

## Ergonomic Improvements

### Administrative:

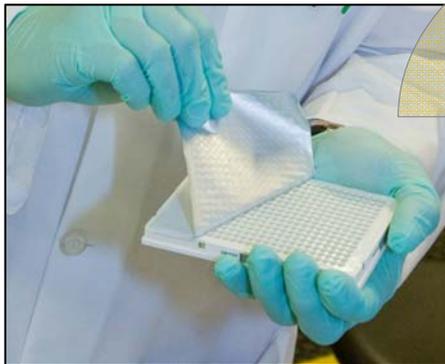
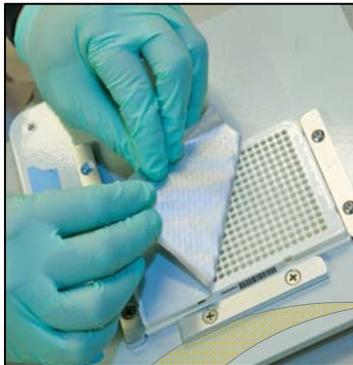
- Best Practice training

### Custom Engineering:

- Plate fixture for two handed action
- Modified pliers for power grip action
- Fully automated pneumatic peeler

### Results:

- Eliminated all pinch forces
- Strain Index reduced 90%
- Significant injury risk reduction



- 5-10 seconds/cycle
- Approx. 5 efforts/cycle
- Total processing time 20 minutes/batch
- Process 640 plates per day



	Before	After
<b>Safety</b>	<ul style="list-style-type: none"> <li>• Grip Force 104-109% of maximum voluntary contraction.</li> <li>• Strain Index = 29.3</li> </ul>	<ul style="list-style-type: none"> <li>• Pinch Force 0% of maximum voluntary contraction. Strain Index = 3.4 to load/unload the peeler</li> </ul>
<b>Quality</b>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>• Sample quality did not change.</li> </ul>
<b>Efficiency</b>	<ul style="list-style-type: none"> <li>• Process 50 plates in 20 minutes manually.</li> </ul>	<ul style="list-style-type: none"> <li>• Process 50 plates with peeler in same time.</li> </ul>
<b>Cost</b>	<ul style="list-style-type: none"> <li>• \$548,000 for labor costs and injuries.</li> </ul>	<ul style="list-style-type: none"> <li>• \$366,000 for labor costs with 50% reduction in injury costs.</li> </ul>
<b>Medical</b>	<ul style="list-style-type: none"> <li>• Common musculoskeletal complaints due to load on forearm and hands.</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced the risk of injury in high risk area.</li> <li>• Reduced severity of any injuries.</li> </ul>

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