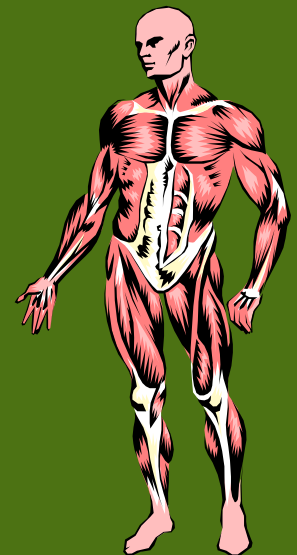


MSDs & Mobile Equipment

 Workplace
Safety North™
A Health & Safety Ontario Partner



Musculoskeletal Disorders

Mining Statistics:

2008 MSD freq. rate .65 for all sectors

Mining .45

2010 YTD freq. rate ~ .16

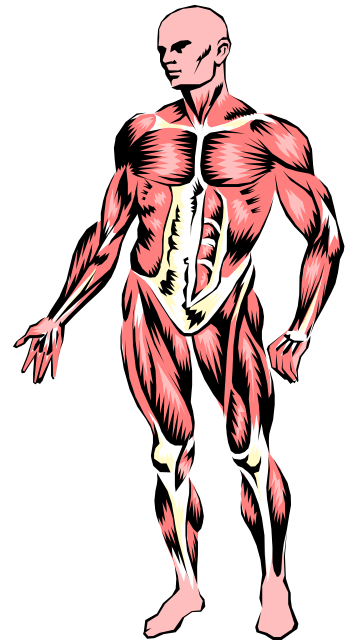
claims 45 (20%)

Aging population

Increase in work demands....

MSD Definition

MSDs are injuries and disorders to the muscles, tendons, ligaments, joints, nerves, and blood vessels due to exposure to hazards in the workplace. Their onset usually occurs over a period of time.



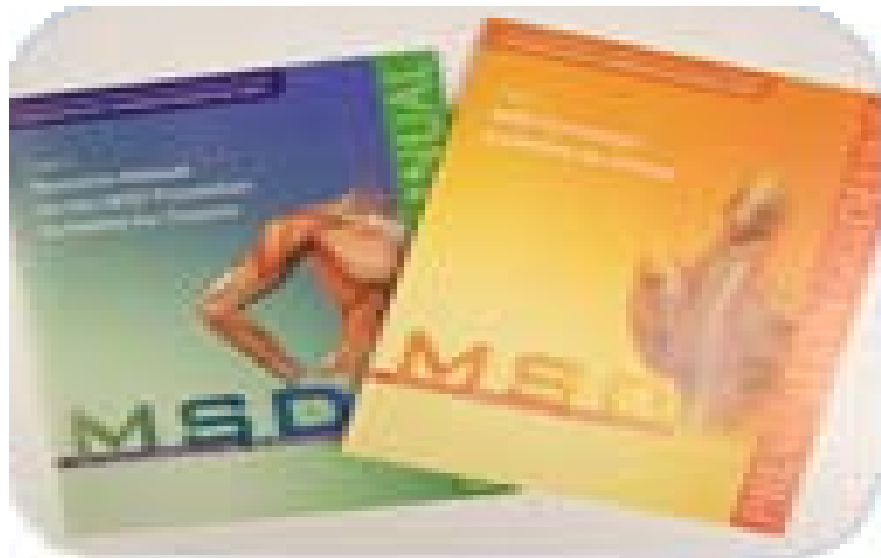
Participatory Ergonomics (PE)

- Create Participatory Ergonomic team
 - workers, supervisors, advisors
 - Define participants responsibilities
- Address key factors such as management support and resources
- Provide ergonomic training/consulting
- Decisions made using group consultation

