



**REDUCING WORKPLACE
MUSCULOSKELETAL DISORDER RISKS**

Small Business Guide to MSD Solutions

Clare knew she had to say something to Marcus.

“I noticed you were rubbing your wrist and grimacing before you even started your shift today. Can you tell me about the pain you’re feeling?”

Marcus, a leader on Clare’s team of eight employees at the cafe she owned, seemed to be developing an injury from the repetitive twisting and tamping motions that made up his day behind the coffee bar.

Clare’s business had only just recovered from losing her first-ever hire, Isaac, to a musculoskeletal injury. Isaac had become a good friend and was vital to the business, especially in training new members of the team. But after two years of awkward, repetitive movements from operating the machinery, he developed carpal tunnel syndrome. At that point, Isaac’s physician offered him a wrist brace and encouraged him to engage in stretches, but it was too late – he soon had to leave his job at the cafe due to the pain, and, a year later, was still unable to do physical work.

Facing rising prices and staff turnover, Clare literally could not afford to lose Marcus now, too.

So this time, she didn’t wait. By talking to Marcus about what actions caused him the most discomfort, Clare was able to make small changes behind the counter that helped all her team do their work in safer positions. And by discussing these changes and the reasons for them with the rest of her team, Clare says she felt a new bond with her employees – one of whom even took the lead in designing a poster to remind the staff about safe working styles.

“It’s a work in progress. Preventing these injuries isn’t something we can do once and then forget about. But I feel like we’re in a much better place today,” Clare says.





Musculoskeletal disorders (MSDs) can have an outsized impact on a small business.

Addressing MSDs

On top of all the other pressures of running a business, losing even one employee to an injury that might last weeks, months or longer can put a strain on the entire team. One work-related injury at your small business can result in lost productivity, higher workers' compensation premiums, medical expenses, legal fees, replacement worker training and lower worker morale. As a small business owner, you may not feel you have the resources for a major intervention.

The good news is that one of the most important things you can do to address MSDs costs nothing at all: it's the culture of safety you create at your workplace. You're also in control to reshape the physical environment or set expectations for how work should be performed – and the daily conversations and close relationships you have with your team can help you get their buy-in, integrate their ideas and support their positive habits and progress.

Let's be clear: there are general injury-reporting rules and other legal standards that might only apply to workforces larger than yours. But safety and health are about more than compliance. It's what you do to help your employees – and your business – thrive.

This guide is designed to help you get started by:

Part I. Creating a Culture of Safety

Part II. Constructing an MSD Solutions Program

Part III. Innovating and Collaborating with Other Businesses

PART I

Lay a Strong Foundation Create a Culture of Safety

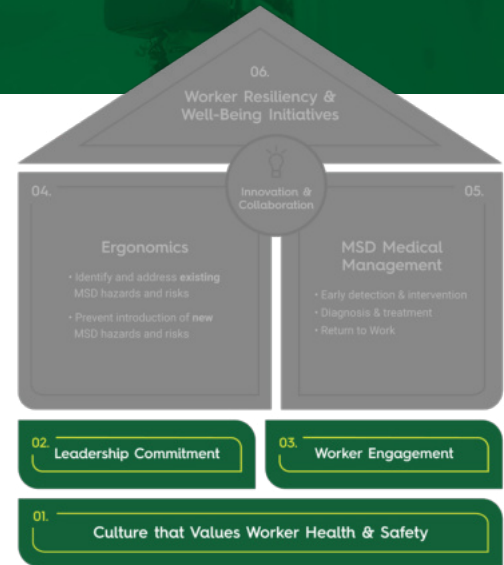
Create a Culture that Values Worker Health & Safety

Safe work environments begin and end with company culture. As a business owner, you can set a clear vision for safety and business success that values the health of your team.

- Consider how you can create company goals, such as employee engagement, employee empowerment, employee retention, quality assurance and cost savings that are aligned with worker health and safety.
- Listen to your team about the challenges they are experiencing and solicit feedback on ideas to build MSD solutions that work for your company. Employees who are involved in identifying and implementing solutions are more satisfied and motivated to participate in changes to workplace operations.
- Incorporate hazard assessments led by knowledgeable and experienced employees. There are many free assessment tools available, such as OSHA's Self-Evaluation Tool for General Industry.
- Reward team members who identify MSD risks and hazards, contribute ideas for innovative solutions, participate in safety practices and engage in a culture of continuous improvement.
- Routinely communicate your company priorities for health and safety through company emails, team meetings and training opportunities.

