**Ergonomics-TBT- Overexertion**

Many workplace injuries are a result of overexertion caused by lifting, pulling, or pushing objects. Overexertion is spraining a ligament or straining a tendon or a muscle and occurs when the amount of work attempted exceeds the limits of the body parts doing the work.

People with a preexisting condition, limited mobility, or aging limitations are more prone to overexertion injuries. In some cases individuals will overuse one body part to compensate for the limitation of another body part.

Overexertion injury is likely to occur in four ways.

1. **High force demands.** This can happen when lifting, pushing, pulling, carrying, gripping, and using tools.
2. **Awkward or stationary posture.** This can occur when bending, twisting, reaching, and kneeling.
3. **Repetitive movements or actions.** Doing the same motion repeatedly without taking a few small rest breaks can cause this.
4. **All other overexertion hazards**. This includes contact stress, hand-arm vibration, whole-body vibration, hammering with hand, and working in cold temperatures or hot environments.

The best way to prevent an overexertion injury is to work through the task in your head to figure out the way to best perform the work with the least amount of energy and then follow through with the plan by taking necessary precautions. A major precaution includes using proper lifting guidelines.

* Get a good grip. Grasp the load firmly. Use gloves if they allow for a better grip.
* Get a good footing. Center body weight to provide a powerful line of thrust and good balance.
* Keep it close. Grasp the load firmly and lift towards the belt buckle. Hold the load close to the body to avoid putting pressure on the back.
* Lift smoothly. Raise, carry, and lower the load smoothly. Never jerk a load.
* Avoid twisting. If turning is required while lifting or carrying a load, turn the feet and body instead of twisting the back.
* Push. Push rather than pull the load.

Some other guidelines to reduce the risks of overexertion injuries:

* Ask for help when moving heavy objects.
* Use material handling devices, carts, or hand-trucks to move heavy items.
* Plan a route when moving items. The route should be free from slip or trip hazards.
* Use tools with easy to use handles or grips and have vibration-reducing features.
* Reduce total exposure to vibration by alternating between tasks that use vibrating tools and tasks with non-powered tools.
* Establish a suitable working height depending on the type of work being done.
* Utilize stools and anti-fatigue matting at work stations for tasks with prolonged standing.
* Place materials used often between waist and shoulder height.
* Place less frequently used materials in less desirable locations, such as on the top shelf.
* Utilize different tasks to a job to increase a variety of physical movements, in an effort to prevent repetitive motion injuries.
* Use kneepads while kneeling or padded gloves when lifting to reduce contact stress over long periods of time.
* Know your limits and respect them. Listen to your body when it tells you to stop.