

**Occupational Health  
Clinics for Ontario  
Workers Inc.**

Centres de santé  
des travailleurs (ses)  
de l'Ontario Inc.

# Ergonomic Prevention Works

Presented by:

Carrie Edgeworth, B.Sc. (Kin, Ergo); AE  
Ergonomist, OHCOW Toronto

[www.ohcow.on.ca](http://www.ohcow.on.ca)

# About OHCOW

- Five clinics in Ontario
- Team of nurses, hygienists, ergonomists, and physicians see patients and identify work-related illness and injuries, promote awareness of health and safety issues, and develop prevention strategies
- [www.ohcow.on.ca](http://www.ohcow.on.ca)

# What is Ergonomics ?

- Ergonomics (or human factors) is the scientific discipline concerned with **interactions** among humans and other elements of a system (e.g., the tools, equipment, products, tasks, organization, technology, and environment).

Association of Canadian Ergonomists, 2006

# What Ergonomists “Do”

- Ergonomists contribute to the **design and evaluation** of tasks, jobs, products, environments and systems in order to make them **compatible** with the needs, abilities and limitations of people.
- Ergonomists use a **holistic approach** and ensure that physical, cognitive, social, organizational, environmental and other relevant factors are taken into account when making recommendations regarding the design or modification of a system.

Association of Canadian Ergonomists, 2006

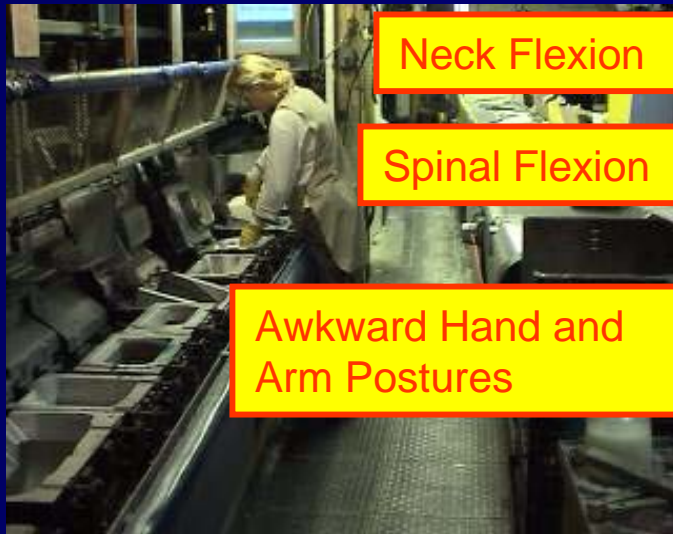
# Ergonomic Risk Factors

- **Awkward Postures**
  - Bent wrists, neck flexion, spinal flexion
- **Force**
  - Gripping, pushing/pulling/lifting heavy loads
- **Repetition**
  - Assembly work, typing, clicking mouse buttons
- **Static Forces**
  - Gripping a tool, overhead work, holding phone between ear and shoulder
- **Contact Stresses**
  - Resting wrist or arm on edge of hard surface, striking object with hand
- **Organizational Factors**
  - Task variability, work-recovery cycles

# Some Areas of Ergonomics

- Office Ergonomics
  - Examine the flow of the work
  - Identify **ergonomic risk factors** and adjust and/or change **workstation** to eliminate risk factors
- Industrial Ergonomics
  - Examine the flow of the work
  - Identify **ergonomic risk factors** and make recommendations to change **work processes, tools, work layout, workplace design, etc.**

# What are the Ergonomic Risk Factors with Each Job ?



# How Can Ergonomics Help Reduce Exposure to Risk Factors ?



- Raise the height of the line
- Re-design of scraper tool to reduce bending of wrist
- Re-design of air hose nozzle to eliminate shoulder abduction
- Slow down the line

# How Can Ergonomics Help Reduce Exposure to Risk Factors ?



- Ensure bins are kept full of product
- Use bins with front cut-outs
- Raise the height of the bins
- Spring-loaded platform on bottom of bins

# Obstacles when Implementing Changes

- “Change is too costly”
  - Up-front costs but pays off over long run
- “We’ll implement job rotation and the injuries will disappear”
  - Jobs must have low risk or else the *overall* risk to workers increases
- “Not a practical solution”
  - Can’t determine this until you conduct pilot tests, prototype testing, etc.

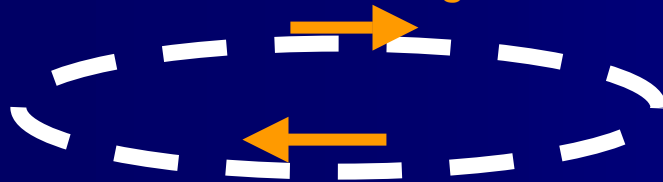
# So, What Can be Done ?

- Establish an Ergonomics Committee  
<http://www.ohcow.on.ca/resources/workbooks.html>
  - Includes opinions of all interested parties (workers, JHSC members, managers, maintenance, operations, etc.)
  - Have recommendations go through JHSC
- Include “ergonomic language” in next contract
- Offer a number of solutions (flexibility)

# Offer a Number of Solutions



No workers along here



**Component  
Inserter**

**Waxer**

**Demould**

- Main issue is height of the line
  - Raise the line only where workers work
  - Install hydraulic lifts on each carrier to elevate moulds when they pass by workstations
  - Recess the floor

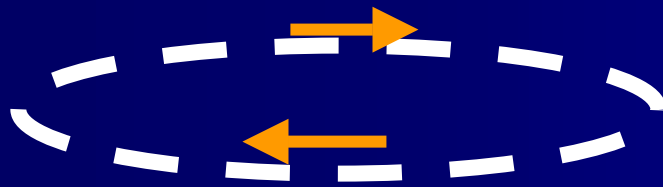
# Other ways to Overcome Obstacles

- Take small steps
  - Implement quick, smaller-scale solutions initially
  - Helps increase confidence in process
  - Work out any “bugs” in ergo program
  - Move on to larger and/or more expensive projects once ergo program has been developed

# Quick Solutions First !



- Smaller projects completed first
  - Redesign of scraper and air hose nozzle
- Smaller projects could also be worked on while details for larger/longer projects are being sorted out




**Component  
Inserter**

**Waxer**

**Demould**

# Other ways to Overcome Obstacles

- Create “before-and-after” posters and post them around the worksite
- Cost-Benefit Analysis
  - Show management how implementing ergonomic changes will affect the bottom line
    - ergonomics =  injuries, \$\$\$ savings
- Ergonomics Regulation

# Points To Remember

- Ergonomic equipment is only ergonomic if used correctly. *Learn how to use your equipment!*
- Reduce repetitive movements, awkward postures and static forces. *Be conscious of your body positions and movements!*
- Take a break away from your work at least once every hour. *Remember to keep moving (or rest, depending on the job)!*
- All aspects of your work environment interact to affect your health (workstation design, air quality, noise, etc.)

# Questions?

Carrie Edgeworth, Ergonomist

Occupational Health Clinics for Ontario Workers, Inc.

## **Toronto Clinic**

1-888-596-3800

[toronto@ohcow.on.ca](mailto:toronto@ohcow.on.ca)

## **Hamilton Clinic**

1-800-263-2129

[hamilton@ohcow.on.ca](mailto:hamilton@ohcow.on.ca)

## **Windsor Clinic**

1-800-565-3185

[windsor@ohcow.on.ca](mailto:windsor@ohcow.on.ca)