CONTRACTOR TOOLBOXES

Contractor toolboxes are sets of tools and resources that employers and drivers can use to address the risk of injury from load securement activities based on their operational needs and preferences. These toolboxes include descriptions, musculoskeletal injury (MSI) risk reduction measures, time requirements, costs, safe work procedures, risk exposure, risk controls and other implementation resources.

As per WorkSafeBC OHS regulation section 4.46 to 4.53, employers must identify the factors that may expose workers to the risk of MSI in their workplace. Employers can refer to BCFSC's load securement risk assessment tool for risk identification (reg 4.47) and risk assessment (reg 4.48) related to load securement (BCFSC 2021).

To use the toolboxes effectively, the employers and drivers must:

- Make sure that they become familiar with the tools and resources provided, and understand how to use these tools in their operations;
- Ensure users are trained on safety procedures;
- Be aware of risk exposures and controls;
- Conduct regular safety inspections and stay current with new safety regulations and best practices.

For all toolboxes, there are general risk reduction considerations for drivers that need to be followed:

- Train or refresher training to increase effectiveness and the confidence of workers.
- Remember the importance of stretching throughout the day / during breaks to reset muscles and avoid further strain, targeting especially the shoulders and back before and after load securement / throwing wrappers.
- Consult supervisor or health &safety reps for considering the most appropriate toolbox for drivers with previous injuries, low fitness level or restricted mobility.
- Assess the condition of the load and the work area available on both sides of the truck before using any tool.
- Where possible, practice the throwing motion using both dominant and non-dominant hands so that they may alternate and spread the load between both arms throughout the day.
- Avoid throwing multiple wrappers in one throw.

Toolbox B – Underhand Throw Using Lead Rope

Description

The lead rope (Jo's Easy Wrap) consists of lightweight rope connected to a puck (Figure 23) with a total weight of 3 kg. A triangular hook connects the wrapper to the lead rope. The portion of lead rope used for throwing along with the lightweight puck (weighs around 1 kg) was used to toss over the load using an underhand motion and the wrappers are then pulled over the load from the other side.

Figure 1. Lead rope with puck

MRS and MRS Risk Level

When using safe work procedures for the lead rope method, the MRS risk is low because of the underhand throwing motion and the light weight of the lead rope itself (Table 12).

Table 1. MRS and MRS risk level for underhand throw using lead rope

Movement Risk Score	Risk Level
10	Low

Safe Work Procedure

The safe work procedures for use of lead ropes are as follows:

1. Stay 10 to 12 feet away from the load.
2. Bend knees and push with the stronger lower limb muscles to generate the force required to throw the lead rope, reducing strain on the lower back and shoulders.
3. Connect the triangular hook of the lead rope to each wrapper required per bundle.
4. Step back two feet with one leg and stand with a wide, stable stance, one foot in front of the other.
5. Hold the rope two to three feet away from the puck.
6. Ensure arms are as close to the body as possible.
7. Adjust the hanging cord length so that the puck does not touch the ground while swinging.
8. Swing the puck like a pendulum a couple of times before throwing. (Figure 24)

Figure 2. Lead rope underhand throw

9. Use the underhand motion to launch the puck over the log load. Underhand throw reduces overhead movements that cause increased strain on the shoulders.
10. Repeat step 2 to 7 for each bundle.
11. Move to the other side of the load.
12. Take the puck end of the rope and move 5 to 6 feet away from the load.
13. Use both hands to pull the rope and lean slightly backward with one leg forward and hip and knee bent slightly.
14. Use leg and body weight to pull the rope slowly until one end of the wrappers reaches the other side.
15. Disconnect the wrapper from the triangular hook.
16. Coil the lead rope.
17. Repeat step 10 to 14 for each bundle.

Time

The use of this tool will require one to two additional minutes per bundle compared with the traditional throwing method. While conventional wrapping time for three bundle loads is around 3.5 minutes, it might take 6 to 8 minutes with Jo's Easy Wrap lead rope tool. The time for load securement using Jo's Easy Wrap tool could be reduced by using multiple devices.

Cost

The cost of this tool is approximately $200. Several tools may be required depending on the number of bundles per truck.

Risk Exposure

Even with lightweight lead ropes, drivers are exposed to risk of musculoskeletal related injury (MSI) because of factors such as repetition and non-ideal postures. Other factors such as previous injuries, age, fitness level, throwing multiple wrappers in one throw can also increase risk. Other risks are falling logs or debris and slips, trips and falls on uneven or poor ground conditions.

Technique Demonstration

The following YouTube video demonstrates the steps to properly perform Underhand Throw Using Lead Rope.

https://youtu.be/HeBdx3q4IT4?si=Du6lA9tlKJNdPnk1

Suppliers

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A video of Jo's Easy Wrap tool in operation can be found here:
https://www.youtube.com/watch?v=akLOWFWW8NY&t=1s

ADDITIONAL RESOURCES

Other resources on wrapper throwing method, training and injury management that employers and drivers can refer to:

- BC Forest Safety Council: Throwing Wrappers – Method for Reducing Injuries https://www.youtube.com/watch?v=hDD5gzrjFJM
- BC Forest Safety Council: Shoulder Injury Management for Log Truck Drivers https://www.youtube.com/watch?v=emmPSSL3aDE
- BCFSC and Total Physiotherapy (2018) Throwing procedure https://www2.bcforestsafe.org/files/BCFSC_Logging_Poster_Method_Throwing_Wrappers_0.pdf

There are additional resources from BCFSC and FPInnovations that can be used in risk assessments for loader assist methods:

- BC Forest Council: Loader Assist Procedure
    - https://www.bcforestsafe.org/wp-content/uploads/2021/10/Risk-Assessment-Tool-MSI-Load-Securement_14-Oct-21_FINAL.pdf
    - https://www.youtube.com/watch?app=desktop&v=QhORC4T7ABc
- FPInnovations: Reducing Repetitive Strain Injuries Resulting from Installing Log Load Wrappers https://www.youtube.com/watch?v=WX2nWni4FOI