



Pathology/Biology Section - 2016

H59 Chain Saw-Related Fatalities: What Is All the Buzz About?

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After attending this presentation, attendees will possess a more detailed understanding of the settings and subsequent etiology of chain saw-related accidents and better appreciate the associated risk factors.

This presentation will impact the forensic science community by increasing the confidence of the medical examiner and death investigation team while analyzing the circumstances of this rare, yet challenging, situation. Attendees will be able to further utilize the information presented to promote safer practices while handling chain saws.

According to the Occupational Safety and Health Administration (OSHA), there are approximately 28,000 chain saw-related injuries annually and in 2012, OSHA reported 243 work-related deaths involving tree trimming and clearing activities.¹ Furthermore, accidental, non-work-related fatalities during use of a chain saw remains a public health concern for many areas of the country.

This study examined a series of 14 cases from 2008 to 2013 in which death was associated with chain saw use. Ten of these cases were classified as accidents and the remaining three as natural. There were no cases of homicide or suicide. There were 12 males and 2 females with the mean age of the decedent being 49 years. Although fatalities while using a chain saw are rare, similar patterns of circumstance can provide medical examiners and death investigators with tools to better classify the etiology of the accident.

Accidents involving chain saws can be grouped based on decedent as either: (1) saw operator; or, (2) bystander. Of the saw operator category, one can further classify the accidents into three categories: (1) kickback-related injuries; (2) falling tree limbs; and, (3) fall from a height. Kickback-related injuries occur when the rotating chain is stopped suddenly by contact with a more solid area, throwing the saw rapidly backward toward the operator.² Cases presented will highlight the various mechanisms in which falling tree limbs as well as falls from elevation during chain saw operation can lead to fatality. The two accidents classified to the bystander category will be presented to highlight the importance of operator awareness and safety with regard to falling tree limbs. Through the above selected cases, and literature review of common injury patterns, medical examiners will have an increased level of awareness of the likely distribution and pattern of injuries associated with each of the individual categories.

The examination of natural deaths surrounding the use of chain saws followed a somewhat consistent pattern as well. Although the sample size was small (n=3), each individual had a significant history of cardiovascular disease and/or coronary artery disease. Each individual was witnessed using a chainsaw for yard work and then, after a period of time ranging from minutes to a few hours, was found deceased either within the home or in the yard.

Chain saw production companies, the logging and forestry industry, and public safety agencies go to great lengths to provide safety information to their users; however, when dealing with elements of nature and occasionally unpredictable situations, it is improbable to safeguard against everything. By better understanding the etiology of accidental chain saw-related deaths, the forensic science community will not only be more equipped to promote and improve safety techniques but will also have an increased level of confidence during death investigation in this challenging situation.

Reference(s):

1. Hawkins, J., & Fortson, L. (2014, June 18). *OSHA Regional News Release*.
2. Koehler S.A., Luckasevic T.M., Rozin L., et al. Death by chainsaw: fatal kickback injuries to the neck. *J Forensic Sci.* 2004;49(2):345-50.

Chain Saw Death, Accident, Injury