



FYZICAL[®]

Therapy & Balance Centers



OFFICE ERGONOMICS Your Workstation Workbook

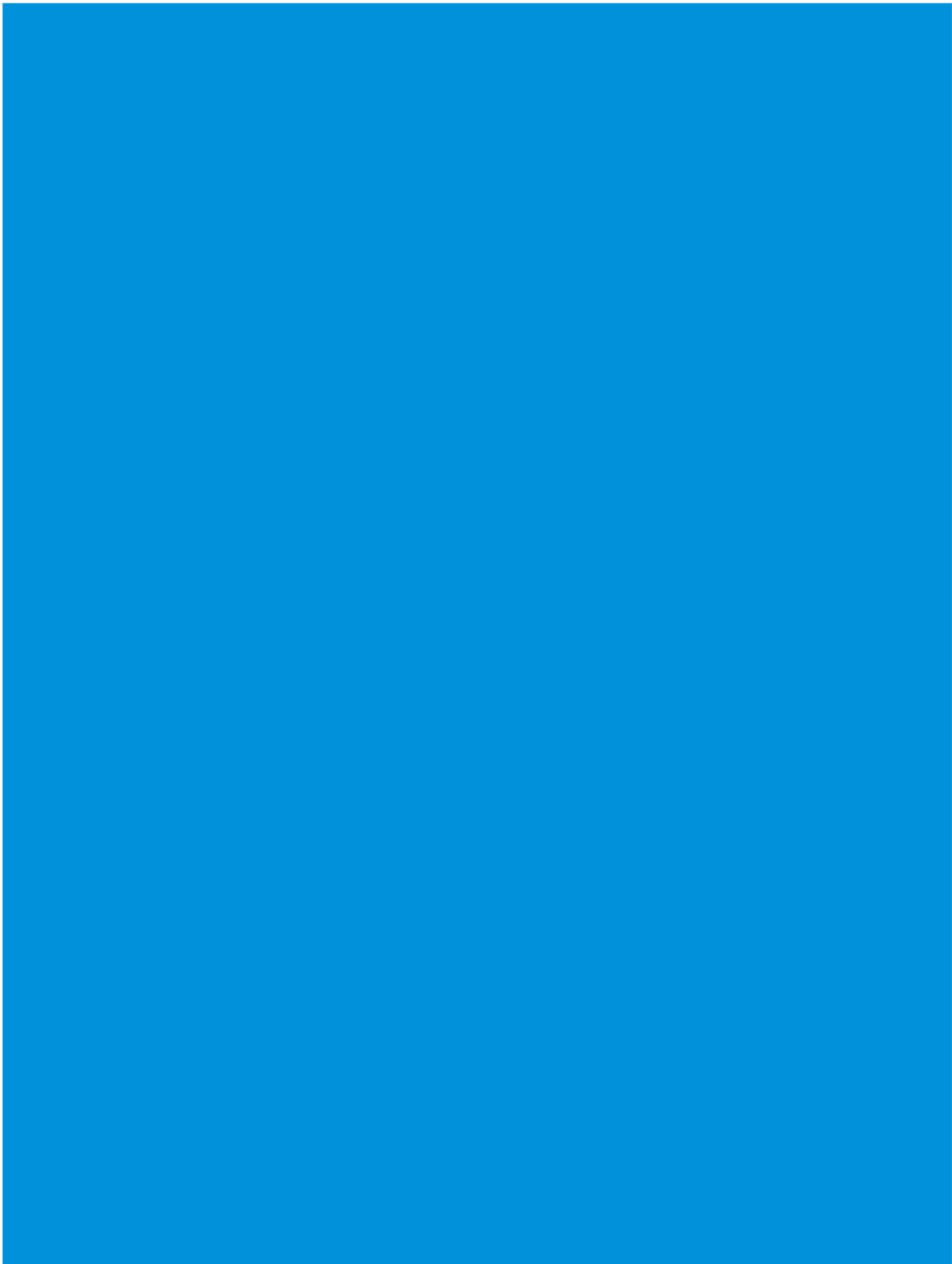


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FOREWORD



I believe that every worker, young or old, male or female, deserves to have a proper working environment. What do I mean by that? I mean that you deserve to engage in your chosen profession free from physical discomfort, free from pain, and free from injury.

