

Spotting the risks: Identifying and reducing musculoskeletal injuries

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Musculoskeletal Injuries (MSIs)

Injury or dysfunction to the bones, joints, muscles, and connective tissue in the body

- Approximately 40% or more of WCB claims in Alberta
- Average claim costs are ~\$10,000
- Indirect costs are an additional 3-10x



Most Common MSI Risk Factors

- Awkward Posture



The Rotator Cuff



Chicken Winging

Elbow flaring out as the worker exerts force.

Rotation of the arm bone within the shoulder socket shearing the rotator cuff against the boney shelf of the shoulder blade.



Anchoring the Shoulders



Hand Grips - Shoveling

Switch Between a Thumb Up and Thumb Down Grip to Protect the Shoulder



Most Common MSI Risk Factors

- Awkward Posture
- Forceful Exertions



Most Common MSI Risk Factors

- Awkward Posture
- Forceful Exertions
- Repetition



Let's do the math...



50 lbs each
x 4 reps

= 200 lbs

50 lbs each
+100 lbs body
= 150 lbs
x 4 reps

= 600 lbs



10 lbs each
x 20 reps

= 200 lbs

10 lbs each
+100 lbs body
= 110 lbs
x 20 reps

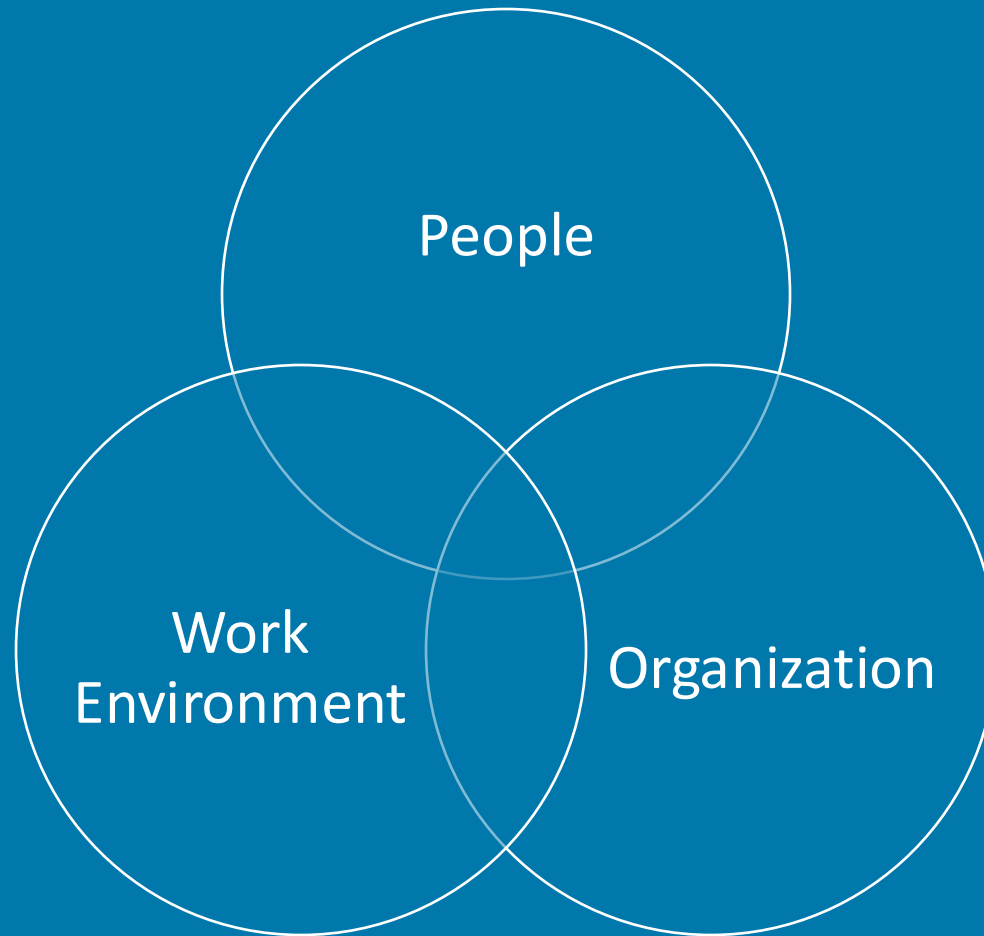
= 2200 lbs

Most Common MSI Risk Factors

- Awkward Posture
- Forceful Exertions
- Repetition
- Static Posture



Reducing MSIs through a human factors lens



Questions?

Thank you!

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