

Whitaker Surface Systems, Northwood

Intervention Key Words: Polypropylene Tanks, Automatic Barrel Hoist

Industrial Key Words: Manufacturing

Risk Factor(s): Repetitive motion, Awkward Posture- Back deviations, Manual Handling- Lifting/Carrying and Pushing/Pulling

Situation:

Whitaker Surface Systems plates various products with copper, nickel and tin. At the conclusion of the plating process, parts are “washed” in a post process which provides rust inhibitory properties and then double “rinsed” in two more stages. Prior to the post process, the recently plated parts must be sorted into smaller containers to fit into the washing tanks. The containers are transferred by hand between washing and rinsing tanks. An operator may handle up to 14,700 lbs per day while performing this task. In addition, the operator must manually agitate baskets of parts in each tank in order to assure they are properly coated. Fatigue, heavy lifting, awkward postures and repetition are all risk factors for Cumulative Trauma Disorders. The high demands of the job have also resulted in high employee turnover rates.



Worker removes parts from rinsing tank

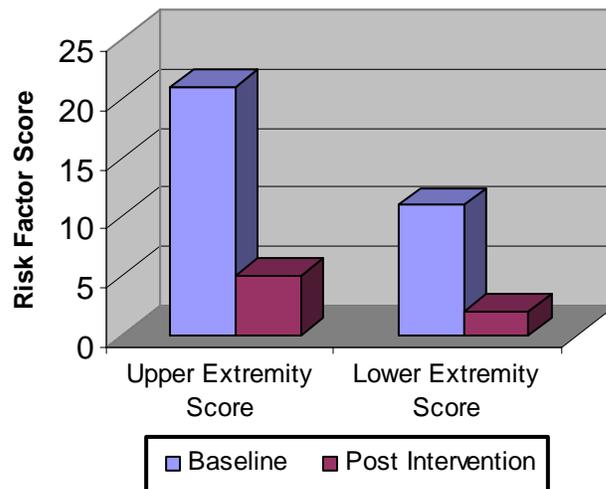
Solution:

Whitaker Surface Systems approached the CTD risk problem by installing an automatic barrel hoist and larger tanks. The hoist will utilize the same container in which the parts were plated and the larger tanks will now accept the plating containers. The hoist is controlled by a remote and all that is required by the operator is guidance of the containers into the proper tanks. Following the final rinsing stage a dryer was installed, effectively eliminating another parts handling step. Total cost for the intervention totaled \$66,000. Safety Grant\$ awarded Whitaker Systems \$40,000 to offset the costs.



New system relies on electric hoists and control panels rather than manual lifting

Results:



- Upper and Lower Extremity CTD Risk Factor scores decreased a total of 78% following the intervention.
- Employee Turnover rate (standardized per 200,000 hours worked) decreased from 962 to 39, a 96% improvement.
- CTD, Lost Days and Restricted Days rates were at 0 for the year prior to the intervention. These rates remained at 0 for 2 years following.
- Productivity had a 56% increase and a 12% increase was seen in Quality following the intervention.