

## Construction Solutions at a Glance - Concrete Form Building

### Description of Issue:

Building and stripping concrete forms is strenuous work, requiring heavy lifting, awkward body postures and repetitive motion. Factors such as the following can influence a person's risk of injury:

- The type of form used, i.e. wood, SYMONS, PERI.
- Assembly of the form while in a poor posture, i.e. bent over at the waist, reaching overhead.
- Walking on uneven surfaces, i.e. rebar.



### Related Injuries

- Low back strain
- Low back disc injury
- Carpal Tunnel Syndrome
- Shoulder strain

### Possible Solutions:

#### 1 – Selection, Set-up and Maintenance of Concrete Forms

- Choose the right form for the job.
- Minimize strenuous and repetitive tasks during construction.
- Minimize concrete adhering to the form by using clean forms and high grade form release (form oil).



#### 2 – Building Concrete Forms

Minimize a person's risk of injury by:

- Locate materials close to where the forms will be built.
- Encourage "team" lifting, balance the load, use dollies or forklift if possible.
- Preassemble at a comfortable working height. Avoid bending at the waist.



#### 3 – Stripping Concrete Forms

Minimize a person's risk of injury by doing the following:

- Keep work area clean and free of debris
- Use longer pry bars
- Use pulling devices like come-a-longs.
- Use a form truck, crane or forklift to move forms around the job site.



#### • Guideline for developing *your* solution:

Select and maintain the forms you use. Encourage proper handling of forms. Minimize over exertion during form stripping.

# Construction Solutions at a Glance

*BACK and SHOULDER injuries are two common cumulative injuries occurring in the Construction Industry. Due to the changing nature of a construction job site and the varied tasks performed by workers, it can be difficult to identify changes to reduce the risk of injury.*

**Solutions at a Glance** is targeted at common causes of back and shoulder injuries. If your operations involve "The Issue", then the Solutions at a Glance will help prevent worker injury.

## **Don't Become A Statistic**

Studies<sup>1</sup> have shown:

- Over 90% of construction workers surveyed reported experiencing symptoms of musculoskeletal pain or discomfort in the prior 12 months.
- Most prevalent symptoms are in the back, knees, neck and right shoulder.
- 25% of injuries in Construction are back injuries.
- Average cost of a back injury \$14-\$18,000.  
Average cost with surgery \$60,000.

<sup>1</sup> Holstrom (1993), Schneider and Susi (1994), Institute of Occupational Safety and Health (1997)

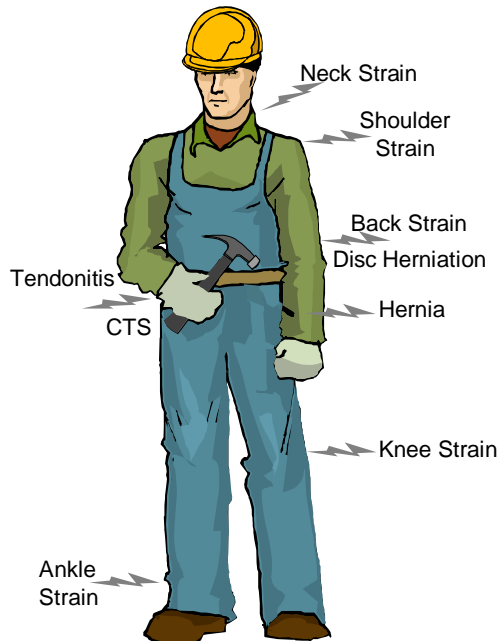
## **Risk Factors that contribute to Cumulative Injury**

Posture – bending over at the waist, twisting, raised elbows, reaching overhead, prolonged kneeling or stooping.

Force – lifting more than 50lbs, holding an object or tool in a stationary position, kneeling on a hard surface.

Repetitive Motion – hammering, drilling, turning a ratchet or driver.

Environment – Heat, cold, vibration.



## **Ways to Prevent Injury**

Engineering Controls – Eliminate the task causing the risk of injury such as:

- Minimize manual lifting. Use a lift.
- Minimize hand tools. Use power tools.
- Avoid hand shoveling. Hire experienced equipment operators.

Administrative Controls – Manage the exposure.

- Rotate employees through difficult tasks.
- Follow Safe Work Practices.
- Reward safe behaviors.
- Provide training

Behavioral Controls

- Life style choices
- Stretching / warm-up
- Personal fitness and overall wellness
- Diet
- Not smoking

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