Acute Stroke Management: Capturing the Walk-In Patient

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The Purpose

The purpose of this poster is to show how the emergency department staff of a comprehensive stroke center use the standard stroke guidelines , lean principles and team approaches to change care for the walk-in stroke patient. The stroke team and staff nurses worked through performance improvement initiatives to improve the timely care of the stroke patient in the Emergency Department. This poster illustrates how the protocol was modified to optimize the patients health outcome.

Definition

Stroke is likely caused by an obstruction in the blood flow, or the rupture of an artery that supplies blood to the brain There are two main types of stroke; Ischemic stroke which occurs in 87% of patients, occurs when a clot or thrombus forms blocking blood flow to the brain. Hemorrhagic stroke, which occurs when a blood vessel on the brains surface ruptures and inundates the space between the brain and skull.

Statistics

The stroke team was activated 1012 times in 2017, 782 by EMS and the ED team. Of that 178 patients received TPA and 91 received endovascular intervention in interventional radiology.
In 2017, 65% of patients received TPA in less than 45 minutes.
Walk in volume increased from 168 to 209 from 2016 to 2017.

Conceptual Model:

2018 Code Stroke Goals

The standards for stroke patients that we measure are patient arrival to CT of brain

Goal times

Door to Ct <25 min

Door to Ct read <45 min

Consider CTA per Endovascular Guidelines

Intervention Process

A lean charter was written with the interdisciplinary team including members from; stroke neurology and ED Physician and Nursing. The goal to deliver the same high quality care while reducing the walk-in door to activation time.

Intervention Data

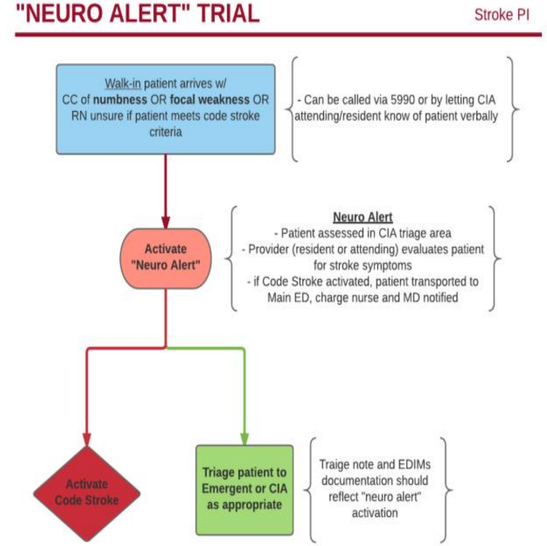
ED and the Stroke team had mutual goals of improving care for the stroke patient. Obtaining a CT scan was identified as pivotal in diagnosis. To measure success data related to Door to CT (Overall and walk-in) and Get with the Guideline TPA administration within 45 minutes was studied.

	Baseline	Post intervention
GWTG%</= 45 minutes > 50%	49%	69%
Door to CT Complete <15 min (overall)	29%	35%

Identified Key Concepts

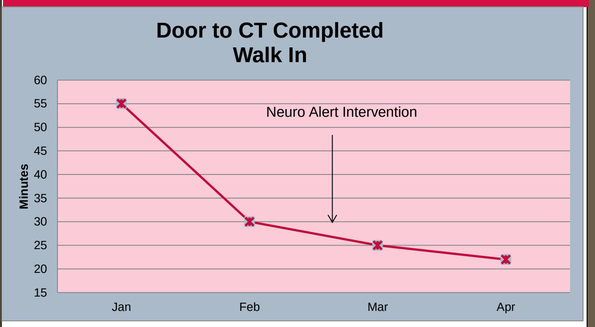
- Room Design
- Travel to CT (3-5 min walk)
- Closed loop communication
- Initial ED Assessment at triage
- Engage MD in triage for rapid assessment
- Alerting Code Stroke
- Ordering, obtaining, and analyzing of Head CT
- Pharmacy Preparation

Designed Pathway-Intervention



An activation used by the triage RN on walk-in patients with complaints of:
New numbness
New focal weakness

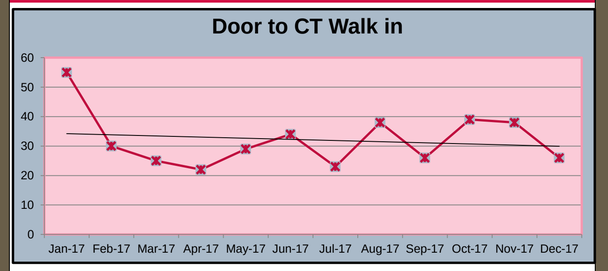
Initial Go-Live Results



Identified Key Concepts

- Need to have MD present to identify and confirm or deny neuro alert
- Patients presenting with dizziness still remained difficult to call
- Door to triage time creates a variable factor

Post Intervention Data



Future Plans

- Collaborate for goal of RN to activate code stroke in triage without MD evaluation
- Send patients directly to CT from triage
- CT Suite relocating to ED.

Conclusion

- The implemented process met the goal of reducing door walk-indoor to CT time which subsequently decreased door to TPA administration times.
- Results sustained with **Zero** adverse patient outcomes related to ED initial assessment or TPA administration

References

Benjamin T. Squire, MPH, Joshua H. Tamayo-Sarver, PhD, Paula Rashi, RN, William Koenig, MD and James T. Niemann, MD. Effect of Prehospital Cardiac Catheterization Lab Activation on Door-to-Balloon Time, Mortality, and False-Positive Activation. Prehospital Emergency Care January-March 2014, Vol. 18, No. 1 , Pages 1-8

Clare L. Atzema, MD, MSc*†; Peter C. Austin, PhD*; Jack V. Tu, MD, MSc, PhD*‡; Michael J. Schull, MD, MSc. Effect of time to electrocardiogram on time from electrocardiogram to fibrinolysis in acute myocardial infarction patients. *CJEM* 2011;13(2):79-89

Wu E, Arora N, Eisenhauer A, Resnic F. An analysis of door-to-balloon time in a single center to determine causes of delay and possibilities for improvement. Catheter Cardiovasc Interv. 2008; 71: 152–157

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