BrainScope®

Case Study

LARGE CENTRAL FLORIDA HOSPITAL PREPARES FOR APPROPRIATE USE CRITERIA

In March 2021, a large central Florida hospital was looking to implement protocols to support the transition to Appropriate Use Criteria* (AUC). The Emergency Department (ED) team piloted BrainScope for two months and assessed twenty head injured patients. Using the BrainScope assessments, the team saw a 30% reduction in unnecessary head CT scan utilization and identified 75% of those patients as candidates for concussion referral.

Facility Profile

- Level 1 trauma center
- 1600+ hospital beds
- 80,000+ annual ED visits

BrainScope helps to reduce unnecessary head CT and assess for concussion in the Emergency Department

Impact of BrainScope
Mar'21 - May '21

REDUCTION IN RADIATION & UNNECESSARY HEAD CT
30%

BRAINSCOPE BRAIN FUNCTION ASSESSMENTS INDICATING CONCUSSION
75%

SIC NEGATIVE = CT NEGATIVE
100%

TEST COMPLETION TIME
13 mins

**The program implementation has been delayed to January 2023 because of the global COVID-19 pandemic. However, programs such as AUC and Choosing Wisely® are putting increasing pressure on hospitals and clinicians to reduce unnecessary CT utilization.*

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Pilot Results Summary

The AUC program is intended to provide a determination of whether advanced diagnostic imaging services, such as CT scans, are likely to lead to improved health outcomes. If the imaging services ordered do not meet AUC, hospitals may be subject to monetary penalties. To prepare for a January 2022 transition to AUC, this large central Florida hospital piloted BrainScope for two months with the following objectives:

- Decrease unnecessary head CT utilization
- Improve the continuum of care and aid in the concussion care initiative
- Exhibit clinical confidence and confirm efficacy
- Demonstrate technology ease of use

Twenty assistant nurse managers and 12 paramedics, technicians, and CNAs were trained to operate the BrainScope device. Patients meeting BrainScope's indications for use and for whom the attending physicians were considering a head CT received a BrainScope assessment.

Decrease in CT Utilization/ Preparing for AUC
The ED used BrainScope's Structural Injury Classifier (SIC) to objectively assess head injured patients for the likelihood of a brain bleed and determine the need for advanced imaging. 30% of the patients had an SIC negative result, indicating likely no structural injury would be visible on a head CT scan. This translates to a potential 30% reduction in CT utilization for this patient population.

Improve Continuum of Care
Half of all head injured patients that present to the ED leave without follow up care information. BrainScope's Brain Function Index (BFI) can aid in the diagnosis of the presence and severity of concussion and associated informed referrals for continued care. 75% of the patients assessed were identified as candidates for post-ED concussion care. The remaining 25% were identified as not needing further care.

Confirm Clinical Efficacy
As a new technology for the ED, the hospital wanted to ensure that the results were reliable in everyday clinical use. Patients who were assessed with BrainScope also received a head CT scan. 100% of patients that were BrainScope SIC Negative received a normal (no structural injury) head CT. This mirrors results BrainScope saw in validation studies.

Demonstrated Ease of Use
Operators completed BrainScope assessments within an average of 13 minutes - patient preparation through result. A variety of clinical and non-clinical staff where trained to use the device. Technicians, paramedics, and CNAs represented 33% of the total operator set. These operators were able to complete the test within 11 minutes on average.

From patient preparation to results, assessments were completed within 13 minutes on average.

BrainScope does not practice medicine or provide medical services or advice. The BrainScope device is a decision support tool for assessing the likelihood of a brain bleed or concussion in mild traumatic brain injured patients. Although individual results may vary, BrainScope believes this case study is an example of the clinical benefit BrainScope can have in an Emergency Department setting.

www.BrainScope.com | info@brainscope.com | 855.927.2461