



TESTIMONIAL

A RECOGNIZED, TOP PERFORMING
EMERGENCY DEPARTMENT
SERVING A SIX-COUNTY AREA
REDUCES HEAD CT SCANS BY
40% AND IMPROVES PATIENT
SATISFACTION

The Hospital

Cullman Regional Medical Center is a 145-bed hospital in Cullman, Alabama, that serves more than 175,000 residents in a six-county area, and is recognized as one of the region's finest medical facilities. As the only hospital in the area for almost an hour in all directions, Cullman fills a great need and maintains a robust connection with the community. Cullman dedicates itself to the health and well-being of the community it serves and is committed to improving performance using evidence-based interventions that increase the chances of healthy outcomes for patients. Cullman also recognizes the importance of patient satisfaction as a quality measure in health care.

Mission

- + Improve the health of the community by providing excellent healthcare resources

Vision

- + Help people live the healthiest lives possible

Community

- + Provide services such as free health screenings, health education resources, and services that support the emotional, social and physical well-being of those in the community



We are looking to provide head-injured patients with the confidence they are receiving the best care possible at Cullman, and the necessary concussion related information to seek follow-up care beyond the emergency medicine setting.

Mark Christensen, MD, Director of Emergency Medicine



CULLMAN
REGIONAL

Emergency Medicine Team Leaders

Mark Christensen, MD
*Director of Emergency
Medicine*

Chad Knop, *Director of
Emergency Services*

Facilities

Extensive complex that includes a Level III Trauma Center and contains some of the newest medical equipment and technology available today

CullmanRegional.com

The challenge

Cullman's emergency medicine team, led by Dr. Mark Christensen, Director of Emergency Medicine, was exploring ways to improve the care pathway for low- to mid-acuity (Glasgow Coma Scale 13-15) head injured patients.

A clinical need

Assessing these injuries had been problematic. Clinical diagnosis of mild traumatic brain injury (mTBI) relied largely on CT scan findings—effective in

screening for bleeding and intracranial brain injury, but not for functional injury such as concussion—and/or subjective report and response tests. Dr. Christensen not only wanted to provide objective information to patients, but also to do so at the point of care, saving patient travel to a specialist miles away.

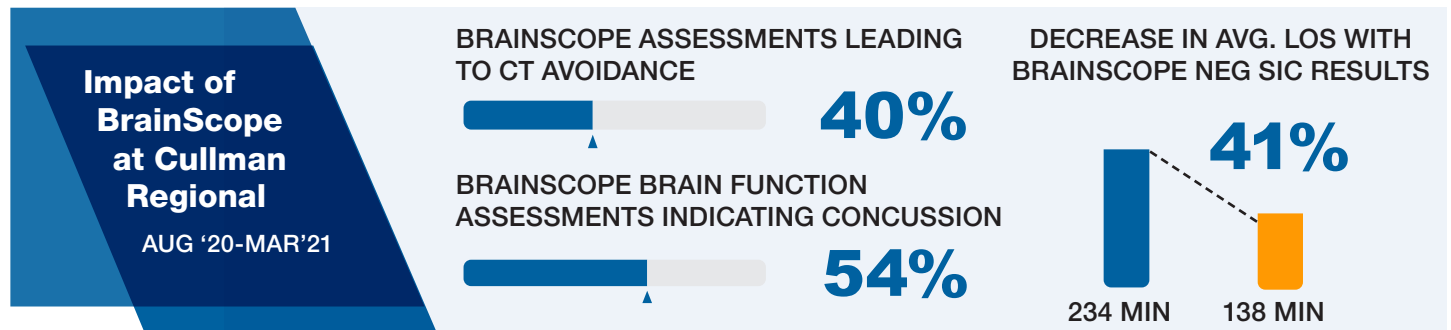
A patient need

Data indicated head injured patients and their caregivers were leaving the emergency depart-

ment (ED) frustrated, looking for more information about their brain injury.

Decision support

Wanting to quickly rule out intracranial bleeding while reducing head CT orders, and also providing patients with the confidence that they are receiving the best care possible at Cullman, Dr. Christensen looked to the latest advancements in mTBI decision support tools.



The solution

Dr. Christensen explored utilizing cutting-edge technology with specific parameters in mind:

- Decrease CT utilization
- Decrease LOS
- Improve patient satisfaction

BrainScope implementation

Dr. Christensen found that BrainScope, heavily validated in clinical studies, demonstrated strong clinical performance (99% sensitivity, 98% NPV) as a decision support tool for suspected mTBI. Further, BrainScope addressed each of the parameters outlined by the team. Championed by Dr. Christensen, and with training from BrainScope, the Cullman emergency medicine team successfully implemented BrainScope in the ED in the summer of 2020.

Case study

Shortly after implementation, a 25-year-old pregnant patient presented to the ED with a head injury from a car accident. The patient had no LOC, but complained of a headache. Typically, in this type of situation a clinician would order a head CT.

Of primary concern to the patient was exposing her unborn baby to radiation. The team considered performing a CT scan with a shield over the patient's belly, but elected to complete the BrainScope EEG assessment to obtain objective information to aid in determining the patient's need for a CT scan, without radiation:

- The patient was ruled unlikely for an intracranial bleed.
- Together with the clinical assessment, the patient was in and out of the ED within one hour.
- The team provided follow-up information tailored to the patient.

Mission accomplished

Since implementation, the emergency medicine team has been successful at identifying those at greatest risk, reducing unnecessary head CTs by 40%, decreasing LOS, and providing objective, actionable concussion information to patients. This patient and others for whom BrainScope has been prescribed have reported favorable impressions of Cullman and overall improved satisfaction.