Provincial Guideline

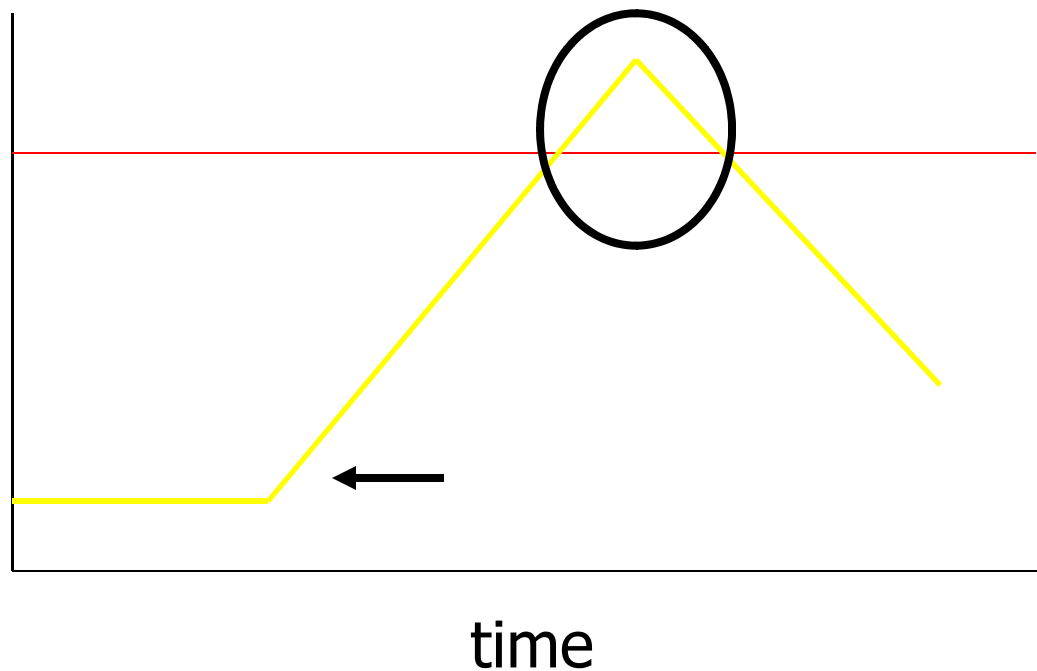
OHSCO MSD Guideline & Toolbox

WSN MSD prevention tools



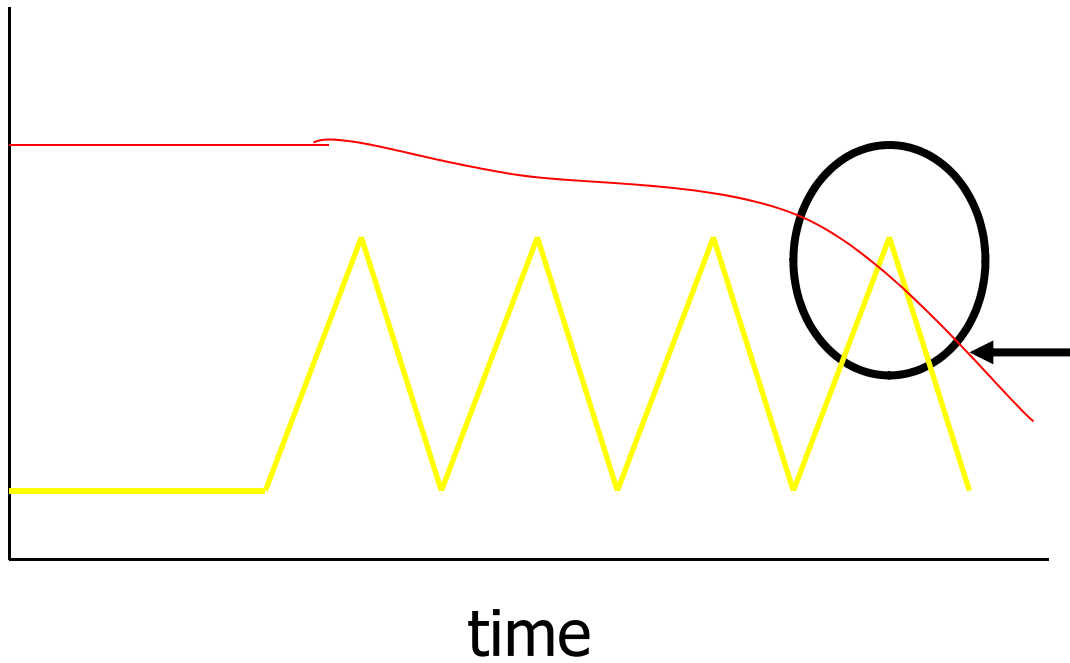
Why do they happen?

