

SAFETY TRAINING

# ERGONOMICS IN THE WORKPLACE

2020

# BY THE NUMBERS

## Ergonomics

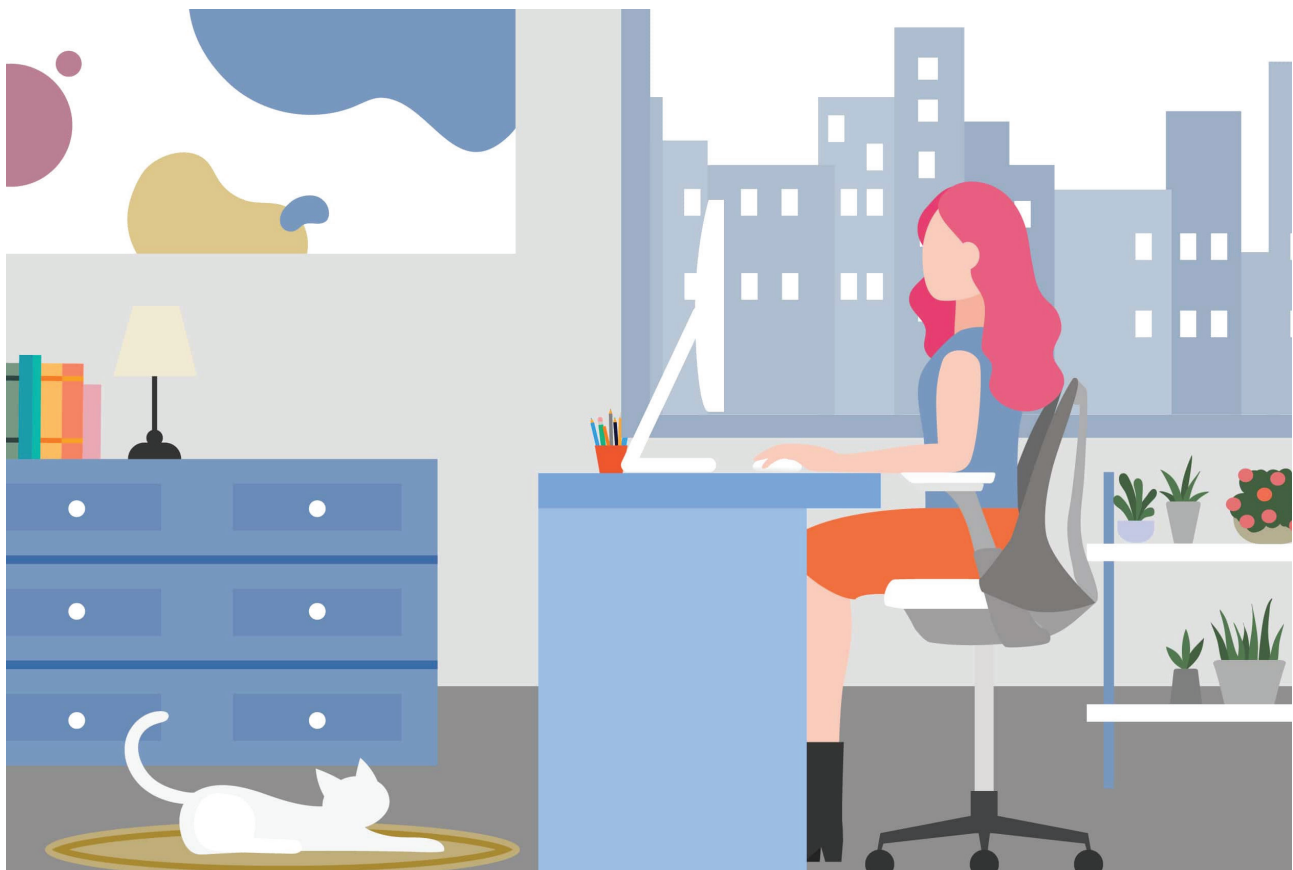
### DID YOU KNOW?

The goal of ergonomics (i.e. the scientific study of people at work) is to prevent soft tissue injuries and musculoskeletal disorders (MSDs) caused by sudden or sustained exposure to force, vibration, repetitive motion, and awkward posture. To create an ergonomically sound work environment, NIOSH ergonomists and industrial hygienists recommend designing tasks, work spaces, controls, displays, tools, lighting, and equipment to fit employee's physical capabilities and limitations.

