

## Drycleaning Operations, Oregon

**Intervention keywords:** Automate, Tying machine, Pairing, Bundling, Wrapping

**Industry:** Service, Other

**Risk Factor(s):** Repetitive motion, High Hand Force-pinching/gripping

### Situation:

Drycleaning Operations is an industrial laundering service that serves primarily by cleaning and pairing work gloves and shop towels. The work area, which was the target of the Safety Grant\$ application, required the workers to manually bundle pairs of gloves/towels and then secure them by wrapping a rubber band around the bundles. The workers wrap approximately 16,000 bundles of work gloves and work towels a week with that number expected to rise. Securing the bundles of gloves/towels is highly repetitive, requiring awkward postures of the hands and wrists, and a fair amount of force to constantly pull the rubber bands over the bundles. The ergonomic risks present for the workers could contribute to Cumulative Trauma Disorders of the hands, wrist and shoulders.



Worker manually tying bundles with rubber band

### Solution:

Drycleaning Operations purchased 3 tying machines (Total Cost: \$15,926.65) to eliminate the use of rubber bands. This reduces the repetitive motion required for the task, and virtually eradicates the need for awkward positioning of the wrist. Minimal repetitive motion remains while employees pair and place the gloves/towels on the tying machine. Drycleaning Operations was awarded \$11,556 to help offset the costs of the intervention.



Pictures of automatic tying machine from manufacturer catalog and in use at Drycleaning Operations

### **Results:**

- Incidence of CTD's Lost Days and Restricted Days was 0 during the baseline period of 12 months prior to the intervention and remained at 0 for 24 months following the intervention.
- Upper extremity risk factor assessment scores fell from 11 to 2 following the intervention, an 82% improvement.
- Lower extremity risk factor assessment scores fell from 12 to 2, an 83% improvement.
- Productivity numbers per worker remained relatively constant at 1200 pieces per hour, although incidence of "aches and pains" fell to 0 following the intervention.
- Quality was measured by the appearance of each bundle and employee happiness, which were both reported to be improved following the implementation of the tying machines.
- Employee turnover rates increased from 63 to 157 employees per 200,000 hours worked.

### **Comments:**

Lift tables were purchased and put into use in the same area at the time that the grant intervention was implemented. This may have affected the decrease in reported CTD's. The company also underwent restructuring which may have contributed to the employee turnover rate.