

## **Research - R208**

Poster

### **Abstract Title:**

Improved Time to Operative Intervention by Utilizing a Trauma Image Repository

### **Authors:**

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### **Background & Purpose:**

To improve outcomes, decrease time in obtaining repeat scans, and reduce radiation exposure in pediatric patients is the goal of care providers. The use of an image repository allows for a more detailed consultation with specialists as physicians have the ability to review computed tomography (CT) scans or x-rays for trauma patients being referred to them before the ambulance or helicopter arrives.

### **Study/Project Design:**

This is a retrospective cohort study of two different populations

### **Setting:**

pediatric level 1 trauma center

### **Sample:**

8 patients were included in the study. 4 that had images sent before transfer and 4 that did not

### **Procedures:**

This is a retrospective comparative study of patients transferred into a pediatric level I trauma center following a traumatic injury needing neurosurgical intervention over a six-month period in 2012. We evaluated the time to OR from arrival on four patients with isolated head injuries vs. four patients who were fully re-evaluated in the emergency department before going for emergency surgery. All transferred patients had only operative neurosurgical lesions. The variables collected included age, intracranial lesion, and time spent in the ED.

### **Findings/Results:**

The median age of each group was seven years. All of the patients were at the referring hospital for less than four hours before transfer. Three out of four of the patients with films sent ahead were transported by air and the group of patients whose images were not sent ahead were all transported by air to the tertiary care center. The group who had films sent ahead had an average ED length of stay of 16 minutes while those who did not took 56 minutes ( $p < 0.001$ ). By not having to re-image, this saved the patient a radiation dose of is 100kVp with mA modulation between 80 to 200. Neither group suffered any complications as a result of the hospitalization and all had similar ISS scores (25,25). The length of stay both in the ICU and within the hospital did not vary greatly with ICU LOS (3,4 days) and hospital LOS (5,6) days.

### **Discussion/Conclusions/Implications:**

In our limited population, the ability to view films via an image repository allowed for decreased radiation exposure and a faster disposition of patients who needed life-saving surgery to get to the operating room. Further incorporating this process not to just neurosurgical injuries has the potential to impact all transferred patients.