Set your MSD Solutions plan up for success with a designated MSD Solutions Champion, team-wide mobilization and adequate resources to implement effective solutions.

- Routinely checking in with workers about ways to make the workplace safer;
- Asking workers what additional support they might need to operate more safely;
- Listening to worker feedback about safer work processes;
- Recognizing employees for speaking up about safety hazards and possible solutions; and Including all workers, such as contractors, temporary workers, seasonal workers and part-time workers as part of the mission, the message and the metrics of safety.



STEP 1: Identify and empower an MSD Solutions Champion.

In a small business, MSD Solutions Champions are most often “incidental safety and health professionals” – staff members who are charged with overseeing team safety but do not have formal training in ergonomics or injury prevention. Your incidental safety and health professional may be the business owner, HR manager or even a front-line worker who expresses interest in leading safe work practices.

- Your champion should have regular access to leadership, such as the owner or CEO, to ensure recognized hazards and solutions are communicated to the top for support.
- Before nominating your MSD Solutions Champion, make sure the staff member fully understands the nature and responsibilities of the role.
- Ensure your champion has adequate time to successfully fulfill these responsibilities – this will likely mean shifting other priorities off their plate so they can dedicate time to the task
- Equip and empower your MSD Solutions Champion with adequate continuing education and tools to stay up to date with best practices in MSD solutions, including connections with professional safety and health mentors, networks and training webinars.

STEP 2: Mobilize team-wide engagement.

One of the advantages small business owners have over larger corporations is the ability to mobilize and individually engage with their entire team. Very small companies may even choose to take a team-wide approach to share responsibilities for MSD Solutions instead of designating a single champion.

- Leadership should stay engaged throughout the process through regular communication with their team in support of MSD prevention efforts.
- Work with team members in group meetings or one-on-one to conduct risk assessments of the work and identify and implement solutions and collect ongoing feedback.
- If you are not familiar with workplace regulations and other safety and health policies, you can work with on-site consultation programs including services offered by **NSC, OSHA** or your state OSHA programs to identify safety and health hazards in your workplace and how to fix them.



STEP 3: Empower injury reporting and maintain thorough records

By educating your employees to report MSDs when they first experience signs or symptoms, you can address hazards and make appropriate corrections in the workplace in a timely fashion to halt the progression of an MSD or prevent a re-occurrence. While safety and health compliance requirements may differ according to county, province, state or country regulations, keeping track of your employees' work-related injuries can help you better understand the risks in your workplace and more effectively prevent MSDs in the future. Record-keeping also helps your business to be more proactive by continuously improving the workplace and ensuring its employees' safety, health and wellness.

- Document facts of the injury and gather all necessary background information.
- If multiple employees are involved, have a conversation with each employee individually. Collecting witness statements can be an essential part of the documentation.
- Use the data you collect to identify the potential contributing factors for the specific injury.
- Maintain appropriate injury record-keeping policies and procedures with a specified time frame for completing an injury report following an incident.
- Use the injury data you collect to collaborate with the employees who were injured, as well as other employees who perform similar work, to identify the source of workplace hazards and propose appropriate solutions.



PART II

Construct Your MSD Solutions Program

KEY INSIGHT

In the U.S., employers are exempt from OSHA's injury and illness record-keeping requirements if they had 10 or fewer workers during all of the last calendar year or the business falls under specific low-hazard industries. For non-exempt employers, work-related injuries or illnesses, except minor injuries requiring only first aid, are recorded on a Log of Work-Related Injuries and Illnesses (e.g., OSHA 300 log).

With a supportive, worker-centered culture in place, your company can begin to take steps to reduce the risk of MSDs and create a safer environment for your workers. As an employer, your goal should be to establish and maintain a workplace that is free from recognized hazards that may cause an injury or serious physical harm to your workers.

STEP 4: Prevent MSDs through ergonomic solutions.

Ergonomics is the science of designing work systems that minimize injury while maximizing performance. Ergonomics considers the workers – their abilities, limitations and personal characteristics – as well as the tasks, jobs, workstations, tools, equipment, work culture, organizational factors and the work environment to design a system to preserve wellbeing and reduce injuries. Ergonomic interventions are a crucial element of your MSD Solutions program.

1. Identify and address existing MSD hazards and risks.
2. Build systems to prevent the introduction of new hazards and risks.

