

A RAPID CARE EVALUATION (RACE) TRANSIENT ISCHEMIC ATTACK (TIA) CLINIC BY NURSE PRACTITIONERS

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DISCLOSURES

- None



BACKGROUND

Risk of Stroke after TIA

- The stroke risk in the first 24 hours after TIA is about twice the risk of MI after angina; ~ 4% versus 2%.

Easton et al. Stroke. 2009;40:2276-2293

- A meta-analysis of 11 studies determined the risk of stroke after TIA to be at least 3.5% at 2 days, 8.0% at 30 days and 9.2% at 90 days.

Wu et al. Arch Internal Medicine. 2007; 167(22):2417-22

- 549 (23%) of 2,416 patients who presented with an ischemic stroke gave a history of a preceding TIA. Seventeen percent (17%) reporting TIA occurring on the day of the stroke, 9% on the previous day, and 43% at some point during the 7 days prior to the stroke.

Rothwell et al. Neurology. 2005; 64(5):817-20.



BACKGROUND

ED or Outpatient Evaluation?

- The Early use of eXisting PREventive Strategies for Stroke (EXPRESS) study showed that outpatient clinic urgent assessment and treatment of TIA or minor stroke (NIHSS \leq 3) reduced the 90-day risk of recurrent stroke by about 80%.
- At 6 month follow-up of patients referred to the EXPRESS study outpatient clinic showed a reduction in:
 - 90 day hospital bed days
 - cost of hospital admission
 - disability days
- Results were attributed to early intervention and treatment.

Luengo - Fernandez, R..lancet Neurology. 2009. 8: 235-43.



GOALS of Rapid Access Care Evaluation for Transient Ischemic Attack (RACE-TIA) Clinic:

- Provide patients with possible transient ischemic attack (TIA) early evaluation by a cerebral vascular neurology clinician.
- Start prompt initiation of secondary prevention measures to lower the incidence of subsequent stroke.
- Utilize existing space, resources and staff (Stroke NPs, RN, LPN and CMAs) to expand cerebral vascular neurology care.
- Establish a referral system simple for providers within and outside of our organization to access.



PURPOSE

To determine the **feasibility** of a nurse practitioner led Rapid Access Care Evaluation Transient Ischemic Attack (RACE-TIA) Clinic as part of an Outpatient Stroke Nurse Practitioner Clinic.



METHODS

- Our RACE-TIA Clinic Algorithm uses ABCD2 score triaging, and outlines the care process for TIA patients who present either through the Emergency Department (ED), Outpatient Clinic or via telephone triage.
- Patients with possible TIA are triaged using the ABCD2 tool.
- Those who present to the ED are evaluated by a member of the Acute Stroke Team and patients with a score ≥ 3 remain in the ED Clinical Decision Unit for evaluation.
- Patients with a score < 3 are scheduled in the RACE-TIA Clinic staffed by two stroke-trained nurse practitioners.
- Referrals to the RACE-TIA clinic from the electronic medical record (EMR) referral or the dedicated phone line are triaged by a registered nurse who was trained to complete the ABCD2 scoring.
- All appointments are scheduled within 24-48 hours of receiving a referral.



ABCD² - Assessing Risk

- ABCD² was designed to identify patients at high risk of ischemic stroke in the first seven days after TIA.

<i>ABCD²</i>	<i>Risk Factor</i>	<i>Criteria</i>	<i>Score</i>
A	Age	>60 years	1
B	Blood Pressure	SBP >140 DBP >90	1
C	Clinical Features	Unilateral weakness	2
		Speech disturbance only	1
D	Duration	>60 minutes	2
		10-59 minutes	0
D ²	Diabetes	Present	1
		ABCD² SCORE:	

(Patients with ABCD² ≥ 3 need initial evaluation in the ED/CDU)

- Estimated two-day stroke risk:
 - Score 6 to 7: High two-day stroke risk (8 percent)
 - Score 4 to 5: Moderate two-day stroke risk (4 percent)
 - Score 0 to 3: Low two-day stroke risk (1 percent)

