

Quality of Life in Children Surviving Massive Burns

Sheridan RL, Hinson MI, Liang MH, Nackel AF, Schoenfeld DA, Ryan CM, et al. Long-term outcome of children surviving massive burns. *JAMA* 2000;283:69–73.

Study Overview

Objective. To evaluate the long-term quality of life (QOL) in children who survived massive burns.

Design. Retrospective, cross-sectional study.

Setting and participants. Eighty subjects who were younger than 18 years when they were injured, who survived massive burns involving at least 70% of the body surface, and who were admitted between 1969 and 1992 to the Shriners Burns Hospital for Children, a multidisciplinary pediatric burn center in Boston, MA. These patients were evaluated an average of 14.7 years (standard deviation [SD], 6.0 years) after injury.

Main outcome measures. QOL was measured among the 60 subjects aged 14 years or older using Short Form-36 (SF-36), and scores were compared with age-matched national norms. Individual QOL domains assessed included physical functioning, physical role, emotional role, social functioning, mental health, energy/vitality, bodily pain, and general health. The impact of clinical variables on individual domain scores also was evaluated.

Main results. The SF-36 domain scores of study patients, who had survived massive burns at a mean age of 8.8 years (SD, 5.5 years), were generally similar to the healthy age-matched population. However, in the physical functioning and physical role domains, 15% and 20% of burn patients, respectively, scored more than 2 SDs below the relevant norm, indicating that some patients continued to have serious physical disability. Increased burn size was associated with poorer physical functioning ($P = 0.04$). Patients consistently followed at the multidisciplinary burn clinic for 2 years scored higher in the physical functioning domain ($P = 0.04$). Better functional status of the family predicted a higher score in physical role ($P = 0.04$).

A patient's early reintegration with preburn activities predicted higher scores in general health ($P = 0.03$), physical functioning ($P = 0.003$), and physical role ($P = 0.01$). Longer length of time since injury correlated with better emotional

role scores ($P = 0.003$). Length of initial hospital stay and age at injury also were statistically significant factors.

Conclusion

Most study patients had a QOL comparable to that of their peers. Comprehensive burn care that included experienced multidisciplinary aftercare, early reintegration with preburn activities, and a supportive family environment was associated with a better recovery.

Commentary

Each year, nearly 30,000 children in the United States receive burns involving more than 70% of the body surface. Before the 1970s, burns involving more than one third of the body surface were nearly always fatal [1]. Since then, improved fluid and electrolyte management and improved critical care delivery (eg, early wound excision and closure) have dramatically increased the survival rate of children experiencing such traumatic injuries [2,3].

This study is the first to review long-term outcomes in a sizable cohort of young burn survivors, and the findings are relatively positive. Most important, this study identifies which elements of comprehensive burn care are most effective in improving patients' QOL.

Applications for Clinical Practice

Although children who have received massive burns cannot be fully restored to their preinjury state of health, high-quality acute care followed by multidisciplinary aftercare and family support can lead to better QOL outcomes for these children. Family services should be incorporated into both acute patient management and follow-up care. In addition, children should resume age-appropriate activities, including school, as soon as possible after discharge.

"Outcomes Research in Review" is edited by Chris L. Pashos, PhD, Vice President and Executive Director of Pharmacoeconomics and Outcomes Research, Abt Associates Clinical Trials, Cambridge, MA, and Associate Editor, Health Policy, Journal of Clinical Outcomes Management. Dr. Pashos selects, summarizes, and provides the commentary on the studies that appear in this section.

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