I have worked with musculoskeletal disorders and people of all ages. The common threads in every person I work with are a lack of proper equipment, improper equipment fit, and poor muscle health. Healthy muscles are both strong and flexible, but the stress and repetition of our daily activities magnify our musculoskeletal dysfunction.

You deserve to love your job, you deserve to Love Your Life! And with proper ergonomic fit you can.

-Dr. Lauren Collier Peterson, PT, DPT

SECTION I

What is Ergonomics?

WHAT IS ERGONOMICS?

Ergonomics is the discipline of physical therapy that evaluates the potential for musculoskeletal dysfunction or disorders in the workplace. Because the workplace is as varied as the number of jobs that exists, expertise in ergonomics requires flexibility and communication between the employer and the expert.

Ergonomics can focus on postural deficits at a desk, lifting and lowering in an industrial setting, or repetitive use tasks such as answering phones as a receptionist. While the range of tasks assessed during one of our Ergonomic STRIKEs varies quite widely, our goal in assessing your employees is very finite. When we help you with Ergonomics, we want to make sure that your employees are able to meet their job function safely, efficiently, and consistently.

During a an Ergonomic STRIKE, we are going to study

- Workstation fit for an employee
- Job function the employee is tasked with
- Repetition of activities the employee engages in

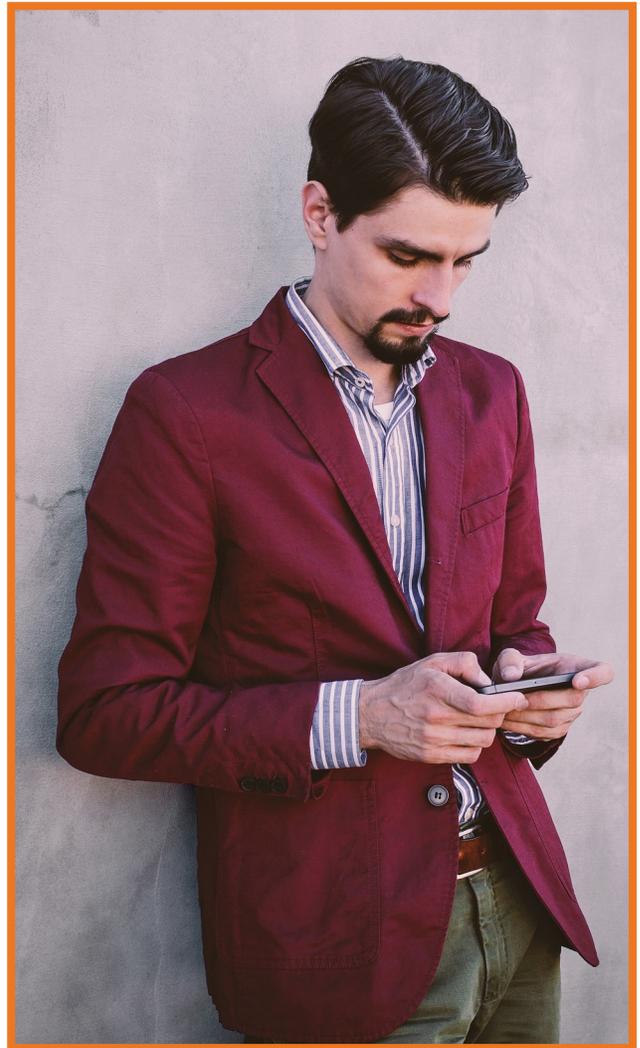
The GOAL of this workbook is to prepare you for
your own Ergonomic STRIKE

MODERN OFFICE

Modern Problems

The Modern Office is digital, it is mobile, and it is highly reliant on the use of connected devices. That leaves the average office employee at risk for a variety of musculoskeletal dysfunctions, but the four biggest are:

- ⇒ Neck Pain
- ⇒ Low Back Pain
- ⇒ Upper Extremity Injury
- ⇒ Lower Extremity Injury



WHAT IS ERGONOMICS?

