

A Before-and-after Analysis on Effectiveness Of The Clinical pathway For Management Of Patients With Acute Ischemic Stroke

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Background:

- Evidence shows that intravenous administration of Recombinant Tissue Plasminogen Activator (rtPA) has beneficial outcomes for patients with acute ischaemic stroke within 4.5 hours of symptom onset.
- Given the narrow therapeutic window for acute stroke treatment, early evaluation and diagnosis of potential ischemic strokes are critically important.

- **Between 2008 and 2010**
TPA service (between A&E, radiology department, and neurologists) was implemented in A&E from 9: a.m. – 5:00 p.m.
TPA call mainly initiated by doctors.
- **Since June, 2011**
A new clinical pathway has been used in A&E, nurses in A&E have taken up the role to initiate TPA calls.
- The purpose of this clinical pathway is to empower ED staff to prioritize the acute care of ischemic stroke patients who can potentially benefit from thrombolysis, and minimize the door-to-needle time.

Clinical Pathway for Management of Patients with Acute Ischemic Stroke

Patient, aged > 18, premorbid able to walk to toilet with/without assistance, presented with **SUDDEN ONSET** of focal neurological deficit which **AFFECTS DAILY ACTIVITIES**

- Unilateral arm or leg weakness (hemiparesis)
- Unilateral facial weakness
- Speech disturbance (slurred speech, dysarthria, dysphasia)



Blood glucose between 3.5 and 22





8:00 a.m. – 5:30 p.m. Onset time < 5 hours

5:30 p.m. – 8:00 a.m. Onset time < 2.5 hours



Category II, send patient to HDU, inform A&E specialist and call stroke nurse, arrange CT brain, ECG, CXR, set HB and blood taking.

Objective of this review:

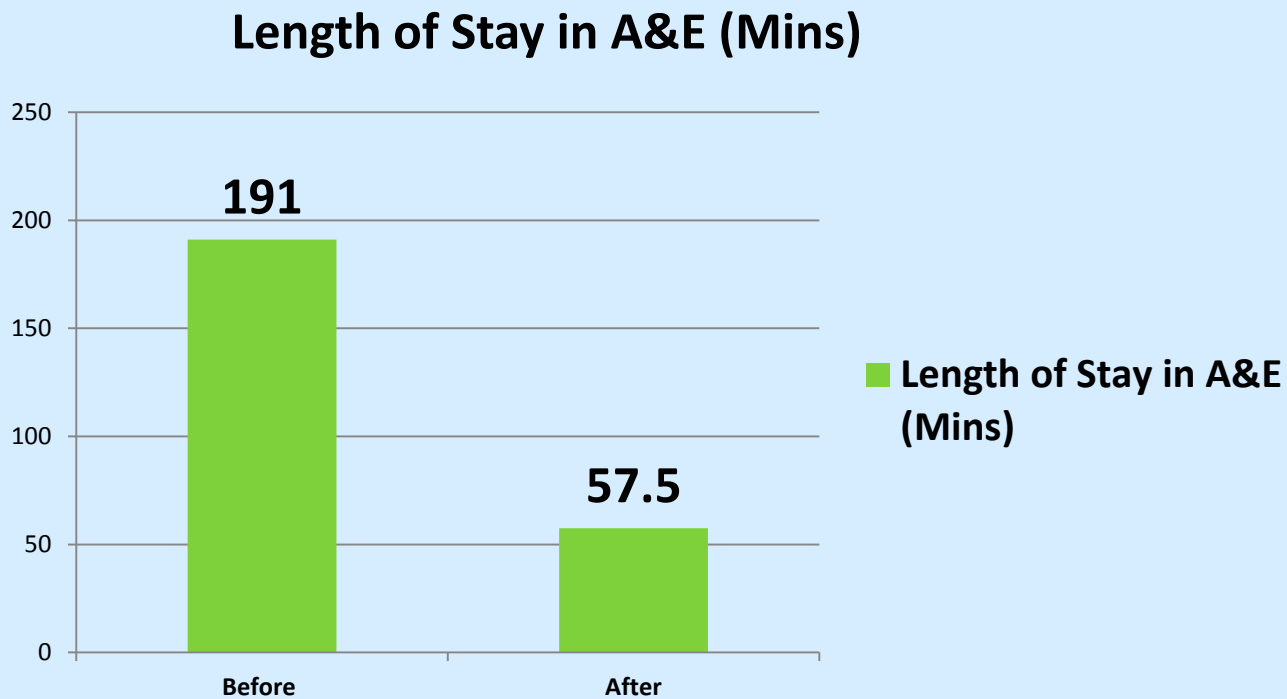
To evaluate the service outcome before and after implementation of the clinical pathway for acute ischemic stroke patients in A&E.

Methodology:

- Retrospective before-and-after comparison.
- 55 patient records for the “before implementation” data review (between March and May 2011)
- 85 patient records for the “after implementation” data review (between July and Dec 2013)
- The registration-to-assessment-time and length of ED stay were compared between the two groups.

Outcome:

The average ED processing time (LOS) was 133.5 minutes shorter than before implementation of the pathway.



Summary

- This inter-departmental clinical pathway has been shown to expedite the acute care process for patients with acute ischemic stroke.
- For continuous improvement of the services, audit is conducting on a monthly basis and feedback is given to individual staff.