

## Fox Floor & Cabinet Co., Inc., Columbus

**Intervention Key Words:** CNC Drilling Machine, Computer, Program

**Industry:** Manufacturing

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

### **Situation:**

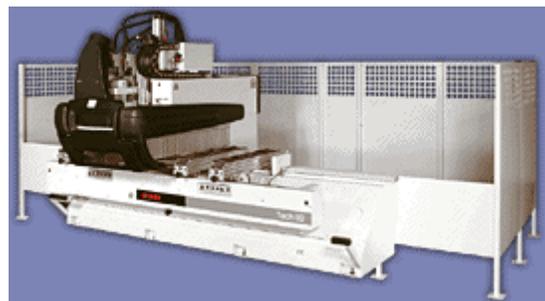
Fox Floor & Cabinet Co. produces custom made wood cabinets and flooring. Their cabinet construction begins with taking cut wood panels and boring a series of holes into it. These holes are used in the assembly department for various attachments and guides. Cabinets are then laminated and routed in the finishing department. Boring the wood involves using a line boring drillpress machine that is manually operated. Workers must hold the subject wood in place as they pull on a lever that controls the press. This repetitive process requires a large amount of force which can lead to Cumulative Trauma Disorders in the workers. Other risk factors include vibrations from drills and staple guns used to assemble to cabinets along with the awkward postures needed to perform all the tasks.



**Line boring press requires extensive force on both the handle and the piece of wood being drilled**

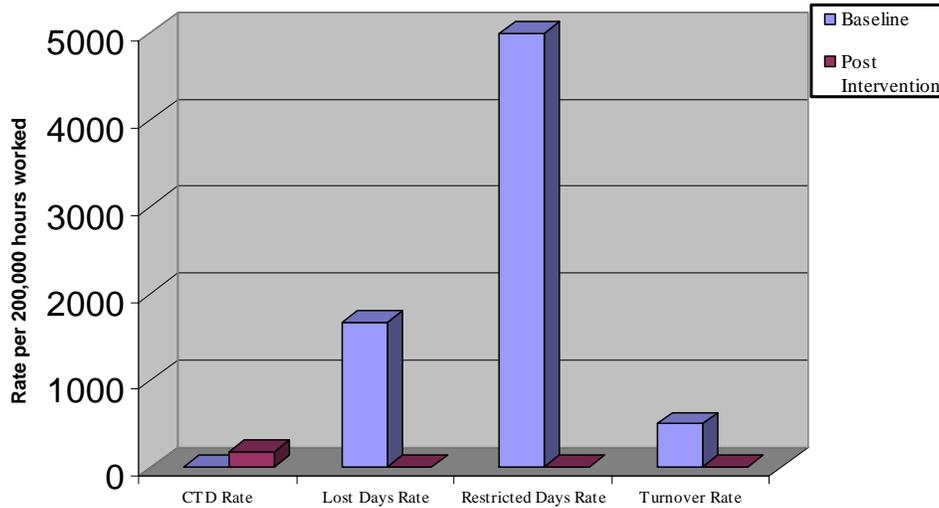
### **Solution:**

In order to address the CTD issues on their cabinet line, Fox Floor & Cabinet purchases a CNC Drilling Machine. This new device is computer controlled and has the ability to bore holes in laminated wood. This not only allows the company to reduce CTD risks in the boring area but allows them to eliminate the finishing

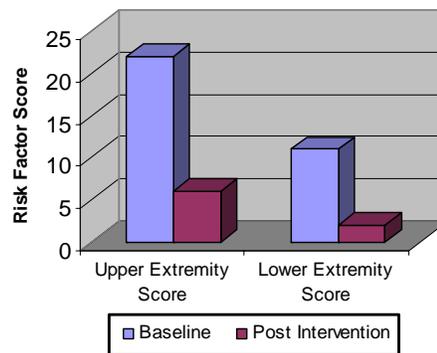


step all together. Workers using the drilling machine must enter a pattern program into the computer and feed the panels onto it. Once the process is complete the worker removes the finished piece and replaces it with a new one.

**Results:**



- Lost Days, Restricted Days and Turnover rates decreased 100% in 2 years following the intervention when compared to the year prior.
- CTD rate increased following the intervention but may not be directly related to it.



- Upper and Lower Extremity Risk Factor scores for the drilling task decreased 73% and 82% respectively following the intervention.