MSDs may result from a one time event

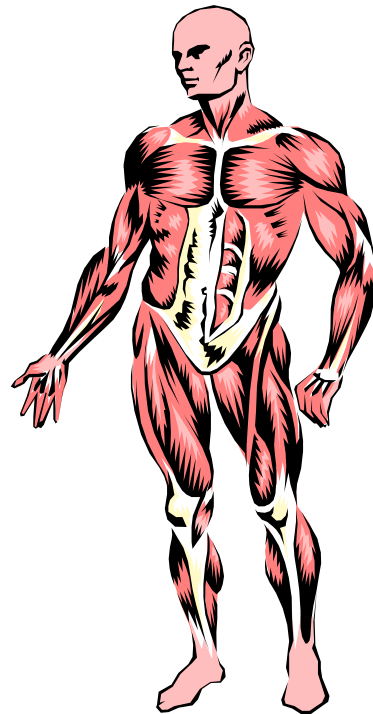


Most prevalent...

MSDs can result from repeated loading



Bodies at work!



The Spine

Vertebrae

Disks

Nerves

Muscles, ligaments, tendons

= soft tissue



Muscle Work

Dynamic muscle contractions – the body parts moves while the muscle generates a force (i.e. lifting a box)

Static muscle contraction – no movement of the muscle or body part while it generates a force (i.e. pushing on a wall)

