



WEEKLY SAFETY TIP

Back Safety



BACK SAFETY



- The Tips:**
- 1. Back pain is not caused just by heavy lifting.**
 - 2. Constant bending can be troublesome.**
 - 3. There are new technology-based PPE-type solutions.**

A healthy back is invaluable and for many their livelihood literally depends on it.

Unfortunately, movements essential to a fast-paced workday—such as overexertion from repeatedly bending over to pick up and put down boxes—can create cumulative damage that increases the risk of a work-related musculoskeletal disorder (WMSD).

Obviously then, there is good reason to take WMSDs seriously: OSHA said WMSDs are among the most frequently reported causes of lost or restricted work time, and the annual cost for treatment and lost wages from back pain domestically is \$253 billion, according to the [Bone and Joint Initiative](#).

Amazon has increased its attention and directed financial resources to combat WMSDs with its *WorkingWell* program, which is a step in the right direction. Amazon had good reason to emphasize warehouse safety, since it recorded 5.6 injuries per 100 workers in 2019, while the national average for the warehousing and storage sector was 4.8.

Because even the 4.8 average is still too high, it's important to understand why logistics/warehouse workers are at-risk of suffering back-related WMSDs that could turn into chronic pain.

Back pain is associated with heavy lifting—somebody grimacing and feeling the pain in the lower back ramp up after trying to haul something too heavy.

However, repetitively loading the back and the awkward postures that come with moderate lifting as well as frequent and static bending can add up to be a very painful (and expensive) problem.

Let's take a look at why movements like bending are so bad for your back.

The Science Behind Back Pain

The back functions like a see-saw: The spine works as the fulcrum with your body weight and anything you're holding on one side, and your lower back muscles pulling on the other. Even standing upright, muscles in your back pull downward to keep the front of your body upright.

When you bend forward even just a few inches, muscles along your back and legs engage and pull on your upper body with about 100 pounds of force to keep you balanced. And that's only bending forward a few inches and holding no extra weight.

Bending all the way down to put a **25-pound box** on the floor or pick up a bag of dog food can require back muscles to pull with **300-500 pounds of force on your lower back**.

With all those repetitions and forces, the spine and its muscles and surrounding tissues can easily become fatigued, and that's when the risk of injury jumps way up.

Considering how much bending and lifting warehousing workers do every day, it's no wonder WMSDs can be such a serious issue.

Back Pain Is a Symptom of the Real Problem

Remember, **back pain is a symptom of the problem.**

The real problem is the strain, fatigue and wear and tear from frequent forces and awkward postures that material handling workers' spines must endure every day.

So no, back pain is not caused just by heavy lifting. . . There definitely are back injuries from heavy lifting (and precautions should be in place that prevent anyone from even attempting such a lift), but constant punishment from bending and moderate lifting exposes workers to risk for an injury that could not only prevent them from working today, but also risk plaguing them with a lifetime of chronic back issues.

It's important that companies are putting a greater emphasis on injury prevention—Amazon said it's investing \$300 million in safety projects this year and that the company has seen a 32 percent drop in WMSDs in 2020 compared to the previous year.

Some aspects of Amazon's "[WorkingWell](#)" [program](#) include:

- Watching videos about injury prevention and proper lifting technique.
- Hourly prompts that guide workers through stretching and breathing exercises.
- Staffing schedules that rotate employees among jobs that use different muscle groups to reduce repetitive-stress injuries.

These strategies are certainly helpful in combating WMSDs, but there are new tools available for companies that want to lower the risk of back injuries before they happen.



New Tools Like Exosuits Can Help Protect Workers

Companies are using exosuit technology to protect their workers. Some exosuits on the market are practical for logistics companies because they are comfortable and provide much-needed back assistance without compromising freedom-of-movement.

To be a realistic option for logistics workers, exosuits can't get in the way. That's something to really keep in mind, especially for logistics workers who are constantly on the move but need that back assistance: Freedom-of-movement and comfort are critical for occupational wearables.

That's why many exosuits are designed to be lightweight and ergonomic, with the question of practicality in mind: ***Can a worker wear this and still perform their job?***

To learn more sites like [ExoskeletonReport.com](#) offer balanced and relevant information.

America has a back pain crisis and heavy lifting isn't the only reason behind it. The repetitive, physical movements logistics workers need to make every day put a target on their backs and increase their risk of suffering chronic back pain.

On the bright side, modern tools like exosuits are here to help companies looking to fight this billion-dollar back pain problem and equip a healthier, safer workforce.