1. Ergonomics is the discipline of _____ that evaluates the potential for musculoskeletal dysfunction or disorders.
2. The four most common areas for musculoskeletal dysfunction are:
 - a. Neck, Eyes, Low Back, Head
 - b. Neck, Low Back, Upper Back, Lower Leg
 - c. Neck, Low Back, Upper Extremity, Lower Extremity
 - d. None of the Above

MINDFULNESS EXERCISE

Do you remember a time you or your employees ever suffered from

Neck Pain,

Low Back Pain,

Upper Extremity Injury, OR

Lower Extremity Injury?*

Describe: _____

*(If not, the reality is they likely just never reported it)

SECTION II

Why Does Ergonomics
Matter?



Statistics



Statistics



2.8 million nonfatal workplace injuries and illnesses were reported by private industry employers in 2018¹



Within private industry, there were 900,380 injuries or illnesses that caused a worker to miss at least one day of work in 2018²



The Median Days Away From Work (DAFW) increases as the age of the employee increases²



333,830 DAFW cases resulted in a visit to a medical facility such as an emergency room or in-patient hospital³



Statistics



Statistics

3,820 Injuries were reported for Private Industry in Oklahoma in 2012⁴



Injuries of the Neck: 200 Cases
Injuries of the Back: 1280 Cases
Injuries to Upper Extremity: 1470 Cases⁴



Muscle Strains: 1690 (15.7 DAFW)
Pinched Nerve: 80 (162 DAFW)
Soreness & Pain: 460 (15 DAFW)
Carpal Tunnel Syndrome: 110 (29 DAFW)⁵



ERGONOMICS FOR THE EMPLOYEE

Ergonomics, when properly considered and implemented, should enhance your ability to complete your Job Function safely and effectively. We routinely hear about the mental and emotional stressors, but our Jobs also have physical stressors. While these cannot all be eliminated, you have to be aware of the six motions (or movements) that contribute to potential ergonomic hazards.

1. Bending
2. Lifting
3. Pushing
4. Pulling
5. Reaching
6. Static or Sustained Postures

Bend-

ing &

Twisting

Bending and twisting are a part of everyday life. However, when they are combined with other activities, bending and twisting creates forces that are more likely to impact the back and spine. Most notable among the activities that bending and twisting make worse are distant lifting and lowering, pushing or pulling, and distant reaching. Three specific considerations should be made with bending and twisting:

1. Bending and twisting of the spine can predispose your discs to rupture by reducing the load tolerance of the intervertebral discs.⁶
2. You are at a greater risk for injury with bending and twisting, because of the velocity and acceleration these movements create increase the compressive and shear forces of your intervertebral discs.⁷

3. When lifting, while twisting or bending, it is recommended that the weight of the load be reduced by 22% from your maximum acceptable weight of lift.⁸

Bending and twisting will happen, but when they happen with lifting, pushing, pulling, and reaching you set yourself up for injury. Consider the use of assistive devices, turning your body, or the assistance of a co-worker to reduce the likelihood of injury.

Lifting

Lifting and lowering is one of the most vulnerable activities any employee can engage in. Loads can be heavy, objects can be awkwardly shaped, and you may not be educated on proper lifting techniques. When it comes to lifting and lowering, you should always ask your self:

1. Is this less than my maximum acceptable weight of lift?
2. Is there an assistive device (like a cart, dolly, or hand truck) available?
3. Is there someone (trained in lifting) who can help me?
4. Do I have a clear path?

If the answer to any of these questions is “No,” consider whether this task is worth the possible injury.

Pushing & Pulling

Pushing and Pulling, while not exactly the same, have many of the same risks due to the nature of the tasks. Oftentimes, when pushing or pulling, you are dealing with a heavier load. In the case of pushing or pulling, assuming the load is not beyond your ability, your posture should be your number one priority. When it comes to pushing and pulling, you should always ask your self:

1. Is this less than my maximum acceptable weight?
2. Am I able to maintain an upright posture while pushing or pulling?
3. Can my hands remain above my waist while moving this object?
4. Can I control this cart safely?

If the answer to any of these questions is “No,” consider how you can modify the activity to minimize the risk of injury.

Reaching

Reaching can be broken into two types:

1. Horizontal Reach — long reaches away from and in front of the body.
2. Vertical Reach — reaches above the knees and below the shoulders.

