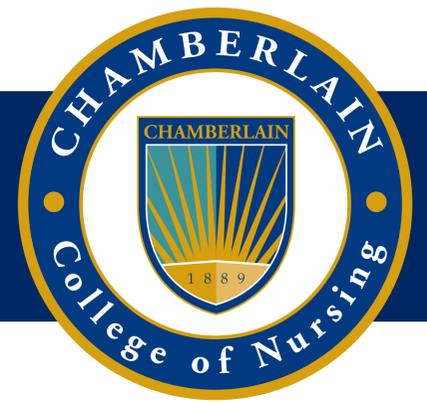


DOOR-TO-CT TIME IN MODERATE TO SEVERE HEAD INJURIES



Brett Dodd, RN, CEN, CCRN, CFRN – Chamberlain College of Nursing Student
Jack Sava, MD
Tom Washburn, RN, BSN

chamberlain.edu

Purpose
 To improve our door-to-computerized tomographic (CT) scan time in patients with moderate to severe head injuries.

Setting
 MWHC MedSTAR Trauma is a Level 1 trauma and burn center located in Washington, DC. Our trauma center is located in the heart of the Nation's Capital and we serve the greater Washington area.
 MedSTAR Trauma sees approximately 2,100 trauma patients per year. We serve as the hospital's trauma and critical care intake unit. Our unit consists of seven trauma bays. Staffing includes three specialized trauma nurses per shift.

Overview
 Traumatic brain injuries (TBI) are one of the most common types of injuries seen by trauma centers. Many of these patients die in the field before ever reaching a hospital. Out of all patients with TBIs that do seek medical care 25 percent can be classified as moderate to severe. It's estimated that 1,700,000 TBIs occur annually, 250,000 are hospitalized, and 52,000 die. U.S. data shows an estimated 80,000 – 90,000 TBI patients per year will have long-term disability.
 The primary goal in the care of TBI patients is to prevent secondary injury. Preventative measures include ensuring adequate oxygenation and maintaining adequate blood pressure to ensure perfusion of the brain. After ensuring stabilization of the ABC's the goal is to rapidly identify a mass lesion may require surgical intervention. This is achieved by obtaining a computerized tomographic (CT) scan of the head.

Method

A 100 percent review of all trauma patient arriving to our unit was performed between July 2013 and May 2014.

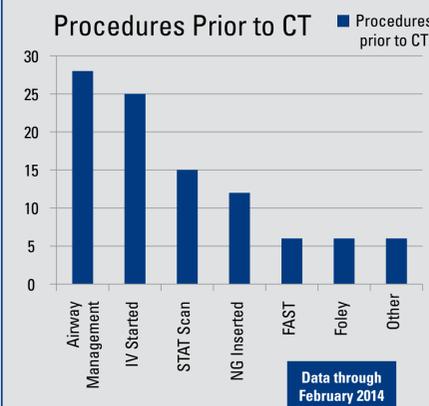
Inclusion Criteria:
 Patients included in this study met the following criteria:

1. Arriving from the scene (transfers excluded)
2. Glasgow Coma Score of 13 or below
3. Stable SBP defined as a systolic BP of ≥ 90 mmHg
4. Injuries requiring a head CT

Data was gathered in an observational role only between July 2013 and February 2014. This data was reported on the department PI reports but no direct initiative to improve times was in process.

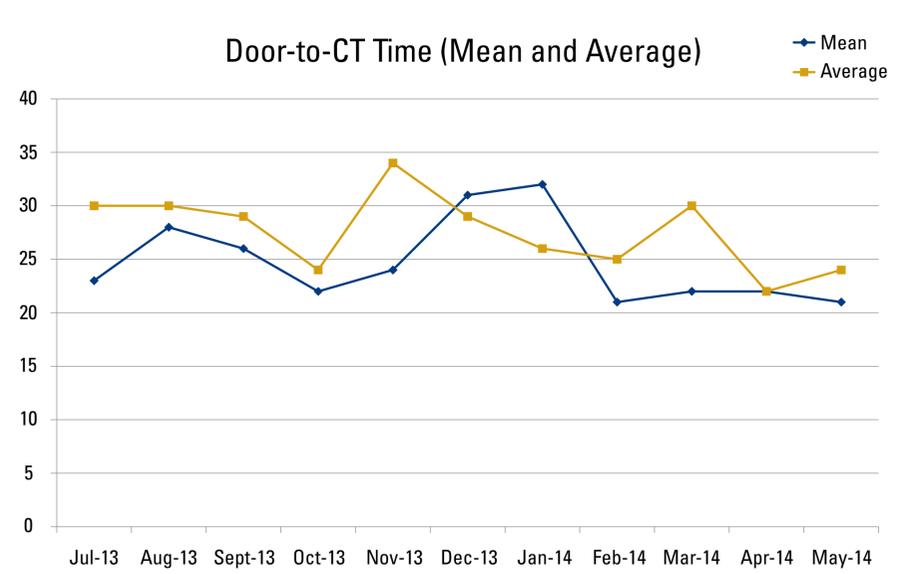
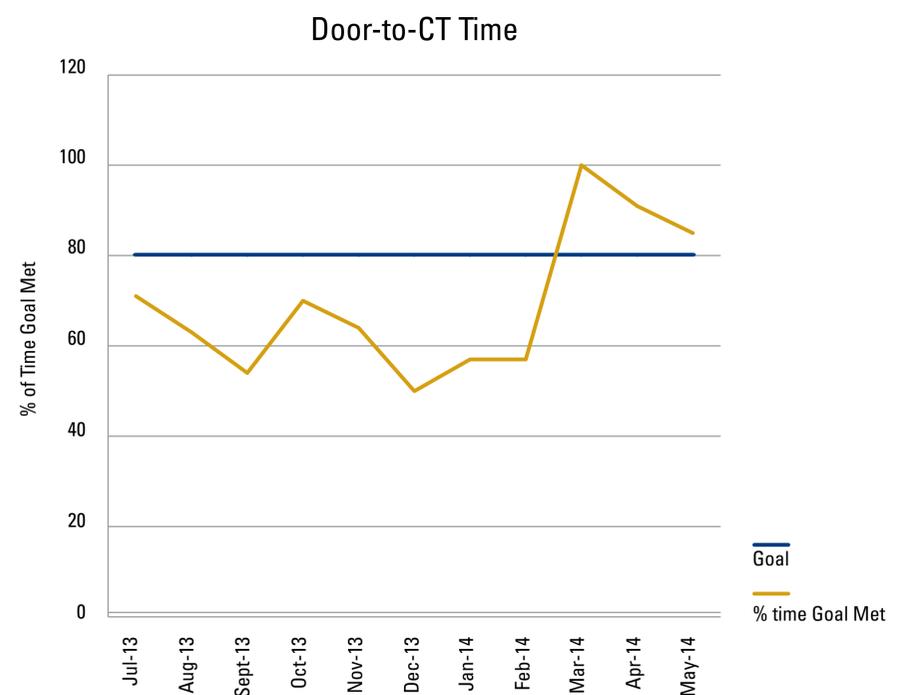
After reviewing data, a target goal was set to achieve the 30 minute door-to-CT time in 80 percent of patient meeting criteria. In February 2014, data was gathered on individual nurse door-to-CT times and shared.

