Falls from tree stands not declining for deer hunters: Wisconsin study

What happens when a deer hunter hits the ground at 30 miles per hour?

Tree stand falls are the biggest risk that whitetail deer hunters face. Falls occur each year and are often very serious, including paralysis, traumatic brain injury, or death.

Despite safety education efforts, Wisconsin deer hunters today are just as apt to fall out of a tree as they were five years ago, according to a study just published by a team of researchers from Marshfield Clinic, the National Farm Medicine Center and the Wisconsin Department of Natural Resources, who examined five-year trends in falls among hunters in central and northern Wisconsin. The article appears in the journal Injury http://www.ncbi.nlm.nih.gov/pubmed/26443558.

Efforts to improve tree stand safety must be accelerated, but more rigorous research is also needed to pinpoint factors most likely to cause hunter falls, said Jeff VanWormer, PhD, Associate Research Scientist at Marshfield Clinic Research Foundation.

“Tree stand falls are preventable, but they are not subject to formal injury surveillance and are rarely a topic of scientific research,” VanWormer said. “Better information about these injuries could help make hunter safety efforts more effective.”

Studies in Pennsylvania and Ohio suggest an increasing number of serious tree stand injuries, likely reflecting the growing popularity of hunting from tree stands.

The Wisconsin study reviewed electronic health records of about 16,700 deer hunters in each of five recent hunting seasons (2009-2013). Researchers screened medical chart note documents to identify patients from the study area who received medical attention for a tree stand fall. Results:

- The 5-year trend in hunter falls was stable, with about 5 per 10,000 hunters per year in the study area experiencing a medically-attended tree stand fall. Assuming
the study area is representative of all Wisconsin deer hunters, about 200–250 medically-attended tree stand falls can be expected statewide each year.

- Most falls (77%) occurred during archery-only times of the deer hunting season, lasting from mid-September to early January. The most common activities at the time of the fall were climbing down from a tree stand (28%) in the evening (36%). This likely reflects increased risks for archery hunters who tend to spend more time afield and during low-light conditions when fatigue is a factor.

- Specific documentation of why patients fall was sparse. For example, information on safety harness use was only available in four cases, with half reporting use of a safety belt and half reporting no use. Structural failures (e.g., broken stand parts) were reported in 18% of falls. A blood alcohol test was available in 23 percent of fall patients, with one having evidence of recent alcohol consumption.

- The most common injury location was lower extremities, followed by upper extremities, head, torso, and spine/neck. There were also two hospital fatalities linked to the patient’s fall from a tree stand.

- Nearly 9 in 10 tree stand fall patients were overweight or obese.

“Obesity is associated with increased risk for falls, in general, among middle-aged and older adults,” said National Farm Medicine Director Matt Keifer, MD. “And obesity is known to increase the severity of injury from falls across all age groups.”

As Wisconsin hunters prepared for the annual nine-day gun deer season beginning Nov. 21, VanWormer had this advice: “Be extra careful out there. Practice safe climbing techniques and wear a full body harness to keep you in the stand if you slip or fall.”

Marshfield Clinic Research Foundation and the National Farm Medicine Center were uniquely positioned to conduct this study. They leveraged data from the Marshfield Epidemiologic Study Area, which is a geographic region comprised of 24 ZIP Codes where the great majority of residents choose to receive medical care from the Marshfield Clinic. This area’s deer population and deer hunter density ratios are likely among the highest in the country. Statewide, approximately 10 percent of the Wisconsin population -- more than a half-million people -- participate in the annual deer hunting season.

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