



### Introduction

The original idea of High Observation Treatment was initiated in 2009 as a collaborative project between the Trauma and Neurosurgery teams. Trauma patients admitted for a head bleed; SDH, SAH without a midline shift and a GCS of 14-15 with no anticoagulants could be admitted to a specified trauma floor instead of the Intensive Care Unit (ICU). The designation of HOT meant the patient received a consult for Neurosurgery, along with Q1hour neuro checks, and a nurse to patient ratio of 1:4.

The projects' success led us to ask, could it be expanded to patients taking certain anticoagulants? Criteria was developed and a retrospective study was conducted demonstrating a positive outcome with 75 patients and an overall cost savings of approximately \$79,000.00

### Goal

Demonstrate that the same level and quality of care can be provided to a patient with a Mild Traumatic Brain Injury (GCS of 13-15) who takes anticoagulants (Aspirin, Plavix or Coumadin) on a Trauma floor designated as a High Observation unit as would be provided in an Intensive care unit.

Demonstrate the impact a DNP can have on patient care by implementing efficient and cost-saving ideas without risking quality of care.

Recognize the value of the DNP in collaborating with specialties to develop changes in patient care most appropriate to the patient.

Demonstrate the leadership role of the DNP in utilizing evidence-based research to improve patient care.

### Summary

The project has been very successful for more than one year, with full support from administration, the Trauma division and the Neurosurgical division.

There have been no transfers to the ICU from the floor secondary to failure to monitor or care for the patient after admission. In addition, no urgent neurosurgical interventions were required. At this point neurological checks were completed 93% of the time every hour, and only two patients received Neurosurgery consult later than 24 hours.

### Plan and Implementation

Over the next two years after the demonstration of potential for success with the retrospective study, Trauma and Neurosurgery determined the next step would be placing patients on anticoagulants specifically Aspirin, Plavix and Coumadin on the High Observation Treatment designated unit.

Plan:

1. Multidisciplinary team meeting
2. Define each members role in the team
3. Set up monthly meetings to track information
4. Plan for advanced education to the staff of the designated Trauma floor
  - a. New criteria of patients
  - b. Higher level of care
  - c. Review the GCS score and technique of performing it
  - d. Importance of timed Q1hour neuro checks and documentation
5. Clearly define criteria of patient population
6. Obtain full support from Administration
7. Review plan for institution of project with entire Neurosurgery staff
8. Education
  - a. Emergency Room
  - b. Residents on staff with services
9. Define Inpatient / admission criteria for patients
10. Define exclusion criteria
11. Availability of DNP for initial two weeks of the project for any questions or concerns.
12. Ongoing staff support with updates as to success or issues with patient care
13. Utilization of performance improvement to continue to improve the project

### Length of Stay

	Comparison Group 1.1.15 to 6.14.15	HOT II 6.15.15 to 12.15.15	
Patients based on inclusion criteria	28	29	
Average Age	75.63	80.17	
Average ISS	9.41	10.34	↑ 0.93
Average HLOS	3.71	3.55	↓ 0.16
Average ILOS	1.25	0	↓ 1.25
Average CTH per admission	1.61	1.86	↑ 0.25

### Financial Impact of HOT II

ICU Length of Stay	1.25 day decrease	\$580,218
Hospital Length of Stay	0.16 day decrease	\$57,498
Head CT Scans	0.25 increase	(\$24,592)
<b>Total Savings</b>		<b>\$613,124*</b>

\*Total Savings Annualized

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