Both types of reaching put you at risk for injury because of the movement of the load away from your center of mass. This reduces the amount of weight you can carry, and this reduces your ability to maintain a safe weight for a prolonged period (try holding a milk jug out at arms reach and you will understand).

Static or Sustained Postures

Remaining in the same place or the same posture for an extended period puts increased pressure on the joints of the feet, ankles, knees, hips, back, and neck. When it comes to workstation fit, three common postural positions can increase the likelihood of pain or injury:

1. Sitting for a prolonged period, especially when they don't provide proper lumbar support or the chair is improperly sized.
2. Your workstation surfaces are too high or too low for comfortable completion of the task.
3. Standing on a hard surface for an extended period without support or proper cushioning.



WHY DOES ERGONOMICS MATTER?

For Employees

Ergonomics matters because it can help you stay actively engaged in your profession and reduce the physical and mental toll certain tasks play. What are five of the six motions (or movements) that contribute to potential ergonomic hazards?

MINDFULNESS EXERCISE

Which of the Six Motions do you perform most commonly? _____

How could you perform that action so that the stress and strain on your body is reduced?

ERGONOMICS FOR THE EMPLOYER

When it comes to Ergonomics, your employee may not know what to ask for. They may be feeling some discomfort or pain, but they may not recognize it as due to a workplace injury. You can help avoid workplace injuries by focusing on these Nine Workstation risk factors contributing to Ergonomic Injury, but you can also reduce the risk of the six contributing factors by addressing all of the environmental risk factors.

- | | |
|--|--------------------------------|
| 1. Repetitive Tasks or Motions | 6. Noise |
| 2. Insufficient Rest Breaks | 7. Temperature Extremes |
| 3. Pressure Points (Contact Stress) | 8. Workstation Fit |
| 4. Forceful Exertions | 9. Vibration |
| 5. Lighting | |

Re-

petitive Tasks or Motions

From typing and phone calls to heavy lifts and product assembly, repetitive tasks are common in the workplace. And for good reason, that repetition can engender experience and fluency, which yields a high quality and consistent output. However, it can lead to musculoskeletal dysfunction. Pain and dysfunction will yield the exact opposite and leave you with an employee who is missing days, less efficient, and frustrated. By creating a workstation that supports this employee and implementing sufficient breaks and novel task, you keep your employee productive and stimulated.

Insufficient Rest Breaks

Even jobs that are not physically demanding in a traditional sense of moving heavy objects, or what might be called “back breaking labor,” still require rest breaks. Your employee who is on the phone or computer for the majority of their day will benefit from time away from their workstation. It will give them a chance to stretch and come back to their task with a renewed vigor. Breaks should be about increasing productive time rather than a period of lost productivity.

Pressure Points (Contact Stress)

Anyone who has worked a factory job understands contact stress, particularly as it impacts the feet and ankles over a long shift spent standing on a concrete floor. Even if you are in an office, however, an improperly fitting chair or the sharp edges of a desk that are too high may lead to pressure points that can cause pain in the hips, back, wrists, or arms. Being aware of these potential hazards means you can respond to them.

Forceful Exertions

Whether or not a forceful exertion (e.g., moving pallets, replacing the 5 gallon water jug) is repetitive, each time your employee engages in a forceful activity, he or she is at risk of injury. The higher the frequency, the more often an issue will arise (simply an odds game). Supporting your employees to

1. reduce the frequency of forceful exertions, AND
 2. Reduce the impact of the activity with proper assistive devices
- Provides them the support to minimize injuries and reduce Days Away From Work.

Lighting

Improper lighting contributes to falls, headaches and eye strain, and can cause your employees to miss important information. If the sun sets through a window behind your employee, do you think the last hour of the day is as productive as it could be? Would blinds or a workstation change be worth the increased productivity over a year?

