

Guest Editorial

Protecting Children from Agricultural Injuries

Barbara C. Lee, RN, PhD

News clippings provide insights into agricultural medical emergencies that are both predictable and preventable:

"Child's arm amputated in Franklin (WI) farm accident"

"Boy's leg severed by farm machinery near West Bend"

"Child crushed after fall from Grandpa's tractor in Richland County"

"Silo collapse kills 14-year-old Sauk County boy"

Across the United States, an estimated 100 children die and 33,000 are seriously injured each year from agriculture-related trauma.^{1,2} Wisconsin is among the states with the highest numbers and population-based rates of childhood agricultural injuries and fatalities.² These injury events should not be referred to as "accidents" because they are not "acts of God" or "freak events." The pattern is clearly identifiable. While many people believe that the benefits of living and/or working on farms far outweigh the risk of injuries, these beliefs are now being challenged

by injury prevention specialists who are concerned about the slow reduction in childhood agricultural injuries when compared to other types of injuries.

Over the past decade, several initiatives have been undertaken to preserve what is best about rural life, while protecting children from the hazards associated with agriculture. Much of this work has emanated from the National Farm Medicine Center in Marshfield, WI. A team of Marshfield Clinic physicians, educators, and social scientists have addressed various facets of injury surveillance and intervention research. Marshfield is now home of the National Children's Center for Rural and Agricultural Health and Safety, federally funded by the National Institute for Occupational Safety and Health (NIOSH) and the federal Maternal and Child Health Bureau, established to serve as a national research and resource center.

A national symposium convened in Marshfield in 1992 was the first event to focus on the unique characteristics of children living and working in the hazardous environment associated with agriculture.³ In 1996, a national committee, chaired by Marshfield staff, orchestrated the development of an action plan for preventing childhood agricultural injuries.⁴ This plan was subsequently adopted and funded by Congress and now serves as our nation's blueprint for action. As a

Key Facts

- Wisconsin averages about 30 farm fatalities each year. Of these, up to 20% are children younger than 20 years.⁶
- The most common types of childhood farm fatalities are related to tractors. A child might fall off a moving tractor (including falling out of a cab), or a child on the ground may be run over by a tractor. Nonfatal childhood farm injuries are often associated with livestock.
- Children are most likely to be injured during the summer (when adults are involved and distracted by multiple farm tasks), and bystander children (non-working) are at highest risk.
- Older (e.g., second and third generation) farms are especially dangerous because they may be lacking safety upgrades consistent with newer technologies, and they may lack procedures/policies regarding non-workers in the production setting.
- In virtually every case of a fatal or serious farm injury to a child, an adult made a poor decision regarding a child's presence in a dangerous location or there was insufficient adult supervision.

Dr. Lee is a senior scientist of Marshfield Medical Research Foundation, Marshfield Clinic where she directs the National Children's Center for Rural and Agricultural Health and Safety. Address correspondence to Dr. Barbara Lee, National Children's Center, 1000 N Oak Ave, Marshfield, WI 54449.

Key Resources

- The North American Guidelines for Children's Agricultural Tasks (NAG-CAT) is a tool to assist parents in making decisions about their child's readiness to contribute to the many jobs on the farm.⁷ The guidelines cover 60 different jobs including tractor work, animal chores, and lifting. The guidelines are unique in that they are not age-based, but rather they pose questions about the child's capabilities such as ability to lift weights, recognize a hazard, and solve a problem. Information regarding common hazards, adult responsibilities, training, and use of personal protective equipment are provided. These "NAGCAT" resources are supported by the American Academy of Pediatrics and can be easily referenced, downloaded, and printed from the Internet at www.nagcat.org.
- Injury facts and safety resources related to youth-operated ATVs, equestrian care and riding, and other rural activities (work or recreational) are available through the National Children's Center for Rural and Agricultural Health and Safety website at <http://research.marshfield-clinic.org/children>.
- A new guidance book for constructing and maintaining "Safe Play Areas on Farms" is in the final development stage, to be published in fall of 2002 and posted on the Internet. Copies could be distributed in clinic settings and via youth-serving and farm organizations if requested.

five-year follow-up, the 2001 Summit on Childhood Agricultural Injury Prevention was hosted by the Marshfield Center's staff to assess progress to date and priorities for the future.⁵

What should rural physicians and primary care practitioners know about children and farm injuries? A few basic facts and resources offer insights and opportunities to influence the behaviors of parents and farm owners who bear responsibility for protecting children and adolescents. Medical counseling, along with print (or Internet) resources, might help prevent the next agriculture-related tragedy.

There is movement underway to "get serious" about preventing childhood agricultural injuries. Phrases bantered about by injury prevention specialists include "common sense is uncommon on farms where kids are injured" and "education is not the answer to the problem—we need engineering and/or policy to effect real changes."

Questions are being raised about double standards and special privileges for farm parents. In urban settings, parents are being prosecuted for leaving children home alone or for short periods in parked vehicles. At the same time, children are seriously and fatally injured on farms when left unsupervised. Farm parents might state that children are in the work area because of limited childcare options or economic hardship, but these explanations are not acceptable in urban situations.

When children's rights to personal protection conflict with agricultural work and parents' desire for children to experience the positive attributes of farming, the issues get complicated. There are no simple solutions. The tide is changing now that we recognize these traumatic agricultural events for what they are—predictable and preventable. Health care providers are encouraged to

get involved by influencing adults' attitudes and practices as well as changing social norms. The tragedies behind the newspaper headlines are not "accidents" but the result of adults whose lack of supervision or poor judgment put children at risk.

Whether it is on the farm or in the city, health and safety professionals all share some responsibility for protecting children.

References

1. Rivara F. Fatal and non-fatal farm injuries to children and adolescents in the United States 1990-1993. *Inj Prev*. 1997;3(3):190-194.
2. Myers JR, Hendricks KJ. Injuries Among Youth on Farms in the United States, 1998. Cincinnati, OH: Department of Health and Human Services, 2001. DHHS (NIOSH) Publication No. 2001-154.
3. Lee BC, Gunderson PD (eds). Childhood Agricultural Injury Prevention: Issues and Interventions from Multiple Perspectives. Proceedings from the Childhood Agricultural Injury Prevention Symposium. Marshfield, WI: Marshfield Clinic, 1992.
4. National Committee for Childhood Agricultural Injury Prevention. Children and Agriculture: Opportunities for Safety and Health. Marshfield, WI: Marshfield Clinic, 1996.
5. Lee B, Gallagher S, Marlenga B, Hard D (eds). Childhood Agricultural Injury Prevention: Progress Report and Updated National Action Plan from the 2001 Summit. Marshfield, WI: Marshfield Clinic, 2002.
6. Purschwitz MA, Skjolaas CA, Chang Y. 2000 Wisconsin Farm-Related Fatalities. Madison, WI: University of Wisconsin-Extension, 2001. Available at: <http://www.bse.wisc.edu/wiscash/Pages/DocumentsHTML/FatalitiesReports/fatal00.html>. Accessed 7/12/02.
7. Lee B, Marlenga B (eds). Professional Resource Manual: North American Guidelines for Children's Agricultural Tasks. Marshfield, WI: Marshfield Clinic, 1999.