

Before you begin:

- Know your audience and tailor your talk for them. The construction trades have different ergonomic risk factors, so the talk should cover those that are relevant for your audience.
- Allow time for feedback, questions, and brainstorming solutions.



Introduction

Construction is a vital part of Ohio's economy. It involves physically demanding jobs that can lead to overexertion injuries. According to the Bureau of Labor Statistics (BLS), in 2020 overexertion injuries accounted for more than 25% of the total injuries and illnesses in construction. Back injuries account for more than 40% of these musculoskeletal disorders. Ergonomics can help to prevent overexertion injuries.

Definitions

Ergonomics: the field that uses scientific knowledge to design work that fits the worker's capabilities.

Overexertion: an exertion that is beyond the person's physical capability.

Awkward posture: an unnatural position of part of the body, such as twisting or extended reaching.

Discussion

Jobs at high risk for injuries are those that require workers to exert force beyond their capabilities. When you combine overexertion with awkward postures, the risk of injury really shoots up. Back and shoulders are especially vulnerable to cumulative damage from overexertions. Using ergonomic principles, we can make jobs "worker friendly" and safer.

Ways to reduce risk of injury:

- Whenever possible, keep work within your "power zone" – the area between your knees and shoulders, and close to your body.
 - Work at a good height. Waist height is better than floor height. Pipe stands for pipefitters and adjustable scaffolds for masonry workers are examples of working at waist height.
 - To reduce the need for deep bending, store materials at knee or waist level rather than at floor level.
 - To protect your shoulders from injury, keep your elbows as close to your side as possible. Minimize overhead work and extended reaches. Avoid storing material above head height, especially items that are large or heavy.
 - When moving heavy or awkward loads, keep the load as close to your body as possible and avoid twisting. Get a good grip on the load so it doesn't slip as you're moving it, and don't rush or move fast.
- Slips and trips are a major cause of back injuries in construction. Keep floors and walkways clear of clutter that can trip workers. Wet walking surfaces are slippery, so keep surfaces as dry as possible.
- Avoid lifting heavy items by yourself – get someone to help or use something like a cart or dolly to help you move the load.
- Don't forget your hand tools. Make sure you're using the right tool for the job. And while you're at it, make sure tools are running properly and are properly maintained. This is especially true for powered hand tools which can generate vibration that can cause serious damage to your hands.

Conclusion

Applying simple ergonomic practices in the workplace can help prevent cumulative damage to your body. While these suggestions may take a few extra minutes, they will pay off in the long run by allowing you to work pain-free for many years.

Group Activity

Identify jobs which requires awkward postures such as overhead reaches, extended reaches, bending the waist or knees, or twisting the torso. Ask for ideas to reduce either the amount or duration of the awkward postures. Brainstorm ways to keep work in your "power zone" – the area below your shoulders and above your knees.

Resources

[NIOSH Ergonomics for Construction Workers](#)

[CPWR Ergonomic Guides and Checklists](#)

[OSHA-Oregon Construction Ergonomics – Protect Your Back](#)