Noise

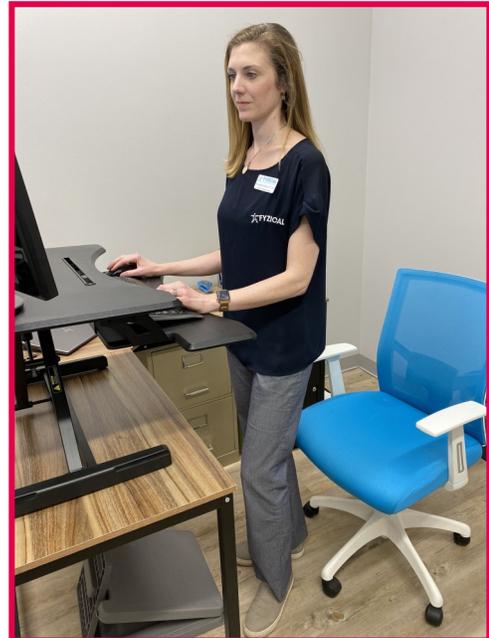
Excessive noise can lead to hearing loss. Hearing loss is going to leave your employee vulnerable in the workplace to both safety and social concerns. Proper protection from excessive noise should no longer be a consideration, especially with OSHA guidelines.

Temperature Extremes

Extreme temperatures happen. Even in an office building in the dead of summer or the middle of winter keeping a comfortable working environment can at times be a challenge. Consider the ability of your employees to complete their job under the stress of extreme heat. Can your receptionist type when her fingers are stiff from excessive cold? Temperature matters to the safety and productivity of your staff.

Workstation Fit

The fit of your employee's workstation falls squarely with you, the employer. If a desk is too tall, or a table too short, you are setting up functional shortcomings in the Fit of the Workstation. This can lead to pressure points and contact stress injuries, or back, neck, and leg pain. The cost savings today of not changing a workstation to fit your employee is not worth the challenge of replacing an employee's productivity when they have Days Away From Work or have to undergo treatment for the musculoskeletal dysfunction caused by their workstation.



Vibration

While most common in trades that require repetitive use tools, vibration is the magnification of repetitive motions and the stress it puts on muscles, bones, and joints. Not accounting for the repetitive stress of vibration is guaranteeing the need for treatment of musculoskeletal dysfunction.

WHY DOES ERGONOMICS MATTER?

For Employers

Ergonomics matters because it can help your employees stay actively engaged in their profession and reduce the physical and mental toll certain tasks play. What are Six of the Nine Workstation Risk Factors contributing to Ergonomic Injury (Musculoskeletal Dysfunction)?

MINDFULNESS EXERCISE

Which of the Nine Workstation Risk Factors is most common for your employees?

What can you do today to minimize risk of musculoskeletal dysfunction at your employees' Workstation?

SECTION III

How do We Improve
Ergonomics?

HOW DO WE IMPROVE ERGONOMICS?

By now you understand the impact Ergonomics can have on employee satisfaction and productivity. Ergonomics can and should be a way of improving employee output because they can function and do their job at a high level with minimal risk of injury.

Just as we apply a scientific approach to evidence-based treatment, we can apply a scientific approach to ergonomic assessment and prevention of musculoskeletal dysfunction. We call this approach our Ergonomic STRIKE.

The Ergonomic STRIKE is meant to occur in a relatively brief period, but a new STRIKE should be conducted every 3 to 6 months, but no less than annually. Let's get into some detail about a STRIKE.



S

TANDARDS

Standards allow you to set the stage. They establish clear measurable goals and outcomes. Just like Key Performance Indicators (KPIs) for your the health of your business, Ergonomic Standards ensure the health of your employees.

Ergonomic KPIs include:

- Reportable Injuries
- Days Away From Work (DAFW)
- Days of Restricted Work
- Days of Transferred Position

Remember that the employer is responsible for finding fit for the employee and not the other way around. This is especially true after a workplace injury.

T

RAINING

Training should start with the job description and should only end when the employee is separated from the company. Standards can't occur in a vacuum. If no one knows they exist, will they ever be implemented?

Ongoing Training should include:

- Management (Support Focused)
- Employees (Expectation Focused)

Standards are established proactively or reactively, but either way there will be drift away from Standards without Training. The reality is not "If I've heard it once, I've heard it a thousand times." The reality is, "If I've heard it a thousand times, I've heard it once." People will trend back to the middle or to an easier path, so continuous training is necessary. Once a skill is learned, it has to be applied routinely for it to meet a level of mastery and ultimately fluency.

