



SPRAINS AND STRAINS FACT SHEET

What are sprains and strains?

Sprains and strains are two types of musculoskeletal disorders (MSDs). In the work environment, strains and sprains are caused by excessive reaching, bending, lifting, gripping, squatting, or twisting of hands, shoulders or body. In general, any work performed with high force, with many repetitions, or in a position that feels awkward is risky. Even a motion that is harmless in and of itself, like stretching out the arm to grasp an object or squeezing a tool, may put the worker at risk of injury if it is repeated over and over.

How does a sprain differ from a strain?

A *sprain* is a stretch or tear of a ligament (a band of fibrous tissue that connects two or more bones at a joint). One or more ligaments may be injured at the same time. The severity of the injury will depend on the extent of the injury (whether the tear is partial or complete) and the number of ligaments involved.

A *strain* is an injury to a muscle or tendon (a fibrous cord of tissue that connects a muscle to a bone). Depending on the severity of the injury, a strain can be as simple as an overstretching of a muscle or tendon, or it can be the result of a partial or complete tear.

What causes sprains and strains?

A sprain can result from a fall, a sudden twist or blow to the body that causes a joint to move out of its normal position and stretches or tears the ligaments supporting that joint. Common sites in the body where sprains occur are the ankle, knees and wrist.

A strain is caused by twisting or pulling a muscle or tendon. Strains can be either acute or chronic. An acute strain is associated with a recent injury or trauma. It can also occur following improperly lifting heavy objects or overstressing the muscles.

What factors in the workplace contribute to sprains and strains?

Aspects of work tasks that can lead to fatigue, musculoskeletal disorder (MSD) symptoms and injuries, or other types of problems may be present in one or more tasks that employees must perform to accomplish their jobs. The contributing factors that employers and employees should be aware of include:

- Awkward postures
- Repetitive motions
- Forceful exertions
- Pressure points
- Vibration

What guidance exists to aid employers in preventing sprains and strains?

NIOSH (National Institute for Occupational Safety and Health) has published [guidelines](#) specific to various occupational settings (e.g., farm work, construction and nursing homes) and age groups (adolescent workers) that, if followed, can help reduce the chance of job-related sprains and strains.

Where can I find additional information?

Please refer to the NCDOL [Ergonomics Subject Index](#) page.