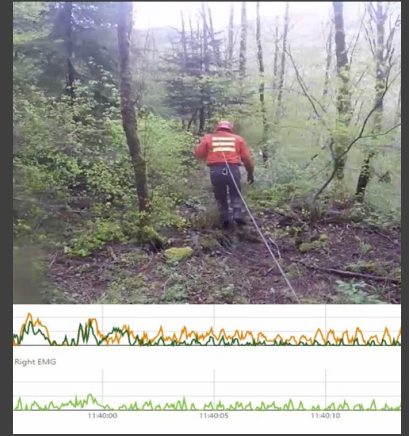


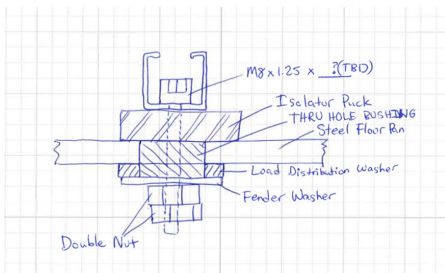
Using Technology to Improve Logging Safety

WHAT was done?

A series of experiments were done using wireless sensors attached to loggers backs, shoulders & forearms. These sensors quantified the impact of body position and muscle effort while working. Specifically, the study included 20 assessments spread between 3 trades: Timber Cutter, Equipment Operators & Rigging Men. The studies allowed us to understand what is the physical impact various logging tasks on the body & then create best practices that were proven to reduce the physical impact on the body



BEST Practices



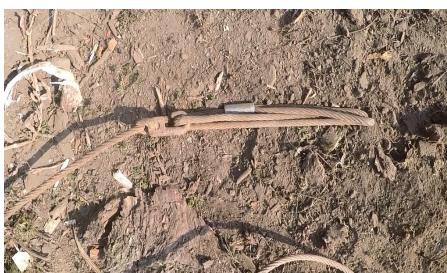
Anti-Vibration bolts to connect the seat to the machine reduced total vibration on the operator. **Reduced Total Daily Vibration by 20%** compared to normal seat attachment



Use of a 5-point harness was advantageous to a traditional lap belt when properly adjusted to the shoulders. **Reduced the total back & shoulder risk value by 50%**



Pulling chokers over the shoulder reduced low back & shoulder risk compared to the traditional behind the body method. **Reduced the back risk value by 40%**



Using hindu eye on haywire reduced drag when stringing haywire downhill. **Low back muscle activity was reduced by 25.2%** compared to using spliced eye with a molly



Pulling haywire with a mountain climbing harness to clip into, compared to pulling with one arm, **reduced shoulder risk value by 75% & low back risk value by 40%**



Using a bullpack to pack gear improved posture and reduced muscle effort in the low back. Total risk value was **reduced by 60%** when using the bullpack to carry a block.

HOW does this effect us?

Our goal is that the lessons that we have learned through our analysis will be able to impact the way that your workforce completes their job. Our aim was not to tell you how to do your job different, but to illustrate with physical science the difference in forces on our body when we complete different tasks. Our hope is to help educate potential solutions to reducing the physical impact on the body of loggers so that they can continue to do the job they love until they choose to stop, rather than quitting because they physically can not do it anymore.



Further Resources

- The full report with all 20 assessments and the results can be found on the LNI resources page at: <http://www.lni.wa.gov/Safety/Topics/AtoZ/Logging/resources.asp>
- A train the trainer program was developed to go along with these best practices and can be delivered on a per case basis. Please contact the SHIP department at LNI for further information on how to schedule the training.

Project Participants