R

REPORTING

Reporting should be easy. The burden should not be on the reporter but on those involved in investigating the concern. When reporting falls on deaf ears, it stops happening. In order to combat this, a clearly defined process of reporting must be established and followed.

The Reporting process should include:

- Filing of a Brief Written Report
- Follow-up Timeline Provided
- Outcome or Plan Delivered On-Time

Sticking to a Reporting process will foster a culture of excellence that eliminates never reporting, minimizes under-reporting and encourages all concerns be brought to the table.

I

DENTIFYING

For those trained in Identifying potential issues, being observant become second nature. For those trained in ignoring issues, ignorance becomes second nature. When you reward or bonus for a lack of injuries, you don't reduce the number of injuries you increase the likelihood that injuries will be hidden. This only sets you up for larger more costly injuries and accidents. It can also establish distrust in your employees.

Hazards to be Identified should include:

- Past Hazards
- Current Known Hazards
- Potential Hazards

When it comes to identifying hazards, it should be an ongoing process just like the rest of an Ergonomic STRIKE. Specific times to consider hazards should include (at a minimum) when a new work station is being fit for a person, and when new job functions or tasks are initiated.

K

EY

SOLUTIONS

Perfect is the enemy of completion. When a hazard is identified, every effort should be made provide potential Solutions. Often times an iterative improvement of the working environment is the only way to get to the optimal working environment. Do not be afraid to include the impacted worker when identifying potential Solutions. If you have already established standards, training and a robust reporting process, encourage honest communication.

Key Solutions should be:

- Effective
- Efficient
- Replicable

By establishing effective, efficient, and replicable solutions, you build yourself a process. This process maximizes the benefit of evaluating a hazard and creating valuable workstation fit and job function for your employees.

E

VALUATING

If you have put in place each of the five preceding steps when it comes to evaluating the success of your ergonomics program, your KPIs should be telling you exactly what you need to refine. The steps involved in creating a robust ergonomics program are not unlike taking a new product to market. If you *have not* established standards, trained on the expectations, established robust and simple reporting, you'll have no way of knowing whether your product or ergonomics program is successful.

Evaluating should occur:

- Minimum – Annually
- Better – Quarterly
- Ideal – Monthly

When it comes to how frequently you evaluate your ergonomics program, the minimum would be annually. It is better to have a quarterly discussion over any novel solutions that were implemented and the progress or changes of any historic programs. When there is fear of severe injury or you are conducting your first STRIKE monthly, or weekly, evaluations can jump start the improvement process. More frequent evaluations allow sufficient time to collect data and make expedient course corrections when necessary.

WHAT IS ERGONOMICS?

What do the steps of an Ergonomics STRIKE stand for:?

S _____
T _____
R _____
I _____
K _____
E _____

MINDFULNESS EXERCISE

Has your company developed clear, concise standards that all employees have been trained on? If NO, who is going to take this on? If YES, what is your next step?

