



## Pathology & Biology Section – 2008

### **G80 The Effects of a New Level 1 Trauma Center on the Local Medical Examiner Office**

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The goal of this presentation is to describe the changes in the medical examiner non-natural case load in relation to the establishment of a level 1 trauma center.

This presentation will impact the forensic community and humanity by providing insight into the effects of a level 1 trauma center on regional medical examiner, which in turn affects law enforcement, families, funeral homes and regional funding.

The goal of this study is to look at the change, if any, to the medical examiner case load and distribution following the opening of a new level 1 trauma center. Factors evaluated included the increase or decrease in the total number of medical examiner cases per year, the medical examiner districts from which these cases are originating and what types of cases the trauma center is bringing into the district.

On October 1, 2004, the University of Florida & Shands Hospital in Gainesville, Florida became a Level 1 Trauma Center. For a patient to be given trauma alert status, they must meet very specific criteria, such as two or more long bone fractures, ventilation beyond passive oxygen administration, or 15% or more of body involved in second or third degree burns.

This new trauma center covers nine whole counties and seven partial counties. The counties with partial coverage are relatively equidistant between two level 1 trauma centers, such that patients in these counties may go to one of two trauma centers for treatment. Of these sixteen counties covered by the new trauma center, only seven are within the District 8 Medical Examiner's jurisdiction. Even though the injury(s) may have occurred outside the jurisdiction of District 8 Medical Examiner Office, when a trauma patient dies at the trauma center, the time and place of death is in Alachua County. Because medical examiner jurisdiction in Florida is defined by place of death, not place of injury, such cases fall under the auspices of the District 8 Medical Examiner Office.

The District 8 Medical Examiner Office case files were retrospectively reviewed from January 1, 2002 to June 30, 2007. Only non-natural deaths were included in the study population as natural deaths would not be affected by the presence or absence of a level 1 trauma center. The trauma center began operating at level 1 status October 1, 2004, and this is the date used to demarcate "before" and "after" data sets. During this time, 3156 total cases were investigated by the MEO and 2388 were autopsied. The annual case load has been steadily increasing, with the largest increase in 2005 (a 10% increase in total cases and a 22% increase in autopsies). Since October 1, 2004, 312 cases have been investigated that came through the trauma center as a trauma alert, with 275 investigated by the District 8 MEO. Roughly 58% of the deaths coming through the trauma center were a result of motor vehicle crashes, by far the largest mechanism, followed by falls of all types (20%). Only 33% of the trauma center deaths had their corresponding injuries within the District 8 medical examiner jurisdiction. Before the trauma center opened, approximately 15% of all non-natural investigations were outside of the District 8 MEO, whereas afterwards, 26% were outside the jurisdiction.

This study has found that a much larger percent of the District 8 Medical Examiners case load is now coming from outside of the current jurisdiction since the opening of the trauma center, which is associated with an increase in the over all number of cases each year and an increase in the complexity of the cases. Patients from the trauma center tend to have more complex injuries resulting in longer autopsies and more time spent determining causes of death. Additionally, a large percentage of the trauma cases are coming from surrounding districts, cases that originally would have gone to that outside district or a different one with a level 1 trauma center, such that trauma deaths are being redistributed throughout the region. The larger implication being that the opening of a Level 1 Trauma Center not only affects the medical examiner district in which it resides, but also the surrounding medical examiner offices by reducing their case load.

#### **Medical Examiner, Trauma, Non-Natural Death**