

Neer Manufacturing, Lexington

Intervention keywords: Milling Cutter, Twin-head Corner Cleaner, Chisling, Welding

Industry: Manufacturing

Risk Factor(s): Repetitive motion

Situation:

Workers at Neer, a venture company of Emerson/General Signal, ran into Cumulative Trauma Disorders during the production of the TC-612, a 3/4" conduit compression coupling, consisting of 5 pieces, which they manually assemble at a rate of 280 pieces per hour. The repetitive motions involved in assembly has been held liable for the occurrence of CTD's at each workstation, which include injuries to hands, wrists, shoulders and backs.



Assembly of parts

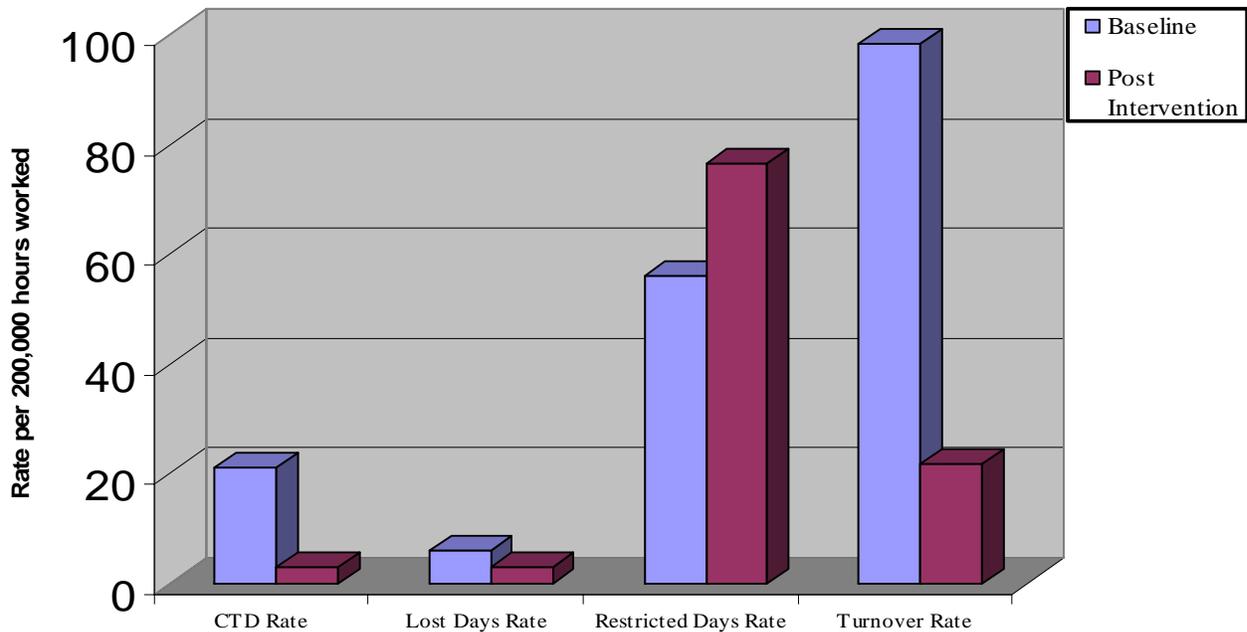
Solution:

To decrease the risk of Cumulative Trauma Disorders, Neer designed a machine to automatically assemble the parts (Total Cost: \$138,836). This will allow for a single operator to oversee two machines on separate assembly lines at the same time. Each machine can produce parts at an expected rate of 1000 parts per hour. The increase in parts per hour and a more efficient use of the operator would equal an increase of over 3 times the productivity. To help offset the costs involved, Neer was awarded \$40,000 from the Safety Grant\$ program.

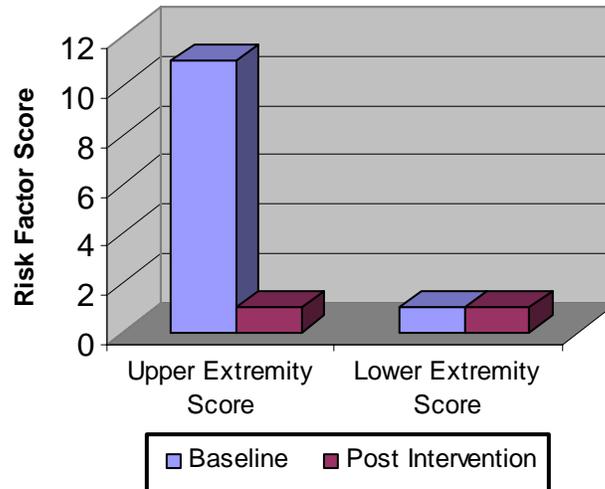


The new automated machine

Results:



- The CTD rate decreased from 21.2 to 3.0 CTDs per 200,000 hours worked in 24 months following the intervention, an 86% improvement.
- Incidents of days lost due to CTD's decreased from 5.8 to 3.0 days lost per 200,000 hours worked.



- Upper Extremity Risk Factor Scores fell 91%.
- Employee turnover rates decreased from 98.4 to 21.9 employees per 200,000 hours worked, a 78% improvement.
- Productivity, reported by the manufacturer, increased from 283 parts per hour (pph) prior to intervention to 826 pph two years later. At an estimated volume of 2.5 million pieces required per year, production time decreased from 8929 to 3027 hours per year.
- Quality, measured by the percent of parts placed on backorder, decreased from 31% to 18.4%.