

Personal Safety

Improve Safety Through a Work-Life Balance

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The standing worker. You know who they are. They are in factories, healthcare, and other service environments. Eight hours a day they stand, typically on a hard surface such as concrete or tile. They then go home to ice, pain relievers and eventually just learn to survive with the aches and pains.

Anyone who stands all day at work knows how tiring that can be. Standing causes muscles to constrict, which leads to reduced blood flow. This makes muscles and joints hurt, and it causes blood to stagnate, which can cause varicose veins. In addition, long-term standing causes pronation, or extensive flattening of the foot. While this can be simply tiring and a bit painful, it can also lead to plantar fasciitis and other serious conditions.

Plantar fasciitis or heel spur syndrome is the heel bone's reaction to repeated stress or weight bearing. Constant stress and pressure cause the ligament on the bottom of the foot, known as the plantar fascia, to become inflamed. The plantar fascia forms the foot's arch by working like a rubber band between the heel and ball of the foot. Plantar fasciitis happens more often in older people because their plantar fascia have become more like ropes than rubber bands, and the shock-absorbing pads of fat in the heels have worn down over time. People who are overweight also are at higher risk because their body weight puts additional stress on their feet.

Often, because of tension in the ligament, a bony spur will develop in the heel of the foot. The spur, however, is not the source of pain. The inflammation of the ligament causes the searing pain along the bottom of the foot, which some have compared with being pierced by a pin or knife. The pain is often most noticeable first thing in the morning, and its sharpness usually becomes a dull ache after standing or walking for a while.

Besides the obvious loss of work with the more serious conditions, there is a domino effect that goes unnoticed, way before a serious condition. As a worker stands on a hard surface over a period of time, the reduced blood flow and initial pains set in, and there is a loss of productivity and focus caused by fatigue, which can lead to reduced production, mistakes and lowering morale, which eventually leads to a lack of concern for quality, and as a result an increase in production costs, which are outside of any medical cost or lost days.

A Proven Cost Reduction

Many studies have been done to find a sustainable solution. Anti-fatigue mats are an integral part of many ergonomic and safety programs. Standing workers love them, but production managers need to be able to justify the financial investment. Although perception studies have proven workers feel much better when they use anti-fatigue mats, one company wanted to go a step further and prove that anti-fatigue matting actually increases worker productivity — resulting in real savings for the company. This study examines the bottom-line impact of using anti-fatigue matting and essentially proves a positive return on investment (ROI).

The company did a 12-month ergonomics study. It was designed to answer several questions:

- Does standing on the job contribute to fatigue?
- Does the use of anti-fatigue matting lessen standing workers' fatigue?

- Can using anti-fatigue matting be linked to increased worker productivity?
- Can anti-fatigue matting generate cost savings?
- The company used in the study was a manufacturer of commercial ovens. It was one of the largest and "best" employers in terms of wages and benefits for the standing worker, but they had a high injury rate and a high rate of absenteeism — as high as 10% on Mondays.

MORE OF THE COMPANY'S STATISTICS	
Number of Employees	175 in Manufacturing/Assembly
Number of Shifts	2
Location Population	Less than 5,000
Average Employee Tenure	4 years
Average Employee Age	41
Mean Employee Age	35

Before the installation of anti-fatigue matting, a questionnaire was given to workers to assess

- Their current work surface (e.g., concrete)
- The overall level of fatigue before and after their shift
- The fatigue and discomfort level of their legs and feet before and after their shift

Once the matting was installed, the workers then completed that same questionnaire on a monthly basis for 12 months. The workers' perceptions were very clear: The participants felt considerably less fatigued before and after work when using anti-fatigue mats. In addition, the at-risk areas of their bodies, such as legs, feet and lower back, were much more comfortable when anti-fatigue mats were used.

INSTALLATION FACTS	BEFORE MATS	AFTER MATS	IMPROVEMENT WITH MATS
Injury Rate	>3 per month	<1 per month	70%
Absenteeism	5.2% (up to 10% on Mondays)	4%	23%

The installation of anti-fatigue mats resulted in an estimated 2.2% increase in productivity due to lower absenteeism and injury rates and a \$60,000 reduction in insurance premiums. The numbers prove it.

Through this study, the company was able to prove that anti-fatigue matting is good for employees and good for the business. The company **realized a cost savings of \$360,000 over the course of the one-year study.**

COST SAVINGS RELATED TO ANTI-FATIGUE MATS	
Increased Productivity	\$300,000
Insurance Premium Reduction	\$60,000
Total Cost Savings	\$360,000

Concrete Does Not Stand

Many studies have been completed to determine the statistics of occupational safety and injury prevention. The United States as a whole outranks every other country in the total number of fall-related injuries, but with more and more increase in manufacturing around the globe, those studies are now increasing on a global level, along with the data for tracking. The International Labour Organization implemented a new occupational injury database in 2009. The first few years of tracking have found there have been over 100,000 fall injury related deaths outside of the United States, increasing the actions of implementation of legislation at global levels. This data is admittedly still in its infancy, but with the number of fatal fall injuries in the U.S. being roughly 26,000, a safe calculation could be a 1:4 ratio for fatal falls, one could rationalize a similar relevance on occupational non-fatal falls. In the U.S. there were 225,550 non-fatal injuries due to falls, slips or trips, with a 1:4 ratio; on a global level that would calculate out to over 800,000 non-fatal injuries due to a fall, slip or trip.

Unfortunately, with a study of these statistics over a 4-5 year period of time, the numbers have not decreased. Slip, trip and fall stats reveal they are still the third leading cause of missed workdays and fourth leading cause of work-related deaths.

More workplaces need to implement anti-fatigue matting or flooring solutions to reduce workplace falls, slips and trips, and as a result, fatalities. In addition to the potential savings that is staggering, there is vast data that shows improvement of morale when a balanced work/life is achieved. The worker that is less fatigued and does not suffer from aches and pains as a result of standing on concrete all day has a better relationship with their job and employer; that in turn promotes a safer, compliant and more productive work environment.

For more information about Wearwell matting systems, please visit MSCDirect.com.

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