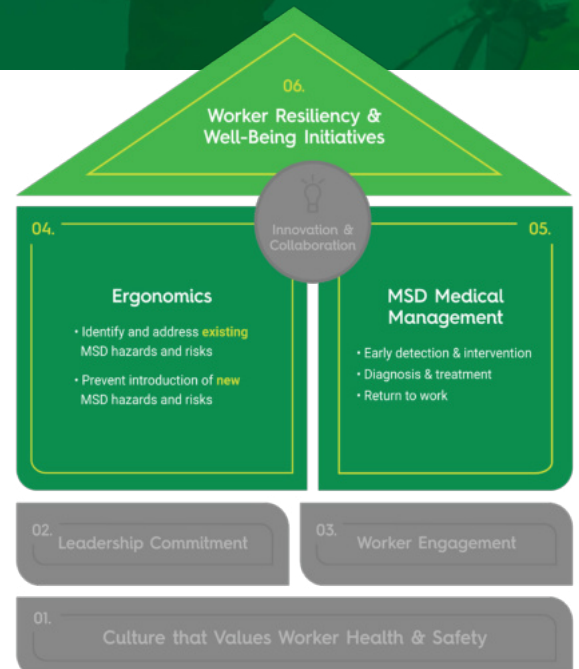
By understanding how MSD injuries occur in your workplace, you can select the right type of intervention to implement for your company's MSD Solutions Program.

Start with affordable options.

The term “ergonomics” may create an impression associated with expensive furniture, equipment and technology. The truth is, many ergonomic strategies can be applied with little or no cost. These simple solutions can significantly impact your team's safety, productivity and morale.

KEY INSIGHT

Solutions that address the work environment are more effective than those that put the burden of change on the worker. For example, storing items at waist height to eliminate the need for bending is more effective than training a worker to bend and lift safely.



Some common ergonomic solutions to limit MSD risk factors include:

- **Lighten loads for lifting.** Handling objects such as heavy boxes is the #1 cause of work-related disability, according to the Liberty Mutual Workplace Safety Index. Dividing heavy loads into smaller containers is a simple solution to reduce risk for the worker.
- **Store items off the floor.** Place the heaviest items at waist height. Keep storage items at a knee to shoulder range height as much as possible, and store only the lightest items (and least used items) beyond these ranges as needed.
- **Adjust work height and space.** Use desks, benches, stands, carts or worktables to conduct tasks near waist height. Keep commonly used materials close to the body to avoid reaching and stretching. Position work directly in front of the body, so the head, shoulders and core stay aligned to prevent awkward twisting of the spine.
- **Switch up positions and work tasks.** Whenever possible, incorporate tasks that involve different muscle groups, activity levels and body positions throughout the day.
- **Schedule regular breaks and recovery time.** Encourage workers to use scheduled break times to engage in appropriate restorative activities, such as stretching routines or going for walks. This is particularly important for workers with tasks that are highly repetitive, require sustained postures or involve a high use of force.
- **Use a power grip and avoid pinch grips whenever possible.** The power grip is 5-10 times stronger than a pinch grip in most adults. When possible, pick tools that allow for a full hand power grip over a pinch grip which uses only the fingers. Repetitive forceful pinch grips (finger grips) are the strongest predictor of arm and hand MSDs. For precision work that requires a pinch grip, lighten the force applied when possible and build regular rest and job variation into the day.
- **Choose tools with appropriate handle sizes.** Ensure tools are well fitted for the hand of the worker and keep the wrist supported in a strong neutral position. Excessive pressure on any area of the hand should be avoided. Select tools with minimal vibration and no kickback.

Consider investments in high return on investment (ROI) solutions.

While ergonomic equipment and furniture may have a higher price tag up front, investing in products that are used frequently or offset high risks can save you money over time. Businesses see an average of \$2 returned for every dollar they invest in ergonomic solutions. To make these investments more affordable, try these tips:

- **Prioritize high-risk tasks.** Tasks that are repetitive, require high forces or that are performed using awkward postures greatly increase the risk for an MSD. Collaborate with your team to conduct hazard assessments to identify the tasks that present the greatest risk. You can also identify these tasks from your injury records and reports. Doing so will allow you to identify the MSD solutions with the highest value to your team.
- **Select items that are adjustable.** Workstations with adjustable heights, chairs with multiple position options or tools with adjustable grip techniques have a two-fold advantage: (1) your workers can customize furniture and equipment to best suit their individual needs and (2) items can be shared or re-used by other workers.

