

The role of warming up and stretching at work

Workplace Safety | Ergonomics



Musculoskeletal disorders (MSDs) are one of the leading causes of injuries and illnesses in the workplace, impacting many occupations in industries of all sizes (*U.S. Bureau of Labor Statistics, 2014*). The Occupational Safety and Health Administration (OSHA) estimates that MSD injuries cost \$20 billion a year in direct workers compensation costs and up to five times as much indirect costs.

Companies have implemented ergonomics programs and have demonstrated that effective interventions have resulted in reduction of MSDs, workers compensation costs and turnover, and also increased productivity. These programs generally incorporate both engineering controls (adjustments to process, tools, equipment and work environment) and administrative controls (policies, procedures and practices) to help ensure that the work adequately and properly fits the capabilities of the worker. Companies also include stretching and warm-up exercises as part of their ergonomic programs. The intent of these exercises is to help condition muscles, tendons and tissues and improve flexibility to help reduce potential musculoskeletal-related discomfort, disorders and injuries. Warm-up and stretching exercises should be part of a comprehensive ergonomics program, rather than a stand-alone program, to be most effective.

A common industry perception is that any stretching exercise is valuable; this is not necessarily true. The value of the stretching exercise can depend on many factors, including its purpose, when it is done, the structure in which it is done and even individual factors, such as the age and fitness level of the participants. Warm-up and static stretching are types of exercises that can play an important role in a workplace stretching program depending on the job tasks and purpose.

Warm-up exercises

Warm-up programs, also referred to as mobility movements, are designed to improve the ability of workers to perform their tasks safely by increasing their readiness for activity – for “waking up muscles.” These types of

warm-up exercises are best for employees who complete more physically demanding work, like a construction worker, maintenance mechanic, or delivery driver, and are performed at the beginning of a shift or after a long period of inactivity. The warm-up involves movement and muscle effort that mimics movements used in a specific activity in a slow and controlled manner. It involves a body in motion versus a body standing still (static). The muscle is moved through its normal range of motion, exerting a force on muscles and tendons where the movement takes only 3 to 5 seconds. The warm-up routine is intended to raise muscle temperature, enhance blood flow through muscles and decrease muscle stiffness. Cold muscles and tissues can be more susceptible to injury. Warm-up exercises may help to:

- Improve range of motion and flexibility
- Lengthen and strengthen muscles
- Improve balance and coordination
- Increase endurance, power and performance

Static stretching

Several studies have investigated the effects of static stretching in the workplace. Static stretching consists of stretching a muscle and then maintaining or holding that position generally for up to 30 to 60 seconds. It involves the body at rest/standing still; hence, it is “static.” To be most effective, this form of exercise should be performed daily, several times throughout the day. The amount of time the stretch should be held to reap benefits varies by a number of factors, such as age, physical fitness and prior injuries.

In an office environment, postures can be held in a specific position for prolonged periods of time, which can result in a shortening of certain muscles and connective tissues with a decrease in overall range of motion (ROM) and flexibility. Static exercises are believed to be a safe way to elongate soft tissues, increase ROM and improve joint and muscle health for more sedentary individuals, such as office workers. The benefits of static stretching may help to:

- Improve flexibility, range of motion and joint and muscle health
- Prevent soft tissues from absorbing high amounts of energy over a short period of time
- Promote muscle relaxation and alleviate muscle soreness/discomfort

Concluding remarks

Warm-up exercises and static stretching programs can be a beneficial component of an ergonomics program. Employees should consult with their physician before taking part in any stretching or warm-up program. These programs can be effective in helping to increase flexibility and muscle movement. Static stretching may be better suited for individuals with sedentary jobs, such as office workers. Workers who perform jobs that are physically demanding may benefit more from a warm-up routine prior to working. It is best to review your organization’s program and consult with a medical professional (e.g. physician, occupational or physical therapist) who can also determine if your employees are performing stretching and warm-ups appropriately.



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To help improve comfort and reduce the effects of sitting in one position all day at your desk, consider performing these stretches.

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- [Online Training: Office ergonomics - symptom solver self-evaluation tool](#)

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