

## Research - R195

### Poster

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#### Abstract Title:

**Impact of AIS 2005 on Trauma Program Data Management and Performance Improvement Monitoring**

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#### Background & Purpose:

The AIS dictionary has been used for thirty years and continued to evolve since first 1971 publication. Goals of the extensive 2005 revision were to reflect advances in medical interventions and technology by improving specificity of certain injuries, and design compatibility with other injury scaling systems to promote global research. Any change to a database may have a direct impact on results when comparing old and new versions of data. The purpose of our study was to examine the differences on injury severity scoring (ISS) and implications of our trauma program performance monitoring.

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#### Study/Project Design:

1990 and 2005 AIS coding methodologies were applied to 2011 trauma patients in trauma database.

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#### Setting:

Rural Level 1 Trauma Center, 500 bed academic medical center

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#### Sample:

2011 admitted adult trauma patients N=1093

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#### Procedures:

Analyses were performed on all admitted trauma patients over a one year period and changes in the AIS, ISS and NISS (new) were analyzed using paired t-tests. Obtaining both ISS scores was achieved by first coding injuries utilizing the 05 AIS method, converting to 90 AIS by the mapping feature in the trauma data software to obtain the calculated 90 AIS method of ISS which was saved as a custom element for reference, analysis and comparison.

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#### Findings/Results:

There were 1093 patients included in our study. The mean was found to be statistically significantly lower using the AIS 05 (14.93) compared to the AIS 90 AIS (16.61,  $p < 0.0001$ ). Several program performance monitoring tools were revised to include both ISS scores for reference. Some reports impacted were monthly dashboard, unexpected populations of survivors and deaths, physician report cards and Cribari Grid, utilized to retrospectively evaluate triage accuracy. An example of a performance improvement monitoring variance was the Cribari grid application utilizing the 1990 AIS revealed an under triage rate of 8%, compared to 6% ( $p = 1.0000$ ) with the 2005 AIS method. This was not statistically significant, but useful in evaluating triage accuracy and trending performance.

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#### Discussion/Conclusions/Implications:

A limitation of our study was the use of a mapping feature, although manual abstraction was first completed in the AIS 05 version to reduce loss of new codes and precise language. Our findings concluded that the 05 AIS revision has significantly impacted the calculation of injury severity which is used in several clinical and performance improvement outcome measures of trauma care. This affects the ability to directly compare data using the AIS 05 and the AIS 90. This difference has implications for research, accreditation requirements, performance and productivity analysis.