- **Rent before you buy.** This option gives your team a chance to trial or adjust to an innovative solution or equipment and offer feedback on symptom improvement and general usability.
- **Pilot with a small group of employees first.** If rental options are not available, invite representative members of your team to try new equipment or furniture and offer feedback before making an investment decision for your entire team.

Step 5: Create a medical management system to support workers with MSDs.

If not properly managed, MSDs can result in conditions that cause lifelong disability. Employers can prevent these adverse outcomes and minimize business costs by implementing systems for early detection, coordinating with healthcare providers for diagnosis and treatment, and establishing tailored return-to-work protocols with a medical management team.

- **Routinely check in for signs and symptoms of MSDs.** Normalize talking about early signs and symptoms for MSDs in everyday conversation. Make a habit of asking your employees, “Do any of your tasks for the day cause discomfort? Is there anything we can alter to make these tasks more manageable?”
- **Encourage early reporting.** Set up a process for employees to report early signs and symptoms of MSDs, and remind your teams of it, in huddles or on paper. Emphasize that team members will not be penalized for coming forward with signs or symptoms of an MSD, and alert them to the resources and benefits made available through reporting.
- **Provide resources for early intervention.** The earlier MSD symptoms are addressed, the easier, faster and less costly they can be corrected.
- **Communicate about workers’ compensation.** Depending on your business location, you may be required to apply for workers’ compensation insurance from an insurance provider. Premium costs often depend on the hazards your employees might encounter at your workplace. A job-related injury may qualify employees for workers’ compensation benefits, which include wage replacement, medical treatment and vocational rehabilitation. While it is the employee’s job to file a workers’ compensation claim, you can support them with clear instructions for filing a claim if they experience an MSD.
- **Review reinstatement rights.** Make sure that your company’s policies comply with local and regional reinstatement requirements. Consider your options for maintaining operations during your injured employee’s period of absence by placing their responsibilities on hold, allocating duties to another employee or hiring a temporary employee.
- **Collaborate on a safe return-to-work plan for injured employees.** Though it is unsafe to expect an employee to resume full, normal duties before they are cleared by a physician, a **return-to-work program** creates clarity about how employees can return to work safely. The return to work plan may include things such as reduced work hours, modifications to take performance or temporary transitional work. If you don’t have a formal policy in place, collaborate with your employee on an individualized plan, making sure to follow the recommendations of the employee’s healthcare provider.

- **Consider offering or improving healthcare benefits for employees.** There are a number of options available to small business owners to make health insurance more affordable. Small businesses with fewer than 50 employees can apply through the **Small Business Health Options Program (SHOP)**, which allows employers to take advantage of the **Small Business Health Care Tax Credit**. You might also consider:
 - Working with a professional employer organization (PEO) to administer your human resource operations. PEOs can negotiate rates in the same way as large providers.
 - Negotiating a group insurance rate.
 - Offering a tax-free reimbursement to employees for qualifying healthcare expenses.
- **Consider offering disability insurance.** While workers' compensation pays only workers who are injured while working, disability insurance pays you regardless of when and where you are injured or disabled. Examples of disability insurance include short-term, long-term and social security.
- **Educate your employees on opioids.** For more information to begin addressing opioid use in your workplace, visit **the Opioids at Work Employer Toolkit**. Create a safe environment for your employees to discuss their MSD treatment, especially treatment that involves opioid-based prescription pain medication. This conversation should include the employee, their supervisor, a HR representative, and the employees' healthcare provider. As musculoskeletal injuries are the leading cause of work related injury and disability and a clear pathway to opioid use or misuse, it is important to ensure employees are educated on what an opioid is, recognizing the signs of misuse and addiction, as well as non-opioid pain management options such as physical/occupational therapy or non-opioid pain medicine. Emphasize that it is okay to have a conversation about opioid use and the road to addiction without stigma or creating fear of retaliation, and express that it's okay to ask for help. Consider actions your business can take to provide emotional support, access to treatment, workplace accommodations, and return to work for employees under healthcare managed opioid use, or in treatment for misuse or addiction.

STEP 6: Promote worker and team wellbeing and resilience.

Workplace and home life stressors, psychosocial factors, and systemic inequities in wellbeing can all make workers more vulnerable to an MSD. As a small business owner, you have opportunities to get to know the unique needs of your team members and show support for each person's wellbeing.

Train team members in MSD Solutions.

