



Ergonomics

eSafetyLine – Safety Talk

Floor and Ground Level Work

Since construction work is hard work and construction workers feel the results of this work, ergonomics has become an important safety topic of late. The point of ergonomics is to come up with solutions to make sure workers are kept safe, comfortable and productive. Construction workers are at an elevated risk for Work-Related Musculoskeletal Disorders (WMSDs) and ergonomics helps to decrease this risk.

It is necessary at some construction sites to work close to the ground. This is done by kneeling, stooping, bending or squatting. These positions all put added stress on the lower back and knees and can, over time, cause serious muscle or joint injuries. If employees twist while in this position, the risk of injury increases. It should be noted that stooping to do work makes doing the job more difficult. When stooping or kneeling an employee is unable to lift, push or pull with normal force without further risking injury to the body.

The most common injuries that occur from working in a bent over position involve the lower back and the knees. The back is made up of a series of joints between the bones of your back (vertebrae) and the flexible “jelly” filled pads called discs. When stooping the joints bend and squeeze the discs. The more stooping done, the more pressure is put on the discs. This increased pressure can cause the discs to weaken and eventually to burst (herniation). Damage to a disc allows two bones to grind against one another and can cause painful pressure on the nerves that travel to the legs. The knee is constructed much like the joints of the back. There are fluid filled sacs called bursa between the leg bones and the tendons used connect leg muscles to the bones. Long periods spent kneeling can cause these sacs to get squeezed, swollen and stiff. This will cause painful, stiff knees and increase an employee’s risk of developing painful arthritis. It is impossible to completely eliminate floor-level work from construction but some simple changes can help to make it easier on the body. These changes include changing:

- Materials or work process. This would mean using materials, building components or work methods that are less labor-intensive so employees would spend less time kneeling or stooping. The problem is that these types of changes can affect the cost or the contract and would probably require the approval of the architect, engineer or general contractor. A simple way to make this type of change is to use an elevated workbench instead of using the floor.
- Tools and/or equipment. The use of tools with extension handles will allow employees to stand while doing a floor level task.
- Work rules and provide training. Site rules can be set that require the use of benches, table or sawhorses to raise work so less kneeling and stooping is necessary. Limits can also be put into place that limits the amount of time employees can do floor-level work without a break. There are situations when kneeling can not be avoided. Knee pads or some other type of padding should be used to lessen the stress on the knee.

Most of these solutions don't cost much at all and can help the employees avoid life long injuries and pain.

Discussion Questions

What are the most common injuries associated with floor-level work?

How can these injuries be avoided?

MEETING / TRAINING ATTENDANCE ROSTER

COMPANY: _____

_____ SAFETY MEETING

JOB/DEPT: _____

_____ SAFETY TRAINING

DATE: ___/___/___

TIME: _____

TOPICS ADDRESSED: _____

EMPLOYEE'S SIGNATURES

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

EMPLOYEE SUGGESTIONS AND RECOMMENDATIONS: _____

ACTION TAKEN: _____

Supervisor's Signature

_____/_____/_____
Date

Safety Coordinator's Signature

_____/_____/_____
Date