

## Soft Tissue Injury Prevention Tool

### Tip Sheets

**Trade:** Heavy Highway

**Job Task:** Asphalt Paving - Asphalt Parking Lot

<p><b>General Tasks</b></p> <ul style="list-style-type: none"> <li>➤ Asphalt is dumped into hopper of paver from dump truck.</li> <li>➤ Paver places asphalt on roadway.</li> <li>➤ Workers rake and shovel asphalt alongside paver to further spread on roadway.</li> <li>➤ Some packing of asphalt to firm edges.</li> <li>➤ Roller machine is used to compact and firm asphalt.</li> <li>➤ Plate compactor is used to pack edges that roller can't reach.</li> </ul>	<p><b>Common Tools</b></p> <ul style="list-style-type: none"> <li>➤ Asphalt Paving Machine</li> <li>➤ Asphalt Roller</li> <li>➤ Flat Nose Shovels</li> <li>➤ Asphalt Rakes</li> <li>➤ Vibra-Max Plate Compactor</li> <li>➤ Gloves</li> </ul>
<p><b>Potential Risk Factors</b> <i>Risk Factors can lead to increased risk for Work Related Musculoskeletal Disorders (WMSD's)</i></p> <p><b>High Hand Grip Force</b></p> <ul style="list-style-type: none"> <li>• Moderate Risk with periods of sustained heavy gripping of Vibra-Max Plate Compactor. This is primarily a risk factor if there is no job rotation and use of compactor is required for extended periods of time.</li> </ul> <p><b>Highly Repetitive Motion</b></p> <ul style="list-style-type: none"> <li>• Moderate Risk with extended periods of repetitive shoveling and raking requiring heavy gripping, particularly for highway paving when the work pace is faster and there are less intermittent breaks between asphalt loads and subsequent raking and shoveling.</li> </ul> <p><b>High Hand/Arm and Whole Body Vibrations</b></p> <ul style="list-style-type: none"> <li>• Moderate Risk if using Vibra-Max compactor for extended periods of time. Compactors generally have moderate-high vibration levels ranging from 5-8 m/s<sup>2</sup>.</li> </ul>	<p><b>Possible Solutions</b></p> <p><b>Heavy Gripping and Vibration Solutions:</b></p> <ul style="list-style-type: none"> <li>• Rotate workers between all tasks every hour to minimize excessive fatigue and vibration exposure.</li> <li>• Utilize pocket hand warmers to intermittently warm the hands particularly when running compactor for extended periods in cold damp weather.</li> <li>• Maintain/repair vibrators frequently to minimize vibration levels.</li> <li>• Use anti-vibration gloves and/or vibration dampening materials on vibrator handle.</li> <li>• Stretch frequently, particularly performing back and upper extremity stretches.</li> <li>• Evaluate the use of commercially available alternative handles that attach to the shaft of the rake to promote upright postures, improve leverage and reduce fatigue.</li> </ul> <p><b>Potential Benefits</b></p> <ul style="list-style-type: none"> <li>✓ Increases productivity.</li> <li>✓ Increases blood flow and reduce muscle tension.</li> <li>✓ Reduces strain on hand and arm muscles.</li> <li>✓ Reduces exertion of lower back.</li> <li>✓ Reduces awkward work postures and minimize lifting requirements.</li> <li>✓ Minimizes vibration exposure and excessive fatigue.</li> </ul>
<p><b>Feasibility</b></p> <ul style="list-style-type: none"> <li>• Engineer Control</li> <li>• Administrative Control</li> <li>• Work Practice Control</li> </ul> <p><b>Estimated Cost of Intervention</b></p> <ul style="list-style-type: none"> <li>• \$43.99 for pair of Anti-Vibration Gloves</li> </ul>	 