The first step for improvement was to share the data with the staff and share individual times with nurses. No process changes were set in place. Emphasis was placed on encouraging timely orders, moving with purpose and delaying unnecessary procedures until after the head CT was obtained.



Totals through end of December							
CTT	IV	NGT	STAT	FAST	Foley	Other	Total Cases
28	25	12	15	6	6	6	69

Results



Conclusion

1. Nursing can have an impact on improving door-to-CT time in moderate to severely injured patients by:
 - a. Directing nursing care to ensure unnecessary skills are delayed until after the completion of the head CT.
 - b. Prompting team dynamics to ensure the head CT is a priority after completion and stabilization of the patient's ABC's.
 - c. Promptly preparing the patient for transport and communicating the urgent need for a head CT with radiology.
2. The door-to-CT time is possible, even when airway control is required prior to head CT.
3. Even though mean and median time changes were minimal, a change was noted in the percentage of time patients received a head CT within 30 minutes.

Limitations

1. Collection of data is based on paper documentation for arrival times and an electronic signature from radiology tests.
2. Some patients' CTs were intentionally delayed at the attending physician's discretion.
3. Low number of patients in the study was a contributing factor in correlating a change in outcomes.

Future

- Next steps:
1. Creating and monitoring of the idea board to develop a list of best practices to ensure the sustainability of the door-to-CT time.
 2. Institute this process into our orientation program.
 3. Share door-to-CT times with staff as part of the FY 2015 Performance Improvement plan.
 4. Work in collaboration with the trauma service to redefine our goals and continue to improve our process.
 5. Institute the Advance Trauma Care for Nurses course as mandatory education for our trauma nurses to help emphasize team dynamics and appropriate prioritization of care.

References

American College of Surgeons. (2012). *Advanced trauma life support: Student manual, 9th Ed.* Chicago, IL: American College of Surgeons.

MK-0814-028-A STTI Rising Star - Brett Dodd POSTER

Date 08/28/14 **Printed At** 100% **Agency PF**
Time 5:00 PM **Round** 3



CHAMBERLAIN
College of Nursing

Job info

Element	Poster	Pages	1 pg
Live	24 x 36"	Folded Size	
Trim	24 x 36"	VDP	<input type="checkbox"/>
Bleed	26 x 38"	Notes	Uploaded to LCP 8.28.14

Approvals

	APPROVED	APPROVED W/CHANGES	DENIED	DATE	INITIALS
Stephanie Gallo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Pub Info

Pub:
Issue:
Contact:

Title:
Location:
Prod Co:
Post Date:
Quantity:

PRINT
OOH

FINAL CHECKLIST

	INITIALS	INITIALS
Chamberlain Address	<input type="checkbox"/>	<input type="checkbox"/>
Chamberlain Phone 888.556.8CCN (8226)	<input type="checkbox"/>	<input type="checkbox"/>
Chamberlain URL	<input type="checkbox"/>	<input type="checkbox"/>
3-Year BSN Copy	<input type="checkbox"/>	<input type="checkbox"/>
Full Accreditation	<input type="checkbox"/>	<input type="checkbox"/>
Institutional Accred.	<input type="checkbox"/>	<input type="checkbox"/>
Program Accred. BSN, MSN	<input type="checkbox"/>	<input type="checkbox"/>
Program Accred. ADN	<input type="checkbox"/>	<input type="checkbox"/>
State Approval (SCHEV)	<input type="checkbox"/>	<input type="checkbox"/>
State Licensing Code (INDI)	<input type="checkbox"/>	<input type="checkbox"/>
Program Availability	<input type="checkbox"/>	<input type="checkbox"/>
Consumer Disclosure URL	<input type="checkbox"/>	<input type="checkbox"/>
Legal Line	<input type="checkbox"/>	<input type="checkbox"/>
Inventory Code	<input type="checkbox"/>	<input type="checkbox"/>
Production Code	<input type="checkbox"/>	<input type="checkbox"/>
Heat Map Check	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>