Team training is an important part of a comprehensive MSD solutions program. Consider formal and informal **opportunities** for ongoing training, such as team huddles or toolbox talks, posters around workstations and recognizing employees who model ergonomics guidelines.

Training should be provided in a language and vocabulary that all workers understand. You should also ensure instructors have experience with ergonomics and MSDs in your particular industry.



Understand work stress and psychosocial factors on MSDs.

Industries in the U.S. lose more than **\$300 billion** each year due to workplace stress resulting in absenteeism, reduced productivity and stress-related accidents among other costly consequences such as increased risk for cardiovascular disease and psychological disorders.

Workplace stress contributes to and is worsened by MSDs. For example, high job demands (such as increased demands from short staffing) may lead to increased physical and mental workloads which in turn may increase muscular tension and poor posture caused by stress and fatigue, resulting in an increased risk for the development of an MSD.

The good news is that every dollar invested into treatment for mental health conditions shows a **\$4 return** in improved health and productivity. Prioritizing systems to prevent and treat outcomes from work-related stress can significantly reinforce your MSD Solutions strategy and enhance the performance of your team. Check out the **Small Business Guide to Workplace Mental Health** developed with support from NSC for tips to enhance mental wellbeing at your workplace.

Support physical and mental wellbeing and resilience.

Adequate sleep, exercise, hydration and nutrition promote muscle and bone health and strength, which builds tolerance against musculoskeletal injury. As an employer, you can design a work environment that eliminates or reduces safety and health hazards and promotes all-inclusive worker wellbeing with simple strategies such as:

- **Reducing workloads to reduce stress**
- **Providing adequate rest breaks to promote recovery**
- **Limiting long hours to prevent fatigue**
- **Supporting worker autonomy to improve perceived job control**
- **Offering water and nutritious snacks on site to support nutrition**
- **Leading team stretching or exercises to enhance strength**



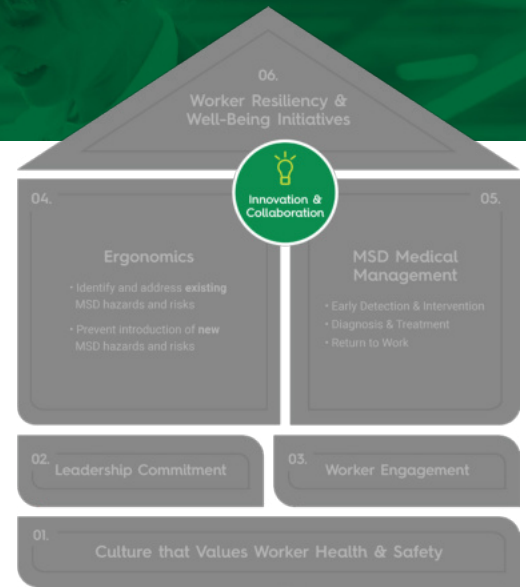
The **NIOSH Total Worker Health Program** offers free tools to help employers assess and address a comprehensive array of issues relevant to advancing wellbeing for your workers, their families and your local community. You can also check out more **NSC resources** to address relevant worker-safety issues including fatigue, impairment, drugs at work and mental health.

PART III

Innovate and Collaborate

You don't have to do this work alone. Joining the MSD Pledge community can enhance your access to resources, mentorship and support as you build your MSD solutions plan. The MSD Pledge is a first-of-its-kind commitment from employers to identify and reduce workplace MSD risks, foster a culture of safety, share lessons learned and regularly report on progress.

By sharing ideas and collaborating with other employers, you can accelerate the understanding of MSD solutions across all businesses, benefit from other companies' shared expertise and better protect workers everywhere. NSC will continually reinvest the latest knowledge and best practices into the resources we provide – bettering solutions for everyone. Companies that sign the MSD Pledge will be encouraged to contribute to NSC research on current and emerging safety and health issues as they relate to MSDs and submit best practices and new ideas to be featured in our case studies.



Help Us Reduce MSD Risks and Subsequent Injuries by 25% by 2025

Through the MSD Solutions Lab and commitments from employers like you to the MSD Pledge, we aim to positively impact millions of workers worldwide and collectively reduce MSD risks and subsequent injuries by 25% across all participating organizations by 2025. When companies around the world are investing in MSD solutions, this will further drive a market for innovation to make MSD safety easy and accessible for organizations big and small. By signing the MSD Pledge, your company is taking action to support your workers and contribute to healthier workplaces everywhere.