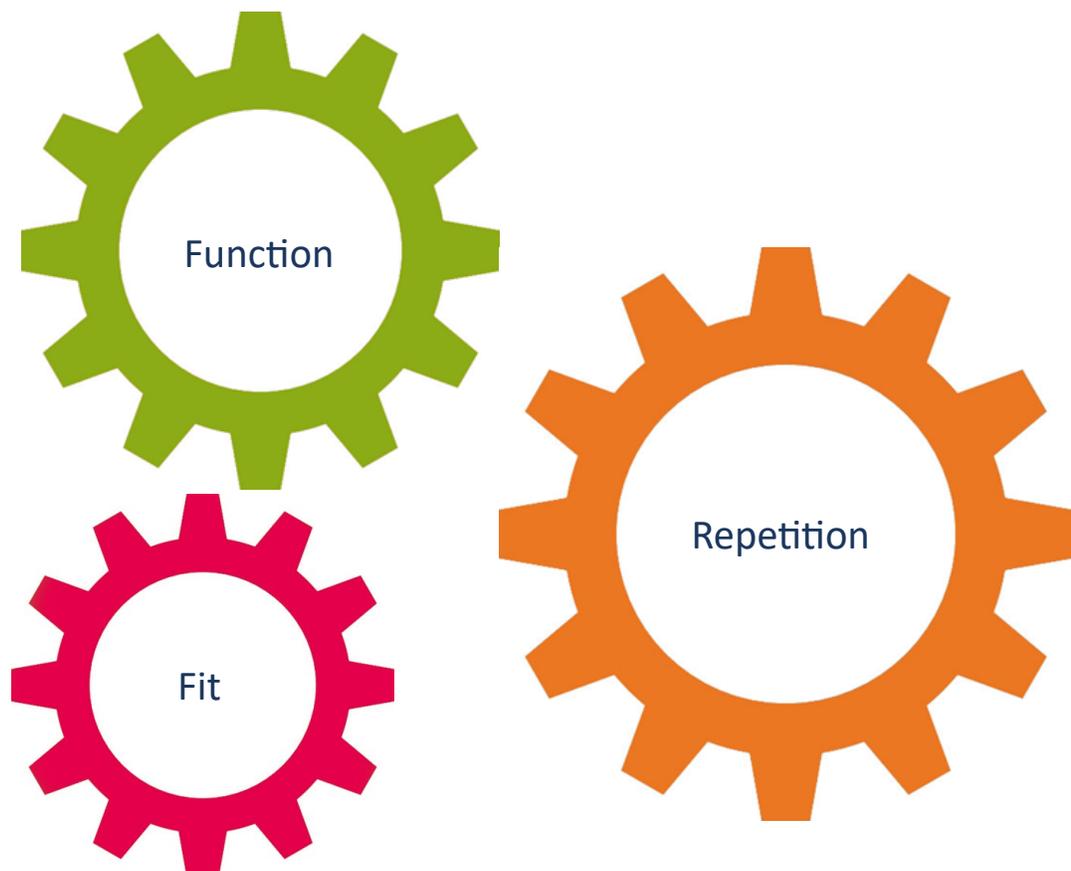
SECTION IV

How do we Maintain
Proper Ergonomics?

HOW DO WE MAINTAIN PROPER ERGONOMICS?

When it comes to the question of “How do we maintain proper Ergonomics?” The easy answer is that you implement a quarterly Ergonomic STRIKE. The reality is, just getting started with Standards and Training can be overwhelming.

Maintaining Ergonomics, especially as it pertains to establishing, standards can be broken down into a System of 3 Interconnected Components. To establish standards you must understand the function of the job, the workstation fit, and the repetition of the tasks being completed.



JOB FUNCTION

Why Does this Position Exist?

The Job Function is the collection of tasks that make up the core responsibility. It is the primary output or product to be delivered by an employee in this job or position.

The key is determining whether the task can be accomplished effectively and efficiently given the current workstation.

Factors that Affect Job Function

- ⇒ Sufficient Work Space
- ⇒ Workstation Fit (e.g., employee height)
- ⇒ Frequency of Task Occurrence



WORKSTATION FIT

Can the Employee do Their Job?

Workstation Fit refers to whether your employee can complete their job function in a safe and efficient manner. Does the workstation not only give them a space, but one that will suit the needs of both the individual and the Job Function? Height and accessibility are two common considerations.

Possible Musculoskeletal Dysfunction from Poor Workstation Fit

- ⇒ Neck Pain
- ⇒ Low Back Pain
- ⇒ Upper Extremity Injury
- ⇒ Lower Extremity Injury



