

## Byesville Aseptic, Byesville

**Intervention Key Words:** Automate, Automatic Case Packer

**Industry:** Other: Packing, Packaging

**Risk Factor(s):** Awkward Posture- Wrist deviations, Back deviations, Shoulder deviations, High Hand Force- Pinching/Gripping, Repetitive motion

### Situation:

Byesville Aseptic is a contract packing facility which formulates a variety of retail juice and specialty beverages for distribution throughout North America. All products are packaged into aseptic paperboard cartons. Single sized cartons are then multi-packed in several configurations and manually inserted into finished corrugated cases for shipment. There are currently 10 packaging lines in operation. This area also has three packaging lines which pose significant Cumulative Trauma Disorder risks upon workers. Risks include: wrist deviations including flexion and extension, palm pinch grip and forceful push exertion, repetition involving the upper extremities, extended reach and forceful push exertion, contact stress to the upper thighs while bending forward to insert juice boxes into cartons and stationary standing for an extended duration.



**Packer Assembly Line**

### Solution:

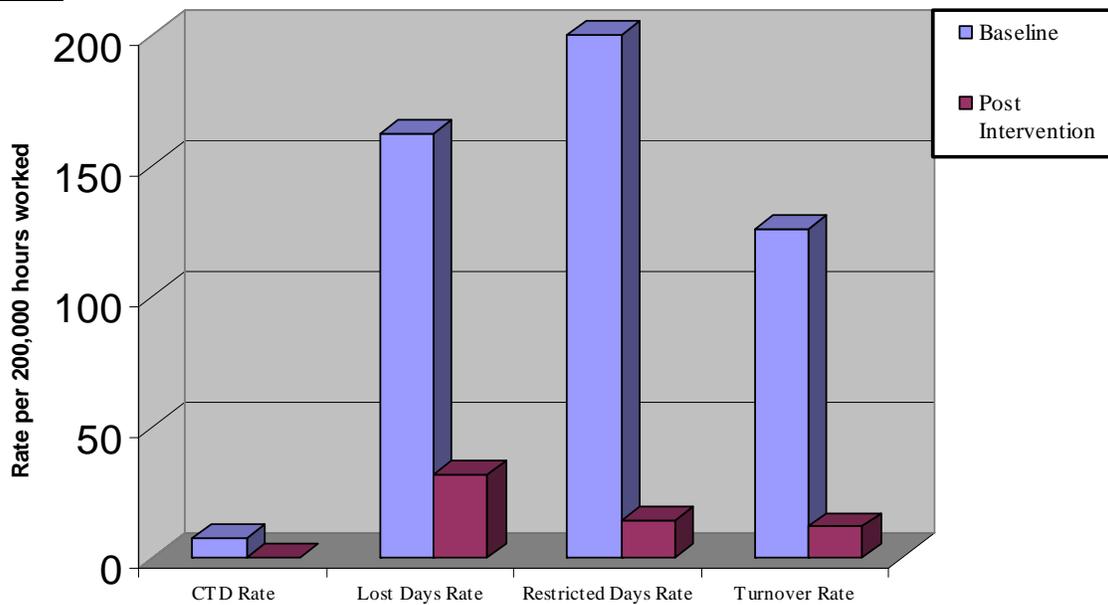
Byesville Aseptic proposed an intervention to fully automate the case packer tasks and eliminate CTD risk factors as a result. Packs are fed to the case packer by way of an infeed conveyor. The machine drops a blank (case) onto the carrier chain and product is pushed onto the flat case using an indexer. Once all products have been properly positioned, the folding rails begin to raise the case flaps as strips of glue are applied. The final compression is then added to adhere the flaps together. Shortly afterwards, the finished case is then pushed out onto an exit conveyor and sent to the palletizing area for final packaging/staging prior to shipment to customers. Total cost for

implementing 3 packers was \$277,169. Byesville Aseptic received \$40,000 in assistance from SafetyGrant\$ to offset the costs.



**Pictures of the equipment in use**

**Results:**



- CTD Rate (per 200,000 hours worked) was at 7.4 the year prior to the intervention and decreased 100% over the 2 years following.
- Lost Days rate decreased from 162.3 to 31.7, Restricted Days rate decreased from 1092 to 13.8 and Employee Turnover rate decreased from 125.4 to 11.7 over the same time period. The decreases equate to 80%, 99% and 91% respectively.
- CTD Risk Factor scores, averaged over 4 tasks, decreased 85% following the intervention, effectively eliminating a number of high-risk tasks.