

Enhancing Safety Culture: Part 1. Type, Frequency and Cost of Logging Injuries

Article by Bryan Lorenzo, John Hansen and Elise Lagerstrom

Over the past three years the Montana Logging Association (MLA) and Colorado State University (CSU) have been working together to enhance and sustain the safety culture within the Montana logging industry. The university and MLA partnership has resulted in several projects related to logging safety. The first project was an analysis of the injury claims during a 5-year period to better understand the type, frequency and cost of logging injuries.

To perform this analysis, workers' compensation claim data were obtained from two workers' compensation providers (Associated Loggers Exchange and Montana State Fund), which cover companies active in the logging industry of Montana and Idaho. Injury claim data contained information on worker age, length of employment, time of injury, injury type and cause, as well as the cost associated with each injury claim. Worker and company name were not included.

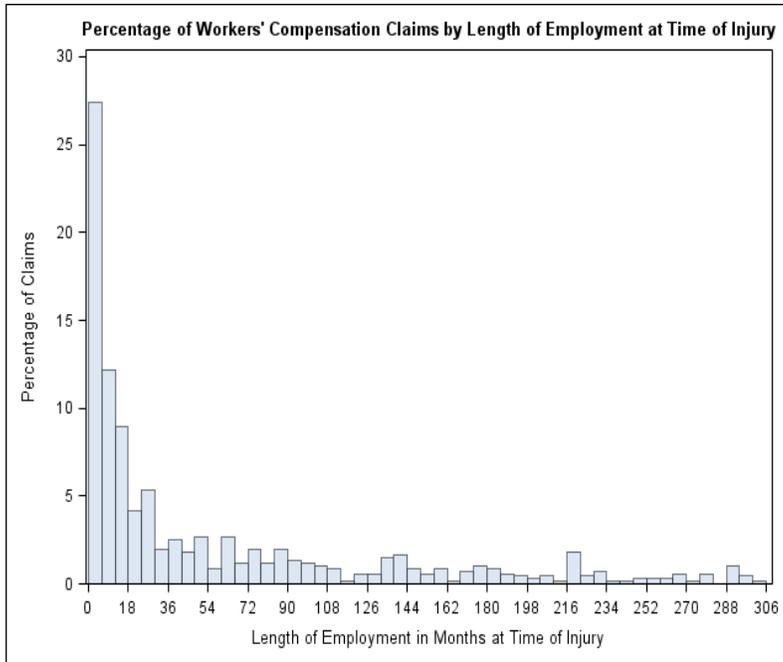


Figure 1: Length of Employment at Time of Injury Claim

A total of 801 workers' compensation claims were analyzed for the period July 2010 to June 2015 with **more than 25% of all injuries occurring to workers with less than 6 months of experience (Figure 1)**. Job tasks that involved felling trees, skidding and truck driving had the highest injury risk. While sprain/strain injuries were the most common type of injury, accounting for 36% of all claims, fatalities had the highest average total claim cost at \$274,411, followed by multiple injuries (\$17,138), and fractures/dislocations (\$11,466). The results of this first project provide the background for developing focused injury prevention strategies to reduce injuries and fatalities in the logging industry. Based on the results, injury prevention efforts in the west should focus on training related to safe work methods (especially for inexperienced workers), which could be accomplished through more formal methods, such as an educational program offered

through local colleges or extension programs, or could be more informal, using mentorship on the job. Use of either method should recognize the hazard of having inexperienced workers on a job and should focus on site-specific hazard identification and recognition. To continue the sustainability of the workforce, we must be able to attract and retain workers. Workers, especially new workers, may be unable or unwilling to return to their position after an injury.

While training programs for inexperienced workers may provide the greatest impact on the current injury rate, OSHA requirements dictate that all loggers must receive annual first-aid training. While some may dread the disruption and inconvenience, we believe that this presents an opportunity for injury prevention. If safety training programs are frequently updated and developed to address specific and emerging issues, there is a chance at reversing the current injury trend. For example, the most common type of injury for sawyers and hookers are struck-by type injuries, which could include being struck by equipment or falling limbs (Table 1). Some of these injuries may be avoided by ensuring workers are trained on recognizing and retreating to safe areas while felling trees, recognition of environmental hazards such as trees with dead tops, as well as safety while working around heavy equipment.

Table 1: Claim Characteristics by Job Task

| Job Task | Number of claims | Median Age (Range) | Median Length of Experience | Top Three Incident Types | Top Three Nature of Injury | Median Adjusted Total Claim Value (Range) |
|----------|------------------|--------------------|-----------------------------|--------------------------|----------------------------|---|
|----------|------------------|--------------------|-----------------------------|--------------------------|----------------------------|---|

**in months
(Range)**

| | | | | | | |
|-------------------------------|------------|-----------------------|--------------------------|--|---|-----------------------------------|
| Sawyer/ Hooker | 382 | 34 (18-64) | 11.50 (0-413) | 1. Struck by 2. Fall 3. Voluntary Movement (Injuries resulting from normal work movements, such as stepping down from equipment) | 1. Sprain/Strain 2. Contusion/Abrasion 3. Laceration/Punctur e | \$1,988 (0- 565,549) |
| Equipment Operator | 179 | 49 (19-73) | 45.00 (0-492) | 1. Fall 2. Struck by 3. Other | 1. Sprain/Strain 2. Contusion/Abrasion 3. Other | \$2,698 (0- 1,155,171) |
| Truck Driver | 143 | 50 (17-73) | 36.00 (0-434) | 1. Fall 2. Overexertion 3. Struck by | 1. Sprain/Strain 2. Contusion/Abrasion 3. Fracture/Dislocatio n | \$1,208 (0- 1,021,543) |
| Other | 46 | 47 (18-68) | 64.00 (0-456) | 1. Struck by 2. Fall 3. Other | 1. Sprain/Strain 2. Contusion/Abrasion 3. Other | \$1,046 (0- 70,143) |
| Supervisor/ Owner | 46 | 55 (31-65) | 201.00 (10-540) | 1. Fall 2. Struck by 3. Overexertion | 1. Sprain/Strain 2. Contusion/Abrasion 3. Laceration/Punctur e | \$2,098 (0- 320,773) |
| Mill Operator | 5 | 37 (32-54) | 6.00 (0-88) | 1. Struck by 2. Fall 3. Overexertion | 1. Sprain/Strain 2. Contusion/Abrasion 3. Laceration/Punctur e | \$409 (0- 206,797) |
| All Tasks Combined | 801 | 44 (17-73) | 24.00 (0-540) | 1. Struck by 2. Fall 3. Overexertion | 1. Sprain/Strain 2. Contusion/Abrasion 3. Laceration/Punctur e | \$1,920 (0- 1,155,171) |

While there are hazards associated with working in the woods, through continued development and improvement of safety programs, equipment, and technology, we can reduce some of this risk. The economy may skew our judgment and drive decisions on equipment purchase, speed of work, and safety attitudes. However, if the goal of work is to provide for your family, we must ensure that all workers are trained and equipped to arrive at work and return home safely each day.

The full methodology and results of this study can be found in the American Journal of Industrial Medicine

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