

INTRODUCTION/OBJECTIVE

Every minute of delay in thrombolysis for acute ischemic stroke patients is associated with a loss of 1.8 days of extra healthy life.¹ Computed tomography reading, laboratory turnaround times, emergency department (ED) census, and thrombolytic preparation techniques can all impact thrombolytic times.^{2,3,4} To reduce delays, the American Heart Association/American Stroke Association has recommended hospitals create processes and pathways to manage stroke patients.⁵ Memorial Hermann Memorial City (MHMC) ED has implemented a “Code Stroke” alert which consists of rapid triage, the involvement of a multi-disciplinary team, and expedited laboratory turnaround times for suspected acute ischemic stroke patients.

The objective of this study is to describe the relationship between ED crowding factors and a stroke pathway involving a multidisciplinary team on time to thrombolytic administration in acute ischemic stroke patients.

METHODS

The study is an IRB-approved, retrospective chart review at MHMC in Houston, TX.

Inclusion Criteria:

Adult patients (≥18 years old) and received alteplase for the treatment of acute ischemic stroke in the ED between 2/1/11 and 9/1/15.

Endpoints:

- To evaluate the relationship between ED crowding factors and lower door-to-needle times for ischemic stroke patients
- To evaluate the impact of MHMC’s Code Stroke clinical pathway on door-to-needle times for ischemic stroke patients

Statistical Tests:

Baseline characteristics between groups will be compared using the χ^2 or Fisher’s exact test for categorical data. For continuous data, parametric and non-parametric tests will be performed for normally and non-normally distributed data, respectively.

RESULTS

Daily Emergency Department Crowding Factors

	tpa ≤ 60 min. N = 44	tpa > 60 min. N = 104	P value
Total no. of registered pts in the ED†	162.8 ± 21.0	158.9 ± 24.0	P=0.349
No. of treated pts†	156.2 ± 19.9	152.4 ± 23.1	P=0.343
No. of Level 4/5 pts (Non-urgent/Routine)†	38.7 ± 9.1	39.3 ± 11.1	P=0.739
No. of admits†	42.0 ± 7.2	41 ± 8.1	P=0.520
Admission %†	26.1 ± 5.2	26.0 ± 4.5	P=0.884
Arrival to triage, min.†	10.5 ± 3.8	10.8 ± 5.0	P=0.714
Arrival to bed, min.†	39.1 ± 19.9	42.8 ± 21.6	P=0.337
Arrival to provider assigned, min.†	56.4 ± 21.6	59.7 ± 22.3	P=0.409
Arrival to admission, min.†	296.2 ± 38.8	297.9 ± 38.7	P=0.808
Arrival to discharge/ depart, min.†	232.8 ± 39.2	235.4 ± 40.0	P=0.711
Admission order to depart, min.†	84.1 ± 24.2	88.1 ± 20.6	P=0.300
Time in ED after inpt bed assigned, min.†	57.6 ± 14.3	63.7 ± 17.6	P=0.056

	tpa ≤ 60 min. N = 44	tpa > 60 min. N = 104	P value
Door to needle, min.†	47.5 ± 8.9	89.6 ± 24.2	P<0.05
Door to triage, min.†	8.8 ± 13.8	7.91 ± 9.4	P=0.654
Door to Code Stroke Order Set, min.†	4.8 ± 3.7	12.13 ± 14.9	P<0.05

†Mean ± Std. Deviation

DISCLOSURE: None of the authors listed on this poster have any affiliations to disclose

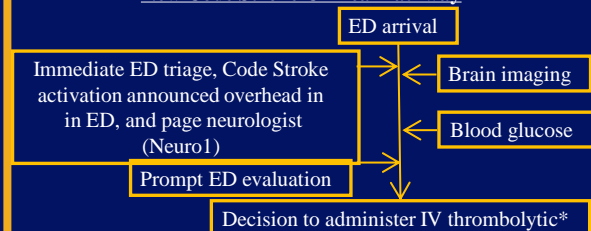
Impact of Code Stroke Pathway Involving Multidisciplinary Team

	Pathway N = 102	No Pathway N = 46	P value
Door to needle, minutes†	74.2 ± 26.8	83.4 ± 30.9	P=0.068

CONCLUSIONS/FUTURE DIRECTIONS

- At our facility, ED crowding factors did not impact the time to thrombolytic therapy under 60 minutes in stroke patients.
- Faster Code Stroke Order Set initiation times were observed in patients receiving thrombolysis within 60 minutes from ED arrival.
- Modifications to the Code Stroke Process were made to facilitate faster thrombolytic times. Future studies will be performed to examine the full impact of the new modifications. Our facility’s current average door-to-needle time is 19 minutes post-modification.

New Code Stroke Clinical Pathway



*Only wait for PT/PTT/INR if patient is on anticoagulation

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