

Quick Review of Model System Research

Immediate and Long-Term Psychological Problems for Survivors of Severe Pediatric Electrical Injury¹

What is the study about?

The purpose of this study was to compare psychological difficulties experienced for children with electrical injuries (EI) and children without electrical injuries (non-EI). Some differences were evident between the groups immediately after injury; however, long-term outcomes were similar.

Who participated in the study?

Participants included 75 patients who sustained electrical burns, 8 were subsequently excluded, leaving 67 available for the analysis. Exclusion criteria for this group and the control group included: 1) a pre-burn history of cognitive difficulties, learning disorders, and/or developmental disorders, 2) a history of pre-injury traumatic brain injury or organic dysfunction, 3) a history of deprived of adequate oxygen supply episodes related to the burn, and 4) a history of burns to the skullcap in order to control for the possible causes of affective and cognitive difficulties. There were 67 control subjects for this study who had sustained burns from other sources (i.e., scald or flame) and treated acutely at this burn care facility.

How was the study conducted?

Researchers used medical records to compare the psychological outcomes of the children during their initial acute hospitalization and at their last follow up visit with the mental health provider (psychologist and/or psychiatrist). They matched the control group by burn size and age of burn. Researchers examined affective difficulties (general anxiety, acute stress disorder, posttraumatic stress disorder, depression, grief, pain and/or adjustment disorders) and cognitive difficulties (altered states of consciousness orientation, attention, memory, language, reasoning and problem solving, processing speed). The data were analyzed using descriptive statistics, percentages, and Chi-square tests.

What did the study find?

There were no significant differences in affective and cognitive difficulties experienced by pediatric burn survivors with electrical burns and a matched comparison group. An equal number of patients in both groups experienced anxiety disorders, acute stress disorder/post-traumatic stress disorder, and depression during their acute hospitalizations. The group that has sustained electrical burns, and amputation however, had significantly more pain than the control group. In contrast with what has been reported in adult patients, the long-term outcome incidence rate of anxiety disorders, posttraumatic stress disorder, and depression was low for both groups. It appears that the majority of the burn survivors in both groups were psychosocially well adjusted several years after burn.

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¹ Rosenberg, M., Mehta, N., Rosenberg, L., Ramirez, M., Meyer, W.J., Herndon, D.N., ... Christopher, T. (2015). Immediate and long-term psychological problems for survivors of severe pediatric electrical injury. *Burns*. DOI: 10.1016/j.burns.2015.06.006