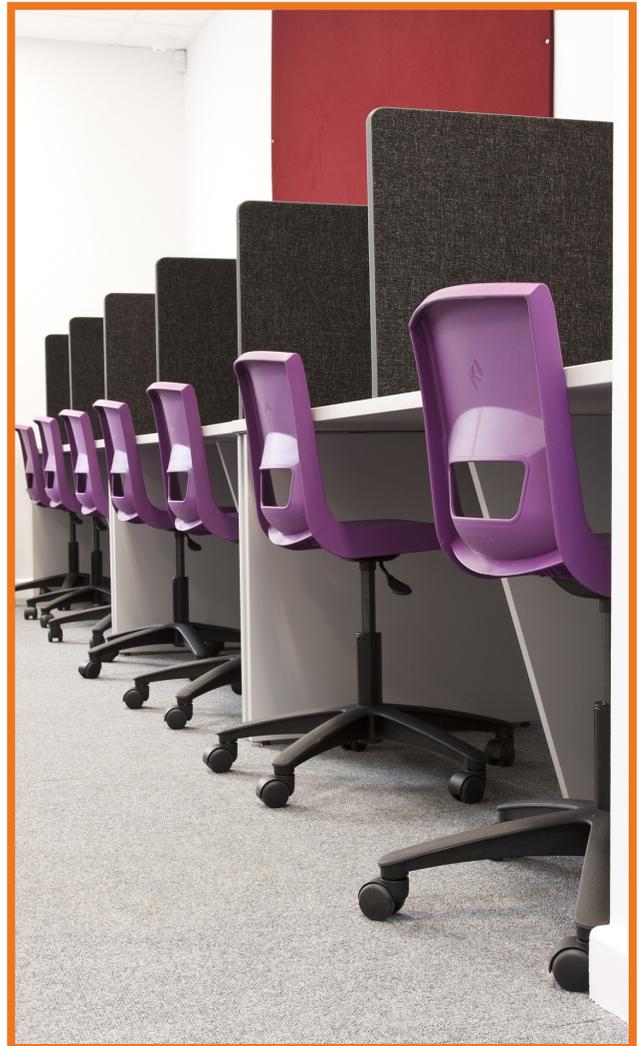
TASK REPETITION

Modern Problems

In Ergonomics, the frequency of a task is important. The more frequently a task is completed, the greater the number of opportunities for injury. Every task should be able to be completed safely and properly, every time.

Repetitive Tasks leading to overuse injuries:

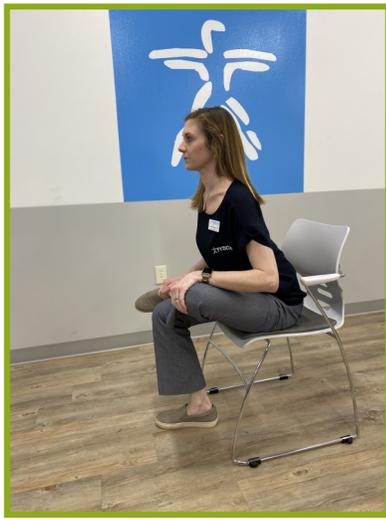
- ⇒ Typing (Carpal Tunnel)
- ⇒ Speaking on the Phone (Neck Strain & Sprain, Headaches)
- ⇒ Reading off a Monitor (Headaches)



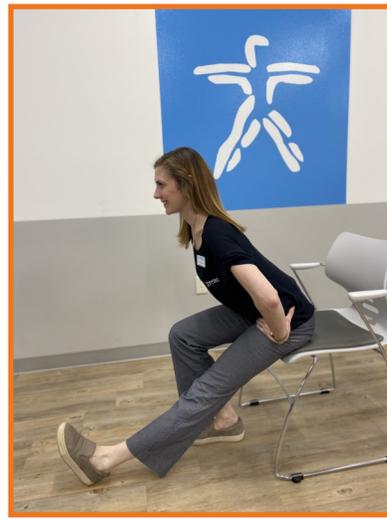
CORE 4

Due to the repetitive nature of many jobs, getting up throughout the day to stretch and refocus is one of the most important things your employees can do to maintain their overall health.

CORE 4 is a series of four brief stretches that can be completed multiple times each day. These stretches cover the neck, back, arms, and legs, which are the four areas of the body that are most likely to have musculo-skeletal dysfunction.



Piriformis Stretch (Back)



Seated Hamstring (Leg)



Trapezius Stretch (Neck)



Wrist Extensor (Arm)

HOW DO WE MAINTAIN PROPER ERGONOMICS?

1. Maintaining Ergonomics can be broken down into a System of 3 Inter-connected Components: Job _____, Workstation _____, and Task _____. (Fill-in the blanks)
2. What are the four (4) areas of the body most likely to be impacted by Ergonomic Dysfunction? *HINT* Remember the CORE 4

MINDFULNESS EXERCISE

Select one position, maybe your position. What are the essential duties (Job Function)? Does the work area meet the needs to fulfill the duties (Workstation Fit)? Is any task performed regularly and repeatedly (Task Repetition)?

FUNCTION _____

FIT _____

REPETITION _____

Now, what hazards exist for that position?

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