MIFACE INVESTIGATION REPORT #13MI197

SUBJECT: Hunt Club Member Died When Struck by the Top of the Tree He Had Felled

Summary

In fall 2013, a male hunt club member in his 70s died when the top portion of a tree he had felled broke off and came back toward him, striking his head/face. The tree diameter was estimated at six to eight inches. The height of the tree was unknown. The decedent was not wearing any personal protective equipment. The decedent started his generator in the back of his pickup that was parked approximately six feet from a two-track road to power his Craftsman 16-inch, 3.5 HP electric chainsaw. Police pictures show that the tree fell directly toward another tree. As it was falling, the top portion of the tree broke away, presumably when the top of the tree struck the tree in its path, and came back toward him and struck his head. The actions of the decedent just prior to being struck by the top of the tree were unknown. After placing a deer camera, a hunt club member who had spoken with the decedent approximately 10 minutes earlier, came back down the two-track but did not see him. He went to look for him and saw the decedent lying on his back near the stump of the tree he had just felled. He called for emergency response. The Medical Examiner arrived and declared him dead.

Figure 1. Overview of incident scene

MIFACE identified the following causal factors contributing to this incident:

- Insufficient felling and site assessment techniques
- Lack of personal protective equipment
- Working alone

RECOMMENDATIONS

- Fellers should adhere to proper felling techniques, including conducting both a tree and a site assessment to determine and mitigate identified hazards, use proper notching techniques, appropriate personal protective equipment, and never turn their back on a falling tree.
- Fellers should work in teams while felling trees, or alternatively, have a reporting procedure in place if working alone while felling trees.

- Hunt clubs should develop a safety policy for members that includes at a minimum, working alone policies, emergency phone numbers, location of nearest emergency medical facility, etc.) and post them at the facility/circulate them among the membership.

INTRODUCTION

In the fall of 2013, a hunt club member in his 70s died when the top portion of a tree he had felled broke off and came back toward him, striking his head/face. MIFACE learned of this incident from a newspaper clipping. MIFACE contacted a family member, who agreed to participate in the MIFACE research program. During the course of writing this report, the police department report and pictures and the death certificate were reviewed. Pictures used in this report are courtesy of the responding police department.

The decedent was a 10-year member of the hunt club and volunteered his services to do work at the club, as did all members. The decedent was familiar with chain saw use and, according to the family member, very familiar with tree cutting activities. The family member noted to the researcher that the decedent had some "near misses" in the past while cutting down trees. The family member stated that it was unknown, but doubtful, that the decedent had taken any arborist-type training classes.

INVESTIGATION

The MIFACE researcher was unable to visit the hunt club and the scene of the fatal incident. Police pictures taken at the scene were utilized to describe the incident scene.

Figure 2. Tree top broke at location of another tree

The decedent drove his pickup truck down a two-track road into the woods and parked the truck approximately six feet away from and perpendicular to the roadway and approximately 20 feet away from the tree he was felling. While there, another hunt club member, who was placing a deer camera stopped by to speak with him and then left the incident site. The hunt club member could not recall if the decedent indicated he was going to cut down some trees or cut up some trees already on the ground. In the bed of the pickup truck was a portable generator, used to power his Craftsman 16-inch, 3.5 HP electric chainsaw.

The incident occurred on flat ground, without a great deal of brush to inhibit or limit an escape route. The reason for cutting down the tree was unknown. The decedent made a flat cut (no notch or undercut) on the hardwood tree. The family member estimated the diameter of the tree to be approximately six to eight inches. The incident tree's canopy distribution, which could have affected the fall direction,

was unknown. The height of the tree was unknown. Police pictures show that the tree fell directly toward another tree. The decedent was not wearing any personal protective equipment.

Figure 3. Location of branch break of the branch which struck the decedent

It is hypothesized that as the tree fell, the top of the tree struck the tree in its path, causing the top portion of the tree to break off and come back toward the decedent (Figure 2). It appears the branch striking the decedent also broke from the tree (Figure 3). The decedent was found lying on his back near the stump of the tree he had just felled. Several scenarios are possible for the decedent's actions just after felling the tree including: 1) he was walking away from the tree with his back turned, heard the tree snap at the top, turned around and then the tree struck his head/face; 2) he was backing away from the stump watching the tree fall and was unable to react quickly enough to the unexpected result of the top breaking and coming back toward him. He was struck in the head/face by the top portion of the tree and sustained fatal injuries.

After placing his camera, the hunt club member came back down the two-track, heard the generator running, but did not see the decedent. He went to look for him and saw him lying on the ground with trauma to his head/face. He called for emergency response. The Medical Examiner arrived at the scene and he was declared dead.

CAUSE OF DEATH

The death certificate listed the cause of death as blunt force trauma to the head. No autopsy or toxicology was performed.

RECOMMENDATIONS/DISCUSSION

- Fellers should adhere to proper felling techniques, including conducting both a tree and a site assessment to determine and mitigate identified hazards, use proper notching techniques, appropriate personal protective equipment, and never turn their back on a falling tree.

Before felling a tree, the feller should consider carefully all conditions which may affect the issues involved in felling the tree, including but not limited to:

- the location of other workers or bystanders,
- the retreat path (clear and unobstructed),
- intended direction of the fall,

- the natural lean of the tree,
- any unusually heavy limb structure and dead limbs,
- surrounding trees, obstacles, and other hazards
- snow and ice accumulation (when applicable) and
- wind direction and speed.