- decreased circulation, nutrition, oxygen,
- lactic acid builds up causing pain

Forces on Lower Back

**% OF FORCE ON LOWER BACK
IN DIFFERENT POSITIONS**

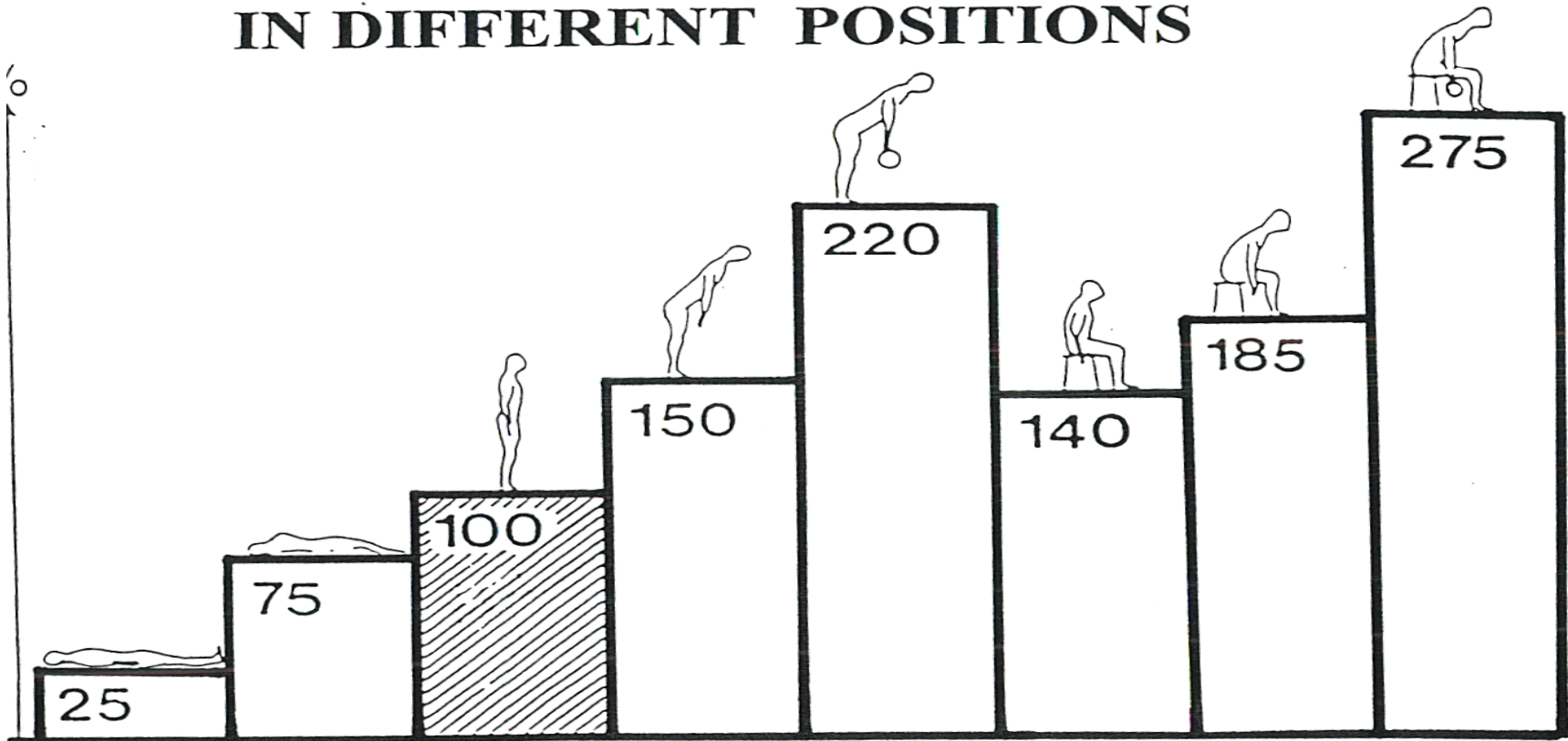
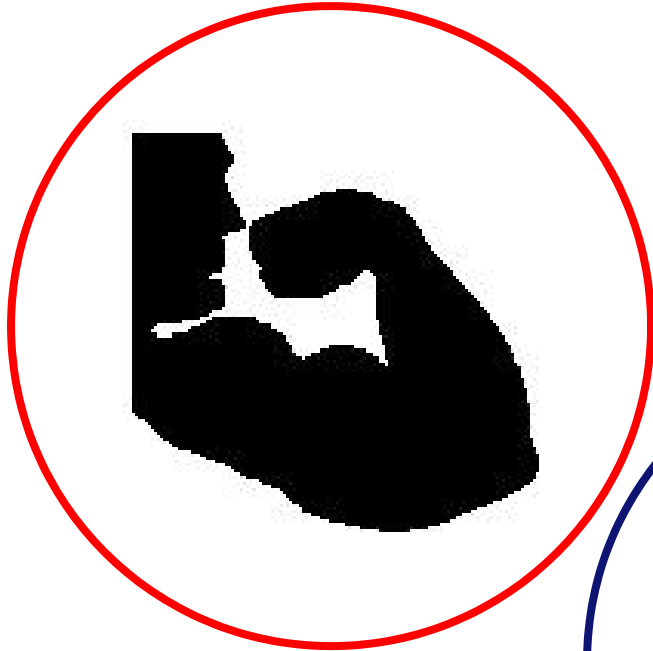