### INTERESTING ERGONOMICS INDUSTRY STATISTICS

- Ergonomics-related injuries accounted for over 380,000 days-away-from-work cases in 2013, which was the last year data was made available. That means 1 in every 3 cases are because of an ergonomics issue. (Bureau of Labor Statistics)
- Carpel tunnel syndrome may affect as many as 1.9 million people in the United States. Doctors perform up to 500,000 surgeries each year to correct this issue. (Centers for Disease Control and Prevention [CDC])
- In 2001, there were almost 27,000 CTS cases which involved days away from work, averaging 25 days away, compared to just 6 days for all non-fatal illnesses and injuries. (Bureau of Labor Statistics)
- Two occupational groups account for 70% of all CTS cases that are recorded each year: administrative, sales, and technical support and operators, fabricators, and laborers. (CDC)
- 79% of the back-injury cases which occur in work-related environments are suffered by workers in the 25-54 age demographic. 64% of these injuries are suffered by men. (Bureau of Labor Statistics)
- 86% of office workers say that they have experienced soreness or strain because of their office equipment or furniture. (Staples Business Resource Center)
- 71% of office workers say that their chair has caused them back pain at some point in time. (Staples Business Resource Center)
- 74% of office workers say that using their keyboard contributes to either a wrist strain or an injury while completing their work duties. (Staples Business Resource Center)
- 41% of workers complain about having neck pain because of the design of their personal working space. (Staples Business Resource Center)
- 34% of all lost workdays in the United States are due to a musculoskeletal injury or related illness that was due to poor ergonomics. (Staples Business Resource Center)
- The total lifetime cost of an injured worker with carpal tunnel syndrome is \$30,000. In total, injuries that are from a musculoskeletal disorder will cost employers in the United States more than \$20 billion each year. (Staples Business Resource Center)

- Over 30% of workers say that having an ergonomic workspace would improve their mood while they are at work. 50% say that ergonomic workspaces would help them be more productive. Two-thirds say it would improve their posture. (Staples Business Resource Center)
- 35% of workers who don't have an ergonomic environment at work say that they would feel less stress if they had access to products offered by the industry. (Staples Business Resource Center)
- 44% of companies in the United States are either subsidizing or providing standing desks for their employees. In 2013, only 13% of employers were providing that type of benefit. (Star Tribune)
- Only 2% of workers in the United States are currently using a sit-to-stand desk on a regular basis to complete their work duties. (Star Tribune)
- Motorized desks which rise or fall based on push-button action retail for up to \$3,000. Standard desks which require cranking or hand movements retail between \$200 to \$400 for most models. (Star Tribune)
- There were between 400,000 and 600,000 treadmill desks sold from 2007 to 2015. Steelcase was the first commercial manufacturer of this product, selling up to 70,000 of the desks at an average price of \$4,000. (Work While Walking)
- The entire market size for office desks and tables is about \$1.1 billion. (BIFMA)
- School furniture that is built with ergonomics in mind is expected to grow at a CAGR of 15% through 2020. (Technavio)
- Storage-related furniture items hold a 18.6% share of the school furniture market, even



through electronic storage continues to increase in popularity in educational settings. (Technavio)

- Office furniture manufacturing is an industry which is valued at \$27 billion. Over the past 5 years, the industry has grown at an average rate of 1.4%, while the number of businesses has grown by 1.8% and employee growth has reached 2.4%. (IBIS World)
- About 120,000 people are directly employed in the manufacturing of office furniture, including ergonomic options. (IBIS World)

### KEEP IN MIND

Ergonomics is the science of designing the workplace, keeping in mind the capabilities and limitations of the worker. Poor worksite design leads to fatigued, frustrated and hurting workers. This rarely leads to the most productive worker. More likely, it leads to a painful and costly injury, lower productivity and poor product quality.

A systematic ergonomics improvement process removes risk factors that lead to musculoskeletal injuries and allows for improved human performance and productivity.

By making improvements to the work process, you are removing barriers to maximum safe work performance. You are providing your workers with a job that is within their body's capabilities and limitations. And you'll be contributing to your company's bottom line.

Done well, an ergonomics improvement process can be a key contributor to your company's competitiveness in the marketplace and provide a better work experience for your people.

A huge part of an intelligent ergonomic program at work is the involvement of the back in work operations and routines.

The back is a network of fragile ligaments, discs and muscles which can easily be thrown out of order.

There are 33 vertebrae in your back that are separated by discs and held together by ligaments. The back has many different muscles to hold all the vertebrae together. Three curves make up your back – cervical (neck), thoracic (mid-back) and lumbar (lower back)). Unless you are standing in a natural position, with your ears, shoulders and hips all aligned, your spine is under some type of stress.

Almost everyone has suffered back pain at some time. Common causes include but are not limited to sitting improperly, heavy lifting, falls, motor vehicle incidents and whole-body vibration. To understand how often the back is used, just think that every time you bend, your back lifts approximately 70% of your body weight even when you aren't lifting anything.

### ERGONOMIC CONCERNS

It is important to remember that it is not necessarily the weight of the load that causes the injuries, but rather the frequency and duration of handling. If the load is heavy, the frequency and duration of the lift will have to decrease. The human body is made for a variety of tasks, so it's important to have variety in the tasks you do to prevent repetitive stress and keep your body active and flexible.

