

THE IMPACT OF HYPOTHERMIA ON TRAUMA CARE AT THE 31ST COMBAT SUPPORT HOSPITAL IN IRAQ

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Objective: The primary objective of this study is to retrospectively review the incidence of hypothermia, its effect on surgical management, subsequent procedures, and survival at the 31st Combat Support Hospital.

Methods: The study is a retrospective analysis of all trauma combat injuries treated at the 31st Combat Support Hospital between 01 Jan 2004 until 30 Dec 2004. The data was extracted from the OIF 2 Trauma Registry. All trauma admissions were included. Descriptive and inferential analysis was performed using SPSS version 10.0.5 statistical software package.

Results: Of the 2850 trauma admissions with a temperature recording, 18% were hypothermic ($T < 36$ C). There were no differences in patients transferred from a Level I or II. GCS and Injury Severity Score (ISS) independently predicted degree of hypothermia ($p < 0.05$). Temperature had a weak, but significant ($p < 0.05$) correlation with admission pH (0.172) and base deficit (0.203). Temperature independently predicted operative management, damage control celiotomies, Factor VIIa use, and mortality ($p < 0.05$).

Temperature	Mortality(%)	Mortality(%) (ISS>25, SBP<90)
>36	2.0	15.2
<36	8.8	28.4
<35	18.9	38.1
<34	28.0	51.9
<33	53.3	70.0
<32	100.0	100.0

Conclusions: Surgeons operating in the combat setting receive patients suffering a wide range of injuries with transport times that can exceed that scene in civilian trauma. A trauma patient with $T < 32$ C has a 0% survival. Hypothermia proves to be a physiologic marker and global predictor of mortality. Prevention of hypothermia could potentially improve survival in the combat setting.