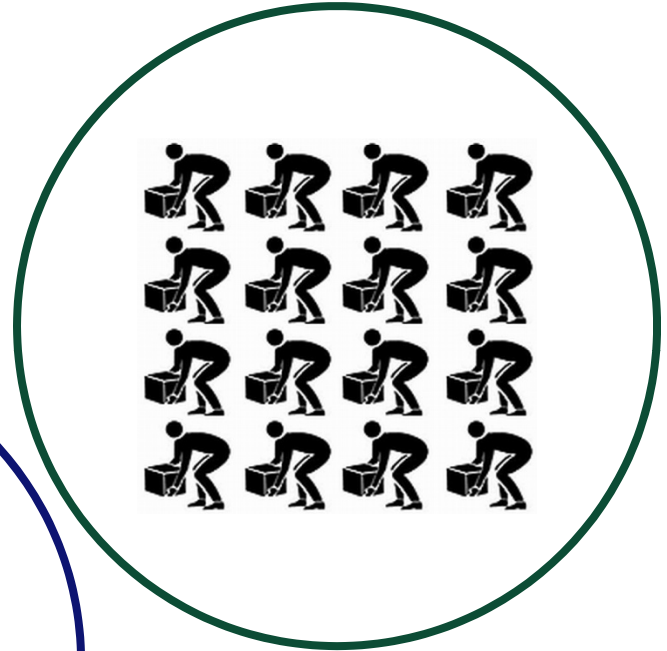
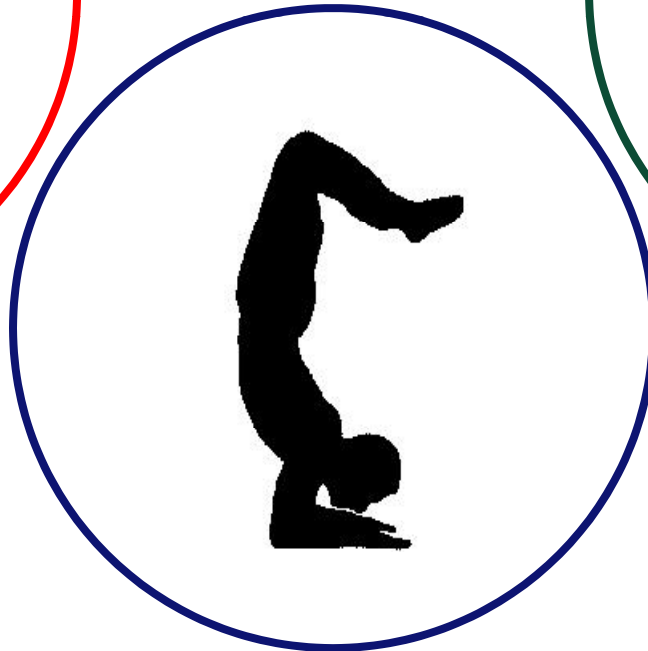
Diagram 16 Dr. Alf Nachemson's Postural Study