After you have been sitting or stooping for a long period of time you should not lift immediately, as this puts a great deal of stress on your back muscles, ligaments and tendons.

Overexertion and cumulative trauma were the biggest factors in these injuries. Bending, followed by twisting and turning, were the more commonly cited movements that caused back injuries. Strains and sprains from lifting loads improperly or from carrying loads that are either too large or too heavy are common hazards associated with manually

moving materials.

In recent years, potential ergonomic problems have become a major concern in many business environments. Many facilities are now devoting significant time and effort to controlling the twisting, turning, stretching, and other motions that place stress and strain on employees' bodies.

Organizations incur significant annual costs due to workplace injuries. How much these costs impact their businesses depends, in part, on how well they are able to assess the impact of job demands on employee's health.

Assessing work-related hazards and minimizing injury risk is a critical part of controlling the cost of work-related injuries, keeping employees healthy, and returning injured employees to work faster. It is also a critical part of optimizing the selection and integration of new technology into the workplace in addition to identifying training requirements.

No matter the field of work, be it at a desk or a construction site, the body needs rest to repair the damage done from daily labor. Without rest to repair the "micro-traumas" that occur in daily repetitive activity, a cumulative trauma disorder may develop. Cumulative trauma disorders (CTDs) are musculoskeletal disorders (MSDs) that form due to work-related activities wearing on the body. The musculoskeletal system is comprised of joints, tendons, nerves, ligaments and muscles; all of which can be damaged by seemingly harmless repetitive motions over long periods of time.

Occupations including office workers, assemblers, packers, sewers, housekeepers and construction workers are especially susceptible to CTDs due to the repetitive motions associated with their work. Without preventative measures, workers may start to notice swelling and pain in CTD-prone areas. There are multiple types of CTDs, though their

symptoms and solutions are generally similar if not the same.

### **The following are important elements of an ergonomic process:**

**Provide Management Support** – A strong commitment by management is critical to the overall success of an ergonomic process. Management should define clear goals and objectives for the ergonomic process, discuss them with their workers, assign responsibilities to designated staff members, and communicate clearly with the workforce.

**Involve Workers** – A participatory ergonomic approach, where workers are directly involved in worksite assessments, solution development and implementation is the essence of a successful ergonomic process. Workers can:

- Identify and provide important information about hazards in their workplaces.
- Assist in the ergonomic process by voicing their concerns and suggestions for reducing exposure to risk factors and by evaluating the changes made as a result of an ergonomic assessment.

**Identify Problems** – An important step in the ergonomic process is to identify and assess ergonomic problems in the workplace before they result in CTDs.

**Encourage Early Reporting of CTD Symptoms** – Early reporting can accelerate the job assessment and improvement process, helping to prevent or reduce the progression of symptoms, the development of serious injuries, and subsequent lost-time claims.

**Implement Solutions to Control Hazards** – There are many possible solutions that can be implemented to reduce, control or eliminate

workplace CTDs.

### **Implement Solutions to Control Hazards –**

There are many possible solutions that can be implemented to reduce, control or eliminate workplace CTDs.

**Evaluate Progress** – Established evaluation and corrective action procedures are required to periodically assess the effectiveness of the ergonomic process and to ensure its continuous improvement and long-term success. As an ergonomic process is first developing, assessments should include determining whether goals set for the ergonomic process have been met and determining the success of the implemented ergonomic solutions.

### **DOS & DON'TS**

Think your work station might be contributing to your pain problems, or know someone who could use some tips? Here are some DOs and DON'Ts:

**DO** keep moving. Set an alarm to remind you if you need it! Sitting for long periods wreaks havoc on your spine and circulation. Get up, stretch, MOVE!

**DON'T** use a desk or chair that's not the proper height for your size. Everyone is different; find what works for you.

**DO** try to keep your body in a neutral posture, which creates the least strain on your body.

**DON'T** cradle your phone between your shoulder and ear.

**DO** keep your desk clear so you're not forcing your body to work awkwardly around clutter.

**DON'T** keep your monitor too close or too far away, or hunch over a laptop. This can cause eye strain and headaches in addition to neck and back pain.

**DO** wear a headset if a good portion of your day is

spent on the phone.

**DO** invest in workstation essentials that are ergonomic, and make sure they are adjusted to where you need them to be.

- Look for an office chair with proper lumbar support that adjusts to your body.
- A laptop raiser positions your laptop for optimum ergonomics while relieving eye and neck strain.
- A monitor arm makes it easy to adjust the height and position of your monitor to reduce upper back and neck pain.
- Use a footrest to reduce lower back pressure and increase blood flow.
- A bright, adjustable light can reduce headaches, eye fatigue and neck strain.
- Or try a standing desk to keep you moving! Less time spent sitting means less stress on your spine while increasing circulation and mental alertness.