Johnston SC, et al. Lancet. 2007;369(9558):283



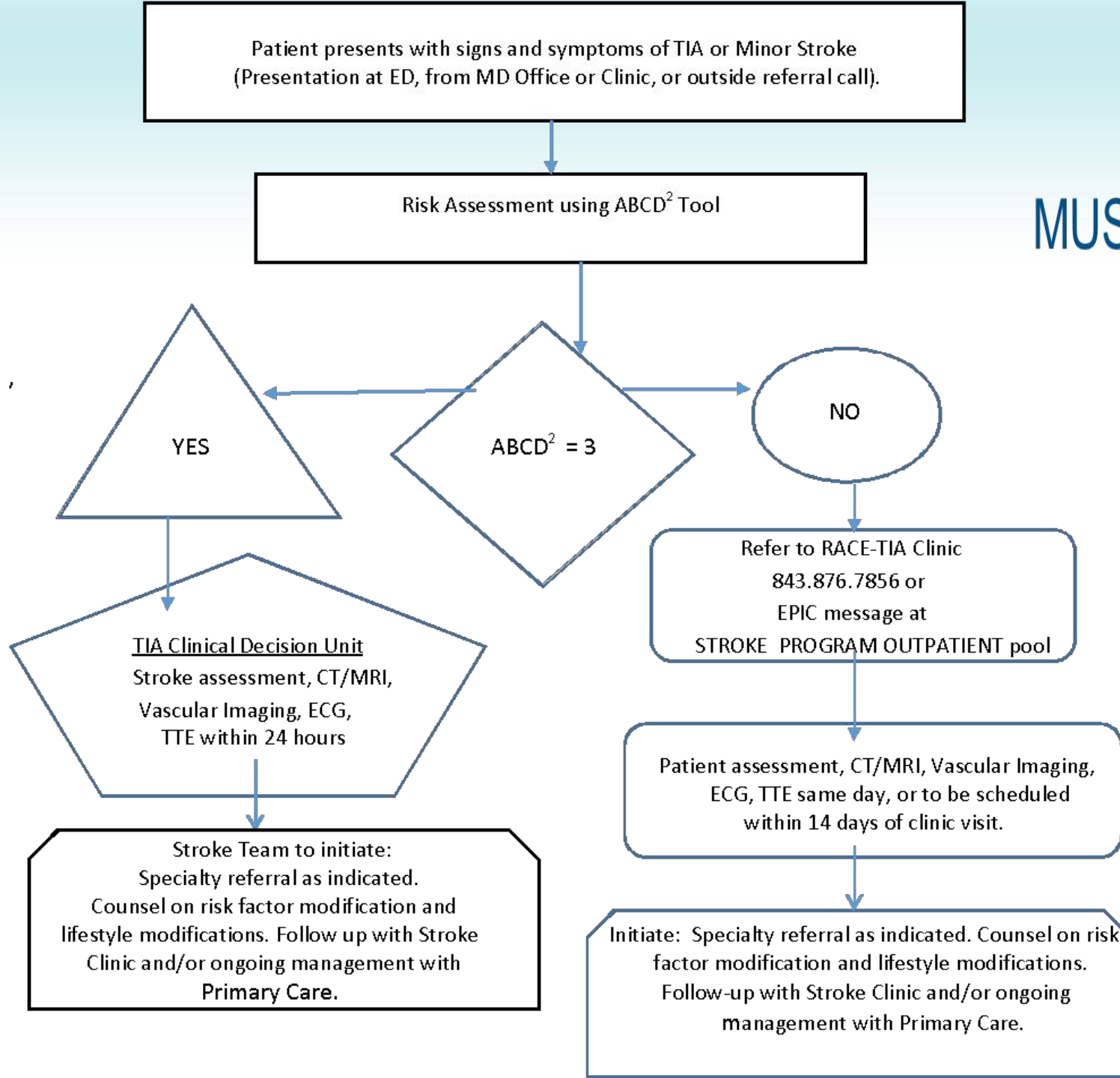
Clinic Process

- Typically the initial evaluation begins in the Emergency Department (ED), where ED staff evaluate the patient, perform baseline testing and calculate the patient's ABCD² Score. If the score is high (≥ 3), the ED staff will consult the Stroke Neurology Team for potential continued evaluation in the ED TIA Clinical Decision Unit (CDU) or admission. If not, the patient is scheduled for further evaluation in the MUSC RACE-TIA Clinic within 1-2 days.
- Referrals to the RACE-TIA clinic are also made by call to the mobile phone carried by the clinic RN during regular business hours 0800 – 1700 Monday thru Friday. After hours and weekends in-house referrals are submitted via EMR message and sent to the “STROKE PROGRAM OUTPATIENT” mailbox for clinic scheduling.
- Once seen in the ED TIA CDU or RACE-TIA Clinic follow-up is scheduled with primary care providers or the Outpatient Stroke Clinic.



MUSC Comprehensive Stroke Program

TIA Clinical Decision Unit and RACE-TIA Clinic Treatment Algorithm



RESULTS

- From January 2017 through July 2017 a total of twenty (20) patients were seen in the Outpatient Stroke Clinic for possible TIA using the RACE-TIA Clinic Algorithm.
- Seven (7) patients were directly referred to the RACE-TIA Clinic via the dedicated phone line or EMR referral.
- Six (6) patients were referred from the ED to the RACE-TIA Clinic and one (1) from a primary care office.
- Fourteen (14) patients were routinely scheduled after having *an initial evaluation* either at an outside hospital (3), in the ED (2) or ED CDU (3) or after inpatient hospitalization (6).
- The average time from referral to clinic visit was 34 hours.



DISCUSSION

- Our NP-led RACE-TIA Clinic has successfully evaluated patients with low risk TIA in the outpatient setting in a timely way without expanding or duplicating existing resources.
- The outpatient RACE-TIA clinic, as an alternative to ED or hospital admission, may impact bed days and costs.
- Timely risk factor management may reduce the risk of ischemic stroke.
- Future studies should focus on the impact of RACE-TIA clinics on cost and recurrent stroke risk.

