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4. INJURY SEVERITY SCORE

The **Injury Severity Score** was developed in 1974 by Baker et. al. from **Abbreviated Injury Scale** to evaluate motor vehicle victims with multiple injuries. The Injury Severity Score (ISS) was used to compare the severity of injuries with an original study group of 2,128 victims, it was observed that the mortality increased with the AIS grade of the most severe injury. The mortality increased with regular increments when plotted against the square of the AIS grade (a quadratic relationship). When the victims with identical AIS grades for their most severe injury were compared, injuries in the second and third body regions tended to increase the risk of death. The Injury Severity Score was therefore defined as "**the sum of the squares of the highest AIS grade in each of the three most severely injured areas**". Bull (1975) found an age-dependent relationship and determined that LD50 (Lethal dose for 50% patients) was an ISS of 40 for ages 15-44, 29 for ages 45-64 and 20 for ages 65 and older. Bergvist et al (1983) while reviewing thirty years' cases of blunt abdominal trauma found that in vehicular accident cases, ISS increased successively through the periods indicating more severe trauma. Although not significant, the frequency of severe trauma cases (ISS more than 50) increased and the frequency of mild trauma decreased (ISS less than 25).

Simplified Trauma Chart made by Lorne Greenspan, Barry A. McLellan and Helen Greig (1985) and used at Toronto General Hospital, Canada includes all the necessary information for scoring found in 36 page AIS dictionary. This chart not only facilities the scoring but also increases reliability by preventing errors in searching through the AIS dictionary. The incorporation of the LD50 reference table allows for the rapid evaluation of victim's age specific index severity. The table in the bottom right corner provides a simple, concise format for recording the Injury Severity Score.

When ISS is below 25, the mortality risk is minimal and above 25, it is an almost linear increase. When ISS is 50, the mortality is 50% and when above 70, it is close to 100%. Highest ISS score obtainable is 75. For trauma patients of vehicular accidents, the scoring system is important for assessing the effectiveness of medical care in reducing morbidity and mortality. This Simplified Trauma Chart has been used by me for doing ISS scoring in vehicular accident cases and it is enclosed in the Appendix III.