Help us achieve this goal by:

- Working with an inclusive team at your organization to uphold your pledge commitments.
- Ensuring 100% of your employees are covered by your pledge commitments. Include your part-time workers, temporary workers, seasonal workers and contractors in risk reduction strategies.
- Getting involved in NSC events and joining our mission to improve the wellbeing of all workers.
- Reaching out to other companies within your spheres of influence. Share the MSD Pledge and encourage your industry partners (e.g., suppliers, customers and service providers) to join the movement!



We are dedicated to ensuring the health and safety of all workers at our workplaces through the evaluation and reduction of musculoskeletal disorders (MSDs), the leading cause of workplace injuries across all industries. **We pledge to:**

Reduce risks. We will analyze the causes of MSD injuries across our operations and invest in solutions and practices that reduce risk to our workers.

Innovate and collaborate. We will leverage best practices and share our learnings and countermeasures to expand upon innovations to improve our own safety practices and reduce MSD risks.

Build an organizational culture that values safety. We will promote and ensure a workplace where safety excellence, transparency, and accurate reporting are equally valued. Everyone, at every level of our organization, is accountable for the safety and health of our workforce.

Commit to a significant reduction of MSD injuries. We believe that through risk analysis, improved training, and investment we can create safer outcomes for millions of workers worldwide. We pledge to reduce MSD risk and subsequent injuries by 25% by 2025.

Together, we can improve workplace safety, reduce MSD risks, and enhance the wellbeing of workers around the world.

Questions? We've got you covered.

Email msdsolutionslab@nsc.org

For More Information

FEATURED RESOURCE: SHARP BY OSHA

<https://www.osha.gov/sharp>

In addition to NSC efforts in helping you to reach your goals of risk reduction in MSDs, consider applying for OSHA's Safety & Health Achievement Recognition Program (SHARP). This unique program recognizes small business employers who use OSHA's On-Site Consultation Program services and operate exemplary safety and health programs. Acceptance of your worksite into SHARP from OSHA is an achievement of status that singles you out among your business peers as a model for worksite safety and health.

CENTERS FOR DISEASE CONTROL AND PREVENTION

<https://www.cdc.gov/workplacehealthpromotion/health-strategies/musculoskeletal-disorders/index.html>

CENTRE OF RESEARCH EXPERTISE FOR THE PREVENTION OF MUSCULOSKELETAL DISORDERS

<https://www.msdpreservation.com/Small-Business-Owner-or-Manager.html>

NATIONAL INSTITUTE FOR OCCUPATIONAL HEALTH & SAFETY (NIOSH)

<https://www.cdc.gov/niosh/hhe/about.html>

<https://www.cdc.gov/niosh/topics/ergonomics/ergoprimer/default.html>

<https://www.cdc.gov/niosh/topics/hierarchy/>

<https://www.cdc.gov/niosh/twh/default.html>

<https://www.osha.gov/vpp>

<https://www.cdc.gov/niosh/topics/future-of-work/default.html>

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

<https://www.osha.gov/ergonomics>

<https://www.osha.gov/safetypays/estimator>

BUREAU OF LABOR STATISTICS

<https://www.bls.gov/iif/oshwc/case/msds.htm>

HUMAN FACTORS AND ERGONOMICS SOCIETY

<https://www.hfes.org/About-HFES/What-is-Human-Factors-and-Ergonomics>

INTERNATIONAL ERGONOMICS ASSOCIATION

<https://iea.cc/what-is-ergonomics/>

INJURY FACTS

<https://injuryfacts.nsc.org/work/safety-topics/musculoskeletal-injuries/data-details/>

LABOR OCCUPATIONAL HEALTH PROGRAM

<https://lohp.berkeley.edu/>

UNITED NATIONS

<https://sdgs.un.org/publications/transforming-our-world-2030-agenda-sustainable-development-17981>

EUROPEAN AGENCY FOR SAFETY AND HEALTH AT WORK

<https://osha.europa.eu/en/publications/workforce-diversity-and-musculoskeletal-disorders>

SOCIETY FOR INDUSTRIAL AND ORGANIZATIONAL PSYCHOLOGY

<https://www.siop.org/Business-Resources>

INSTITUTE FOR WORK AND HEALTH

<https://www.iwh.on.ca/tools-and-guides/reducing-msd-hazards-in-workplace-guide-to-successful-participatory-ergonomics>