# FACT SHEET

UNIFOR

## *PHYSICAL HAZARD*

### WORKING ON YOUR FEET

Many workers in the manufacturing industry, hospitality industry, health care industry and retail industry work on their feet for more than half their shift.

### How Are Feet Affected?

The foot has dozens of bones, joints, muscles, nerves, blood vessels, tendons and layers of fascia (connective tissue). When body tissues become are overly stressed, they become swollen or inflamed. Chronic inflammation may create scar tissue and changes to bony structures.

The bones of the foot form arches that are supported by ligaments and muscles. These arches contribute to the strength, stability, mobility, and resilience of the foot. During standing, walking, running or jumping, the arches serve as shock absorbers, spreading energy before it is transferred higher up the leg.

If the arches are lost (for example through conditions of flat foot, overpronation or simple overuse) the shock -absorbing quality of the arches disappears. This affects the feet, knees, hips and spine. Losing the arch in your feet also changes the position of the knee and hip, which makes them more vulnerable to injury from working on your feet.

Prolonged standing and walking can also make worse pre-existing conditions such as plantar fasciitis, Achilles tendonitis, bunions and corns.

### What Are Health Symptoms From Working on Your Feet?

The most common symptom from working on your feet, and usually the first to occur, is discomfort and fatigue in the legs. The closer the body part is to the ground, the more likely it will be affected by prolonged standing (i.e. the feet are most often affected, followed by the shins and calves, followed by the knees, thighs, hips and low back). However, symptoms from working on your feet may reach to the top of your body. In some studies neck symptoms have been related to prolonged standing at work.

As well as simple fatigue and discomfort, more serious health effects can result from working on your feet:

- low back pain
- painful feet and other foot problems
- plantar fasciitis and heel spurs
- orthopaedic changes in the feet
- restricted blood flow (prolonged standing)
- swelling in the feet and legs

- varicose veins
- increased chance of arthritis in the knees and hips

Initial symptoms can start within minutes into a standing task. Health affects have been shown to accumulate within days.

## What Causes These Problems?

## Joint Compression

Gravity squeezes your joints under the weight of your body. Each body part is compressed by all of the sections above it. Your feet are compressed by the weight of your whole body.

Compressing a joint is like squeezing a sponge B body fluids are squeezed out of the space in the joint. Without body fluids and circulation, your joints become malnourished, and cannot continue to support the weight of your body. Wear and tear of body parts occurs.

## Postural Muscle Fatigue

Postural muscles keep your body from falling over while you're standing or walking. Standing or walking for a long time forces these muscles to work without a rest. Without rest these muscles become exhausted, resulting in pain.

## Insufficient Blood Return in the Legs

Gravity pulls blood down into your feet. One way that blood is pushed back up to your heart is through cyclic muscle contractions, often called a "muscle pump". If the muscles are engaged in one long contraction to keep you standing, they cannot produce a muscle pump and return blood properly to your heart. Continuous muscle contractions also hinder circulation of body fluids.

## Walking Causes Additional Problems

Your heel lands on the floor with a force of 1 2 to 2 times your body weight in regular walking. Such impacts can cause microscopic damage. Without enough rest (i.e. sitting or lying down) these microscopic traumas can build up into an injury.

## What Should Be Done?

## Reduce the Time Spent Standing or Walking

Many jobs could be done sitting, rather than standing, such as sewers' jobs, cashiers' jobs or front desk jobs in a hotel. For jobs where the bulk of the work must be done standing or walking, seats should be provided in the work area so that there are opportunities to sit even for brief periods. Working on your feet for more than 30% of the work shift can produce health effects, so we must raise these issues in our health and safety committee meetings and at the bargaining table. We need to negotiate suitable chairs with backs for workers and more rest periods for those who must stand or walk. Workers in grocery stores and retail

salespersons in Europe are provided sit-stand stools with backs. There is no reason workers in Canada should have to stand all day.

Alternate standing and walking with sitting. Sitting allows your upper body to be supported by the seat, instead of your legs and low back.

Make work surfaces height-adjustable to allow both standing and sitting. If the height of the work surface cannot be changed, the person can be raised by positioning a temporary platform underneath the worker. Make sure these platforms can be removed for taller workers.

## What if Sitting is Not an Option?

- Alternate standing with walking, which has a muscle-pump effect to improve circulation.
- Shift your balance. This allows one leg to rest while the other supports your body. The other leg can rest when you shift back to the first leg. This also aids blood flow in the legs.
- If you have to stand in one place, put one foot up on a 20 cm (6 inch) stool. Some service counters have foot rails for this purpose.
- To avoid prolonged standing, organize your workspace to encourage periodic walking (e.g. position a storage cabinet on the other side of the room) B it isn't always the best to have everything within arms reach if you will be standing for 8 hours straight.

## Modify the Floor Surface

Floors in most buildings have a concrete base. **Concrete is generally the worst surface to stand on.** Therefore, any padding over the floor (e.g., carpets, mats, even cardboard) will reduce the effects of working on your feet.

## Anti-Fatigue Mats

- Anti-fatigue mats should be used wherever workers have to stand for long periods of time.
- Thicker and softer mats may not be the best as they may increase workers' leg and back fatigue.
- The best test of the effectiveness of anti-fatigue mats is asking the workers and using their preference.
- Anti-slip mats are not anti-fatigue mats.
- Anti-fatigue mats should be designed so they do not slide on the floor and in slippery areas such as kitchens and laundry areas, use specially designed anti-fatigue mats.
- Anti-fatigue mats do not last forever so replace them when they are worn.
- Anti-fatigue mats must have sloped edges so they don't become a trip hazard and it is easy to roll carts over them without running into a bump.
- Easy cleaning and sanitizing of the mat is important.

## Provide Foot Clearance at Standing Workstation

Tables should have foot clearance space to improve standing work postures.

## You Also Need Good Shoes

- Wear effective, cushioned, comfortable footwear. Simply wearing a new pair of shoes with sufficient cushioning may help fatigue and discomfort considerably.
- Wear shoes that do not change the shape of your foot.
- Shoes should have a firm grip for the heel, but allow freedom to move the toes. Your feet should not slip inside your shoes, or the instability will lead to soreness and fatigue. Shoes with laces allow more control of how your shoe fits.
- Wear shoes with arch supports.
- Shoes with flat soles or with heels higher than 5 cm. are not recommended. Your heel should be elevated between 1 cm or a bit more.

## And You May Need

- Insoles or orthotics.
- See a chiropodist if you have any unresolved foot problems such as pain, calluses or corns. Uneven wear on the bottom of your shoes may also indicate a need.

## Pregnant Workers

If you are pregnant, working on your feet for six or more hours per day can harm your fetus. It has been related to pre-term births and to low birth weight.

## Recommendations for Pregnant Workers

- Limit standing to less than two hours in a row. Even with this limit, floor matting should be provided.
- Prolonged sitting (more than two hours in a row) is also not good for the fetus, so pregnant workers should be able to switch frequently between sitting and standing.
- Workstation arrangement may have to be altered to accommodate the pregnant worker.
- Pregnant workers should take frequent rest breaks with the legs raised.

## Bargain Changes

We need to negotiate suitable chairs with backs for workers and more rest periods for those who must stand or walk along with footwear allowances and benefits for chiropodist services and orthotics.

*Information in this fact sheet comes from the Occupational Health Clinics for Ontario Workers.*

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