

Editor's Note



In the early 1950s, the United States was mired in a highly emotional public health debate regarding the safety and efficacy of seatbelt use in automobiles. Post-World War II automobiles were outfitted with interiors that were not designed to protect passengers and, in many cases, could lead to severe injury. Many advocated for improvements in safety, yet others argued an infringement on personal rights, and disinformation was promoted to argue that seat belts were dangerous: “If a car burst into flames or if submerged, the driver would not be able to escape.” The *Wisconsin State Journal* wrote, “The value of seat belts had yet to be proved, especially in cases of keeping people from ‘being thrown out of the car.’”

This is where research, medicine, and innovation helped to focus discussion and the financial implications that eventually led to meaningful safety improvements. Based upon research, the AMA and the American College of Surgeons, in 1954 and 1955, demanded that car manufacturers provide seatbelts. In 1959, Volvo engineer Nils Bohlin patented the three-point restraint which Volvo gave to all manufacturers—for *free*. Finally, in 1989, Transportation Secretary Elizabeth Dole made car companies decide between mandatory airbags and automatic restraints (expensive) or three-point restraints (cheaper). Thus, data informed society on the scope and scale of the problem. The discussion pivoted to a public health issue, and innovation led to options that those with economic interests became motivated to facilitate change.

Today, our country is in a contentious debate over why firearms are the number one cause of pediatric mortality. From 1999 to 2017, 26,000 children died from firearms. Over that same time period, the Department of Defense reported 26,945 deaths in U.S. service members, of whom less than 20% died in combat.¹ While the above facts are indisputable, the reasons why and what to do about it are embroiled in a passionate national conversation. Each voice represents an agenda that is rooted in ideological, economic, and social perspectives that may not be based on good data. As the volume of the discussion increases, passion and bias tend to drown out what we know and what can be learned.

Prior work has studied the role that medical organizations have done in response to pediatric mortality from firearms. In 2022, Lillvis published in the *Journal of Pediatric Surgery* that while there has been a dramatic increase in public statements by physician professional associations, the announcements have been reactionary as opposed to keeping gun violence against children continuously on their agenda. The authors conclude that “...the issue of gun violence...fits within the realm of their professional expertise and experiences, declaring that #ThisIsOurLane.”²

What can pediatric orthopaedic surgeons and organizations such as POSNA and AAOS do? We can stay true to our missions of research, education, and quality care in order to promote optimal musculoskeletal health for all children. In the past, when an orthopaedic issue has been fully vetted, we have also provided informed advocacy. Examples include avoiding hip swaddling, guiding safe ATV use, and highlighting the risk of trampolines. While other organizations have focused on mortality, can we do similar work on the lifetime *morbidity* and the societal *cost* of musculoskeletal injury to children from firearms?

In this edition of *JPOSNA*[®], Villegas and Whitaker present a thorough review of the management of pediatric firearm injuries, which will help us manage the current problem that we face. Can we do more than study optimal methods to treat

these injuries and their complications and sequelae? What are some public health questions we can help answer through research?

1. What are the annual numbers of pediatric orthopaedic firearm injuries in the U.S.?
2. What are the annual numbers of pediatric orthopaedic firearm injuries in each state?
3. What are the annual costs to the nation and the states to manage acute musculoskeletal firearm injuries?
 - a. How do these costs compare to federally funded research in firearm injury?
4. What are the societal costs for a child to be permanently disabled from a musculoskeletal firearm injury?
 - a. While this question seems daunting, can we mirror methodology from a prior *JPOSNA*® study by Koenig et al. 2020? In this study, the authors quantified the lifetime *Financial Impact of Surgical Care for Scoliosis, Developmental Hip Dysplasia, and Slipped Capital Femoral Epiphysis in Children*.³
5. Do the number of injuries correlate with different legislation on gun safety?
 - a. We know that those states that mandate safer gun storage with child access prevention (CAP) laws have lower rates of suicide, unintentional, and overall firearm-related deaths.⁴⁻¹⁰ Does more stringent gun storage legislation translate into decreased rates of musculoskeletal injury and the attendant acute cost and potential lifetime cost?

With the above data and other approaches, we can help educate society on the impact of orthopaedic firearm injuries and where possible, inform strategies to prevent these injuries. Pediatric orthopaedists have the respect of our patients, families, and our society. Similar to our predecessors who framed automobile safety as a public health crisis, don't we have a role in performing research and objectively presenting the data to society and policy makers?

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