Power & Control Systems Co. Inc., Mt. Vernon

Intervention Key Words: Hoist, Lift, Material Handling
Industry: Manufacturing
Risk Factor(s): Repetitive motion, Awkward Posture- Back deviations, High Hand Force- Pinching/Gripping, Manual Handling- Lifting/Carrying

Situation:

Power and Control Systems Co. assembles steel electrical control panels. This process involves numerous steps including cutting, bending and welding the steel. A Cumulative Trauma Disorder risk arises whenever workers transfer the steel, weighing up to 300 lbs. between stations. These sheets are manually lifted by one or more employees and then moved to the next step in the assembly process. The weight of the sheets compounded with repetition creates the potential for injury.

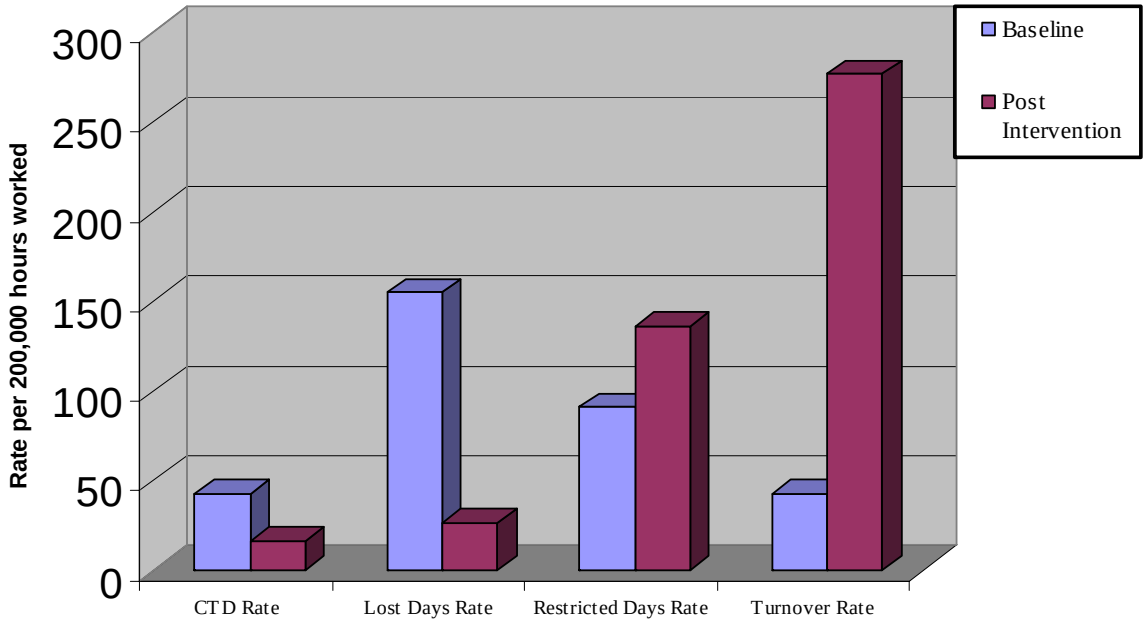
Workers manually lifting steel

Solution:

Power & Control Systems Co. sought ways to reduce the CTD risks associated with the heavy repetitive lifting of the steel used in their manufacturing process. Their solution was to purchase a variety of electric hoists and locate them throughout the facility. The hoists, once properly attached to the steel, allow the workers to safely and effortlessly transfer pieces between workstations. Lifting that once took 4 employees to achieve now takes no more than 2, one to operate the hoist and another to guide the steel. A total cost of $13,239 was incurred to purchase and assemble the hoists. Power and Control Systems Co. received 2 awards from Safety Grant$ totaling $9726 to offset the costs.

Workers using hoists to lift steel

<u>Results:</u> (Figures account for the total of 2 intervention time periods as the hoists were introduced into different stations.)



- CTD rate (per 200,000 hours worked) decreased from 42.7 to 15.7 incidents in 24 months following the interventions, a 63% improvement.
- Incidence of Lost Days decreased from 154.6 to 26.1 days per 200,000 hours worked, equating to an 83% improvement.
- Increases in Restricted Days rate and Employee Turnover were seen, but may not be directly attributed to the intervention.
- Averaged over 5 workstations affected by the hoists, Upper Extremity Risk Factor scores decreased 16% while Lower Extremity Risk Factor scores decreased 20%.