MIOSHA General Industry Safety Standards, Part 51 – Logging and Part 53 – Tree Trimming and Removal and can be consulted for additional information on tree assessment, hazard trees, and appropriate felling techniques, including notches and back cuts.

It is unknown if the decedent assessed whether there was existing tree damage or if the tree was weakened at the location of the break. The decedent did not utilize the appropriate felling techniques because no notch was made. It is unknown if the tree fell in the intended fall path. As the canopy distribution of the felled tree was unknown, it is unknown whether the decedent picked the appropriate fall path for the tree. To ensure feller safety, appropriate assessments of the tree and site conditions must be made. Knowledge about these safe practices can be gained through attendance at MIOSHA Consultation, Education and Training classes or arborist organizations.

Considering the hazards to personal safety that tree felling operations create, tree fellers should wear head, hand, leg, eye, face, and foot protection. The decedent was not using any personal protective equipment. Although it is not known whether a hard hat would have prevented this fatal injury, given the force of the blow he received, the lack of the hard hat left the decedent's head unprotected. A hard hat protects the wearer from falling branches, the earmuffs and face screen protect the ears and eyes. Chaps should be worn to protect the legs of a chainsaw user.

If a chain saw is used, hearing protection should be worn. At the operator's ear, the sound pressure level of chain saws easily exceeds 100 dBA. The MIOSHA General Industry Health Standard, Part 380 Occupational Noise Exposure, Table 2 shows the noise levels to which an employee can be exposed.

Although it is unknown if the decedent turned his back, it is a possible scenario. Turning one's back on a falling tree places the feller at risk as he/she cannot assess unexpected conditions. Fellers should always retreat facing the falling tree and using an established escape route as they watch the tree fall.

- Fellers should work in teams while felling trees, or alternatively, have a reporting procedure in place if working alone while felling trees.

Working alone in the woods can be hazardous due to the remote areas and the multitude of obstacles. Co-workers can help to assess surrounding hazards, direct safe felling locations, and provide assistance in the event of injury.

Although the decedent did not have an “employer”, MIOSHA General Industry Safety and Health, Part 51 - Logging, has several safety rules that were applicable to this situation.

Rule 5113 states that, among other requirements that an employer may not permit an employee to work alone on felling or skidding operations. Part 51, Rule 5152 states that "a faller or bucker shall not work beyond hearing range of another employee unless a procedure has been established for periodically checking on the faller or bucker during the course of the work day." After the reporting procedures are developed, all persons involved in working alone must be advised of the reporting procedures to be followed. Written safe work procedures should include provisions for checking the wellbeing of every faller and bucker at the operation throughout the workday. Several options to check on isolated fallers and buckers are: (a) the "buddy" system, (b) communication checks via two-way radio or (c) site inspection at least every 20-30 minutes.

- Hunt clubs should develop a safety policy for members that includes at a minimum, working alone policies, emergency phone numbers, location of nearest emergency medical facility, etc.) and post them at the facility/circulate them among the membership.

To maintain the safety of hunt club members/volunteers during the preparation of the land for the upcoming hunt season(s) – work weekends - and during the hunting season, hunt clubs should develop, implement and monitor health and safety policies and procedures. Many hunt clubs have bylaws, which may address some safety issues, such as tree stands, hunting distance restrictions, etc., but do not address the health and safety hazards during non-hunting activities, such as road repair, land clearing, etc. MIFACE encourages hunt clubs to identify member activities that are not addressed in the hunt club member rules, identify the health and safety hazards inherent in these activities, develop safe work practice rules to ensure member safety, train the member regarding the safe work practices, place the procedures in an area accessible to the members, and post to the membership the location of the safe work practices.

KEY WORDS: Hunt club, tree felling, safety policy, working alone, Arts, Recreation, Entertainment

REFERENCES

MIOSHA standards cited in this report may be found at and downloaded from the MIOSHA, Michigan Department of Licensing and Regulatory Affairs (LARA) website at: www.michigan.gov/mioshastandards. MIOSHA standards are available for a fee by writing to: Michigan Department of Licensing and Regulatory Affairs (LARA), MIOSHA Standards Section, P.O. Box 30643, Lansing, Michigan 48909-8143 or calling (517) 322-1845.

- MIOSHA General Industry Safety Standards, Part 51 – Logging
- MIOSHA General Industry Safety Standards, Part 53 – Tree Trimming and Removal
- MIOSHA General Industry Health Standard, Part 380 - Occupational Noise Exposure

- New York FACE Report #02NY013: Logger Crushed While Felling Tree. http://www.cdc.gov/niosh/face/stateface/ny/02ny013.html
- MIFACE Investigation Report #11MI003: Logger Killed by Falling Tree. http://www.oem.msu.edu/MiFace/11MI005.pdf
- MIFACE Investigation Report #12MI033: Handyman Died When Tree He Was Felling Split Vertically and Struck Him. http://www.oem.msu.edu/MiFace/12MI033.pdf
- MIFACE Investigation Report #06MI066: Logger Killed When Struck By Lodged Tree That Fell. http://www.oem.msu.edu/MiFace/06MI066.pdf

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