given the need for expedited care, collaboration with emergency medical service (EMS) providers and timely administration of thrombolytics prior to transfer were identified as practice gaps. Therefore, we examined the effect of stroke simulation sessions on the knowledge and confidence level of registered nurses and EMS providers who care for patients with acute stroke. **Methods:** Simulations were 60 min, attended by groups of 4-5 nurses and 1-2 EMS providers, and focused on assessment, thrombolytic administration, and rapid transfer when an LVO is identified. Participants completed pre- and post-simulation surveys assessing confidence levels and knowledge of stroke care. A paired samples t-test examined differences in confidence levels and total percent of correctly answered questions on the survey before and after the simulation. A McNemar test examined differences in the proportion of participants that correctly answered each question on the test before and after simulation participation. **Results:** Following the stroke simulation, the confidence levels of nurses increased for all nurse role actions. There was an increase in the number of correct answers for 3 of the 6 test questions, as well as the total percent of correctly answered test questions. **Conclusions:** Simulation based education can be an effective training tool for improving the knowledge and confidence of nursing and EMS providers in the management of acute ischemic stroke.

A Game-Changer in Stroke Education: Elevating Stroke Care through Interactive Learning and Recognition

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Background: Stroke education is crucial in maintaining high standards of care, especially in fast-paced clinical environments. Traditional educational methods may not engage staff effectively, leading to gaps in knowledge retention and application. To address this, we developed a stroke educational project that integrates gamification and a nurse recognition program to improve engagement and reinforce exceptional stroke care practices. **Methods:** Our gamification approach involved creating a spin wheel with stroke-specific topics. Nurses participated by spinning the wheel, answering stroke-related questions on the selected topics, and receiving prizes for correct answers. Topics included stroke diagnosis, acute management, reperfusion therapies, and secondary prevention strategies. In addition to the game-based learning, we implemented a recognition process to acknowledge nurses who demonstrated outstanding stroke care. Awards and custom stroke pins were given to nurses who exhibited excellent clinical judgment, swift decision-making, and adherence to stroke protocols in patient care. **Results:** The interactive format encouraged active participation and learning in a fun and low-pressure environment. Preliminary feedback from nursing staff indicated increased enthusiasm for stroke education sessions and better retention of critical stroke management concepts. The recognition process also fostered a sense of pride and motivation, with participants striving to be acknowledged for their stroke care efforts. **Conclusions:** Gamification along with nurse recognition enhances engagement in stroke education and improves nursing staff's motivation to provide exceptional stroke care. These strategies provide a framework for other healthcare settings to adopt innovative approaches to continuous professional

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development and quality improvement in stroke management.

Escaping Convention: Innovative Learning Through Stroke Simulation Escape Rooms
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Background: This project emerged through the intersection of interactive learning theory and clinical necessity. Because traditional didactic methods often fall short in simulating high-pressure decision-making environments that nurses face in stroke care, we aimed to create a simulated experience capable of capturing the nuanced presentation of posterior stroke. **Methods:** We developed an escape room to understand the effectiveness of an innovative method to teach recognition of posterior circulation stroke symptoms to emergency department nurses. The primary outcome was comfort level in recognizing and caring for posterior circulation stroke patients scored on a scale of 0 (no comfort) to 10 (high comfort). **Results:** A total of 35 nurses participated in the escape room. Pretest scores of comfort averaged 4.5, whereas post-test scores averaged 7.8. Post-escape room audits of emergency department performance indicated improvement in nurses' knowledge, confidence, and documentation. Subjective findings indicated a preference for interactive learning using an escape room approach that enhances teamwork and critical thinking. **Conclusions:** Escape room stimulation improves both knowledge and skills in emergency stroke nurses.

Clinical Interventions That Aim to Improve Stroke Outcomes

Enhancing Patient Safety: A Unit-Based Fall Prevention Initiative
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Background: Hospital falls pose a significant risk to patient safety and can result in adverse outcomes, increased healthcare costs, and prolonged hospital stays. Focused on identifying high-risk patients, enhancing staff training, and improving environmental design, this initiative sought to minimize fall-related injuries in the neurocritical care unit (NICU), improve outcomes, and optimize healthcare resource utilization by integrating evidence-based strategies and leveraging interdisciplinary collaboration. **Methods:** We evaluated the effectiveness of a comprehensive fall reduction strategy in reducing fall rates, enhanced patient safety, and improved overall healthcare quality. The comprehensive approach included integrated staff education, environmental modifications, bed and chair alarms, and use of door signs in addition to fall bundle standards (e.g. use on non-skid socks, fall risk armbands, and provision of sitter or tele-sitters to mitigate fall risks). Departmental partnership team collaboration and targeted outreach with staff reorientation were initiated to engage staff, patients, and patients' family at bedside in understanding and adopting in preventive measures. Surveys were conducted and fall event rates were captured. **Results:** The project was implemented over 3 months. Findings revealed a significant reduction in fall rates from an average of 2 falls in one month prior to implementation, to 1 fall event in 3 months, and subsequently no falls in 6 months. **Conclusions:** Our comprehensive fall reduction strategy contributed to a safer healthcare environment, reducing the overall fall burden on our healthcare systems. These findings underscore the importance of a holistic and collaborative approach to hospital fall prevention, emphasizing the need for ongoing adaptation and refinement of prevention protocols.