IdentifyMSD Hazards



Force

Posture



Repetition



Mobile Equipment Operator

MSD hazards

- Awkward posture
- Whole Body Vibration (WBV)
- Repetition

Consider Multiple Solutions

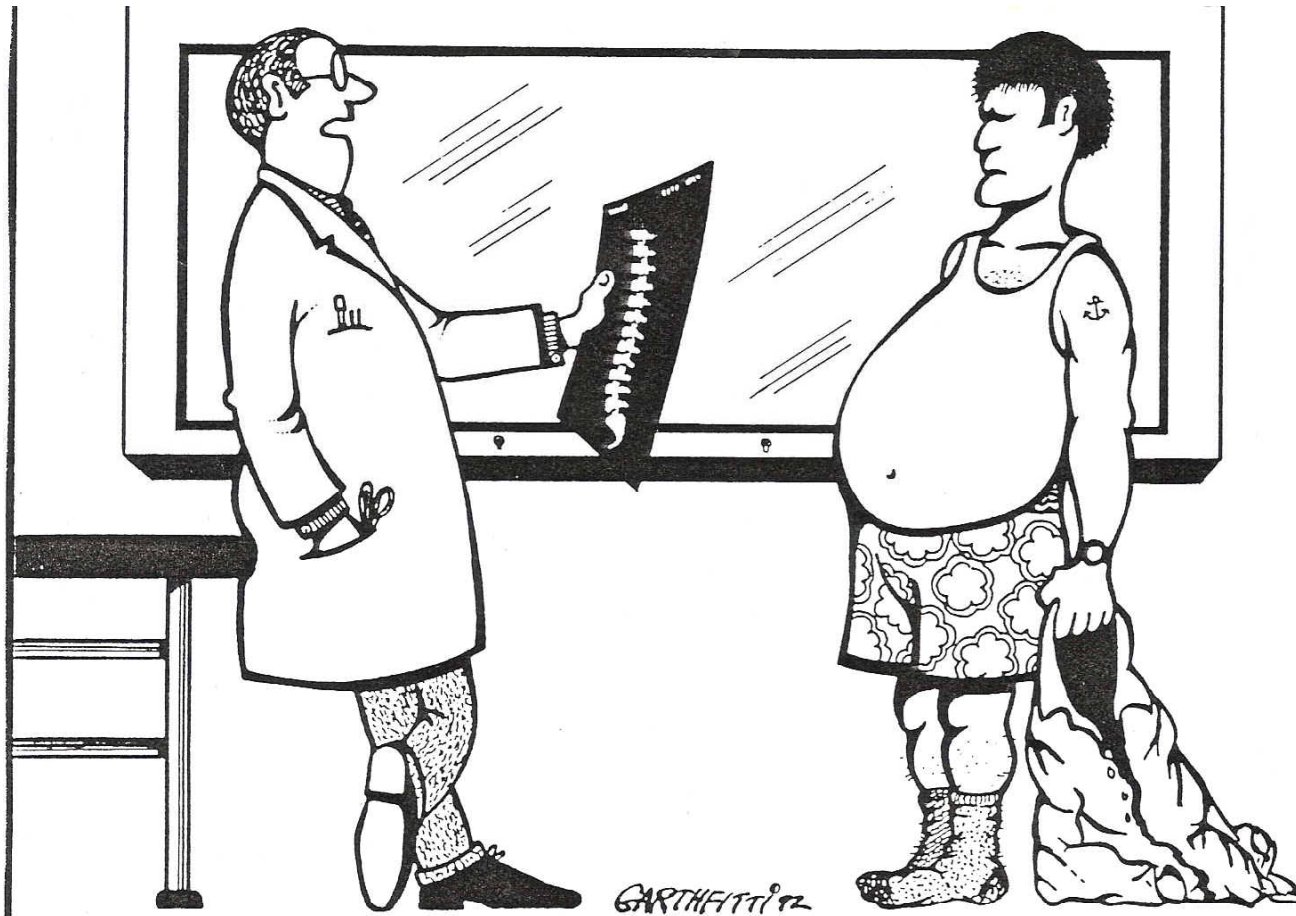
- Take micro muscle breaks
- Getting up every 30 minutes – “Tissue Creeping effect” – re-set tissue
- Do not lift anything immediately after prolonged sitting
- Reduce speed
- Adjust air ride seat weight specific to wgt. of operator suspension
- Job rotation - TLV WBV 4 hrs/day

Recognizing MSD

MSD Stages

1. Experience symptoms at work – can continue to work – decreases with rest, ice
2. Symptoms & Signs come and go more frequently, even after work – usually seeks medical prescription
3. Symptoms & Signs do not leave, disturbed sleep pattern, pain even while resting.

MSD Prevention & Health



"Back problem! You have a front problem."

Fitness Is Important

As we **age**, we lose muscle mass if we are not doing any resistive exercise.

Yet we are doing more demanding work...

Walk 30 minutes everyday

Stretch 5 minutes everyday

Drink more water

Take 5 deep breaths

Eat more often – smaller portions, healthy snacks