## SAFETY TALK

# How to Reduce Your Risk of Ergonomic Injuries

### WHAT'S AT STAKE?

One size does not fit all when it comes to work equipment. Whenever a worker must modify or adjust herself to perform a work task, the mismatch between the worker and the task causes stress and strain on her body.

If the task needs to be performed only occasionally, it doesn't typically become a problem. But the strain of performing a task repetitively during one shift or over a period of days, weeks, months and sometimes years can cause chronic ergonomic-related injuries and illnesses that become serious, requiring time off work or surgery.

### WHAT'S THE DANGER?

- Muscle strains and tears
- Joint or tendon inflammation
- Pinched nerves
- Carpal tunnel syndrome
- Trigger finger
- Tendonitis
- Rotator cuff syndrome
- Hand-arm vibration syndrome
- Low back pain
- Herniated spinal disk
- Sciatica

### HOW TO PROTECT YOURSELF

To reduce your risk of incurring an ergonomic-

related injury, it's important to ensure the work task fits you, not the other way around. Here are some ways you can do that:

**Adjust your workstation:** Consider raising or lowering a chair, changing the level of your work bench or obtaining a platform to stand on. Adjusting the angle of a drafting board or repositioning a computer screen can greatly improve comfort and performance. You can also rearrange lighting to see your work without having to lean forward.

**Adapt your tools:** Adding longer, padded or angled handles to tools can lessen repetitive strain. Use tools designed to keep your hands, arms and back in a comfortable, natural position while you are working. And avoid handles that cut into the hand.

**Arrange your work:** Place work materials where you can reach them without excessive stretching, twisting or bending. Avoid arrangements where you must lean forward and reach at an angle. Store materials on a shelf rather than on the floor to minimize lifting.

**Take a break:** Organize your work to allow you to switch from one task to another. This will help avoid back strain and repetitive strain. Take advantage of scheduled breaks to stretch and move around.

**Be aware:** Pay attention to how you feel while you're working. Adjust your work area to prevent muscle strain.

**Know the signs:** Symptoms of ergonomic-related injuries often begin as minor complaints of discomfort, stiffness or aches that disappear when you go home at the end of your shift. However, if you continue to perform the same task the same way, the body's ability to recover decreases and eventually the discomfort turns into a more serious condition. That's why it's important to recognize the early symptoms of a problem and alert your supervisor before a more serious injury occurs. Some of these symptoms can be:

- Painful joints
- Pain, tingling or numbness in hands or feet
- Pain in the wrists, shoulders, forearms or knees
- Back or neck pain
- Swelling or inflammation
- Shooting or stabbing pains in the arms or legs
- Fingers or toes turning white

## **FINAL WORD**

Nobody knows your job like you do, so speak up if you have an idea on how your work or workstation could be made better from an ergonomic point of view.

1. [\*\*DOWNLOAD A POWERPOINT TO USE THIS TALK IN YOUR NEXT SAFETY MEETING\*\*](#)
2. [\*\*DOWNLOAD A LEADERSHEET TO HELP USE THIS TALK IN YOUR NEXT SAFETY MEETING\*\*](#)



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Compliant & consistent instructor-led safety training kits that are created, vetted, and guaranteed by OSHA & OHS certified safety trainers & lawyers. Includes: PPT, Video, Leadersheet, Handout, Quiz and more.

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10S OF THOUSANDS OF  
SAFETY MANAGERS

Whether you are working in the frontline or in the field, getting the right answer to your questions takes up valuable time. Did you know the average safety manager reports wasting a minimum of 2-3 hours/week researching safety & training issues?

That's why **SafetyNow ILT has Ask the Expert - a unique feature that allows you to ask our safety experts your training questions and get specific answers - fast.**

Getting timely safety training is always just a click away with SafetyNow ILT. If you can't find the training kit, video, or best practice solution you need, you can simply tap into our certified safety experts, trainers and OHS lawyers to get your custom advice/answer/tool/training.

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**175<sup>h</sup>**

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**\$19k**

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**15<sup>x</sup>**

On average, SafetyNow ILT members experience up to a **15x Return on Investment** in their first year.

## WHY US?

85% of safety managers think their meetings are not engaging. 76% of safety managers think employees are more interested in their phones than their safety message. **SafetyNow ILT is the largest online library of compliant safety meeting kits** - everything you need to deliver an engaging safety meeting on any topic in the click of a button.

## HOW WE WORK?

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Access accurate & compliant instructor-led training materials at the click of a button - on any safety topic - and find out what our members are reporting... **that SafetyNow's training materials are over 10x more effective and 57% more engaging.** What's more, its customized for your industry!

## Contact Info

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