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Movement and Stroke: A Public Education Initiative

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Background: Movement or physical activity can have numerous health benefits, including reducing blood pressure (BP) and improvement of overall health. Clinicians often ask patients to make lifestyle changes, including increased movement, but without helping them to make and implement these changes. We sought to host a community event teaching how movement can improve health and reduce stroke risk factors to decrease risk of stroke and provide guidance for building healthy activity habits. **Methods:** A comprehensive stroke center partnered with an emergency medical services (EMS) agency, a rehabilitation facility, and a local YMCA to develop and implement the program. The event included a presentation highlighting the positive impact movement has on health and reducing risk for stroke, movement types, movement goals, and stroke basics including B.E.F.A.S.T. Participants then partook in a group exercise class. Also, participants visited stations that included: B.E.F.A.S.T education reinforcement and the importance of calling 911, BP screening, and review of individual stroke risk factors with a stroke risk calculator. Participants could opt to receive a fitness tracker and BP cuff to take home with written information about movement and logs to record their daily activity and BP weekly for four months. **Results:** Participants reported understanding the importance of movement and its health impacts Logs are currently being collected for analysis and findings will be presented in the future. **Conclusions:** An event highlighting the importance of movement and its impact using multiple interactive methods was found to be engaging and had a positive impact on participants' understanding of movement and its health benefits. Activity and BP logs will be evaluated to understand the continued impact of the event on activity habits and BP.

Nurse Mixing Thrombolytics at the Bedside: Timely Treatment Delivery in Acute Ischemic Stroke

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Background: Our hospital system switched thrombolytics from alteplase to tenecteplase (TNK) in March of 2023. We chose to stay with our process of pharmacy mixing and subsequently delivering the thrombolytic to the bedside during a stroke alert. Review of the literature and current program data indicated bedside nurse preparation of TNK could improve time to treatment in acute ischemic stroke. Therefore, this project aimed to reduce the time from thrombolytic order to administration to patients receiving TNK in the emergency department (ED) through nurse-mixing at bedside. **Methods:** A series of multidisciplinary and departmental team meetings occurred over the course of a five-month timeline prior to implementation. Planning included a failure mode effect analysis (FMEA), process mapping, education planning, and EPIC electronic health record updates. The teams identified 12 potential opportunities with the FMEA and developed mitigation strategies. Updated process maps were developed and reviewed with all stakeholders. Education, including hands on simulation, was performed with the ED nurses and the stroke response nurses. **Results:** The pre-intervention time from order to administration averaged 14.1 minutes. We successfully implemented nurse-driven bedside preparation of TNK for acute ischemic patients in the ED. Final post-implementation times will be presented.

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Conclusions: A thorough and well thought out approach to change provided a successful platform for implementation of this clinical initiative. Including a multidisciplinary team in the improvement project and implementation plan supported successful implementation of the new workflow.

System Wide Tenecteplase Implementation Experience

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Background: Tenecteplase has been proven to be safe and non-inferior to alteplase as a thrombolytic agent for emergent treatment of acute ischemic stroke. Additional benefits include ease of preparation and administration as well as decreased door-to-needle and door-in-door out times. With these factors in mind the, the Saskatchewan Health Authority (SHA) moved towards rapid implementation of a provincial tenecteplase protocol for both primary and comprehensive stroke centers. **Methods:** Following updates to Canadian Stroke Best Practice Recommendations in 2023, the SHA involved key stakeholders in creating a standardized, pre-populated provincial order set. Initial adoption occurred at the comprehensive stroke center (CSC). Stroke neurologists, a clinical nurse specialist, and administrators from the CSC traveled to the 8 primary stroke centers (PSC) offering education to physicians and nurses regarding recent clinical trials, process improvements and the initiation of the provincial stroke registry. **Results:** Between October 2023 and February 2024, all 9 stroke centers in the province of Saskatchewan adopted tenecteplase as the primary thrombolytic agent in the emergent treatment of acute ischemic stroke. All stroke centers began collecting standardized metrics regarding the acute stroke process and administration of tenecteplase. **Conclusions:** Continuity in care was established using a provincial order set and standardized processes. Each site enters specified metrics which are used to review efficiencies and identify opportunities within the hyperacute stroke process.

On the MOVE: Using Technology to Assess Mobility in the Neuro ICU

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Background: Mobility activities in the ICU, such as turning, sitting, standing, and walking, and the time spent in such activities have traditionally been documented manually in the electronic medical record (EMR) by nursing or therapy staff. Methods that include automated validation of turning, the degree of turns, upright activity and the time spent mobilizing is now possible. **Methods:** Our organization began using the LEAF monitoring system in selected patients in the neurocritical care unit. LEAF is placed on patients who are unable to independently mobilize, and data are automatically collected on turns, the degree of turn, and the amount of upright activity as a percentage of the patient's day. **Results:** Our data will be presented for the past six months showing turn compliance and upright activity. **Conclusions:** Automated monitoring systems with summary feedback for nursing staff and leadership can objectively and independently validate the degree of mobility in neurocritical care patients who are unable to mobilize themselves. These data can be used in mobility studies to assess outcomes in neurocritical care patients, particularly for those with severe limitation in mobility, such as stroke patients.

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