Source: an article by Matthew Marino in October 2022 issue of *Occupational Health & Safety*

David A. Varwig, CSP-retired for SCNWO October 2022

WEEKLY SAFETY SHARE



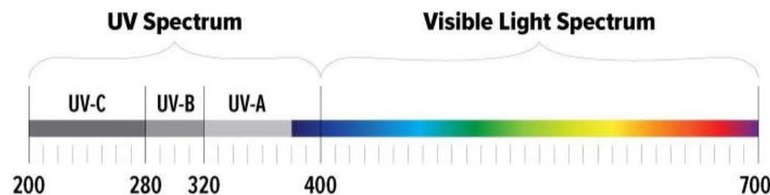
How effective is UV-C for Industrial Hygiene?



SAFETY & HEALTH SHARE

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How effective is UV-C for Industrial Hygiene?



The COVID-19 pandemic brought the need for advanced disinfection techniques into sharp relief.

UV-C disinfection is a popular choice for hospitals and other medical facilities, but how effective is it for industrial hygiene?

Variations of UV Radiation

UV — or ultraviolet — radiation exists on a wavelength visible to the unaided eye. Scientists break this radiation into three primary types — UV-A, UV-B and UV-C.

The sun emits all three wavelengths of UV radiation, though UV-A and UV-B are the only ones that reach the surface. The atmosphere and ozone layer typically absorb UV-C.

UV-A and UV-B exposure are necessary to help the human body produce vitamin D, but excessive exposure can lead to sunburn and premature aging in the short term. It can also increase an individual's risk of developing skin cancers such as melanoma.

While UV-C might not make it through the atmosphere, it is possible to replicate this ultraviolet wavelength and use it here on Earth.

How Effective is UV-C?

Researchers classify UV-C radiation as germicidal. They may also refer to it as ultraviolet germicidal irradiation or UVGI.

Exposure to this wavelength of light works to deactivate the DNA in any microorganisms it encounters, including but not limited to — bacteria, viruses and mold spores.

UV disinfection is a popular choice for destroying microorganisms in drinking water, making wastewater treatment safer, improving food safety and even promoting plant growth.

During the COVID-19 pandemic, many building owners explored the potential for UV-C lamps in HVAC systems to kill airborne pathogens like COVID-19.

Research shows these lamps have the potential to inactivate or kill up to 98% of airborne pathogens within just five minutes of exposure.

While COVID itself was not airborne, it could travel through HVAC systems on respiratory particles.

Risks of UV-C Exposure

HVAC units and ductwork also employ UV-C disinfection techniques inside their systems. Building designers can also install it in upper air systems where people won't be exposed to UV-C light.

This wavelength of light can degrade some materials over time. While exposure risks drop off around one foot from the light source, long-term exposure can cause various damages to human tissues. Research found direct exposure to UV-C light can cause corneal eye injuries and severe acute skin damage.

To minimize exposure, working in areas utilizing UV-C light for disinfection requires personal protective equipment (PPE), including UV goggles or face shields and attire covering all exposed skin. If decision-makers hope to implement UV-C in their facilities, they will have to require the proper PPE and safety training to reduce the risk of damage.

Using UV-C for Industrial Hygiene

Industrial hygiene focuses on identifying and eliminating or controlling workplace stressors and risks potentially impacting the well-being of workers. **UV-C can be a valuable tool for companies with teams working closely.** It can work in building HVAC systems and could also double as a tool for disinfecting common surfaces such as tabletops or doorknobs.

This disinfection technique became vital throughout the COVID-19 pandemic and could help to prevent the spread of other viruses beginning to spread globally, such as monkeypox.

Monkeypox can spread through direct contact with an infected individual or contact with surfaces the individual has touched. CDC guidance states orthopoxviruses — such as monkeypox — are very sensitive to UV light, so UV-C disinfection could help prevent the virus from spreading within the workplace.

UV-C light can also help destroy fungal spores in interior spaces, preventing the spread of mold and mildew.

UV-C can also help improve interior air quality by destroying bacteria and viruses and other organic airborne contaminants. It has no impact on inorganic contaminants, such as carbon monoxide and other common pollutants, but it can remove many organic problems from a building's HVAC system.

Looking Forward

The larger the team and the closer together they work, the more likely an infection will be able to spread quickly between them.

Introducing tools like UV-C can help improve industrial hygiene and keep employees safe and healthy in the long run.

Acknowledgement: from an article by Jane Marsh for ISHN dated October 3, 2022

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