I guess it's a sad commentary on my state of life to acknowledge that the first thing that pops into my mind when I hear Fourth of July is that children are experiencing injuries from fireworks. This study deals with burns rather than fireworks but offers some interesting food for thought.


This prospective cohort study draws from data collected via the Avon Longitudinal Study of Parents and Children in Bristol, England. Researchers enrolled over 14,000 families in the early 1990s and have been following them with various questionnaires and other investigations. This particular study looked at associations between burns during childhood and different developmental and behavioral factors in these children. Factors varied according to gender and age; generally, burns were more likely to be associated with male gender and with advanced motor development in children under 2 years of age, with female gender in school age children, and with frequent temper tantrums, hyperactivity, and coordination problems (“clumsiness”) in preschool children.

This is useful information, but from a practical standpoint can this information be put to use? It would be nice to have some specific profiles that could be used to target for delivery of specialized burn prevention education in those families, but overall I think the magnitudes of the associations are not large enough to warrant targeting a subgroup for more intensive preventive measures.

This study also gives us an opportunity to review issues related to interpretation of prospective cohort studies. First and foremost is the problem of recall bias. People just don't remember things accurately; we all tend to remember events that are more serious, or unusual, compared to everyday happenings. One nice feature of this particular study is that the developmental and behavioral testing data were collected before the burn events, so those elements were less likely to be impacted by the main outcome event of burn injury.

Another research “trick” used in this study is imputation, to help mitigate the problem with subjects lost to follow-up. This statistical method predicts values to substitute for missing data; it might sound like fudging the data, and I guess that's sort of true, but it's a respected method to account for missing information in large databases.