

Essential Elements of an Effective Office Ergonomics Process

A successful ergonomics process can be defined as one that is sustainable, business-driven, and injury-reducing. The formula for success can be classified as a “top-down support with bottom-up involvement” model, which advocates the combination of elements from a traditional ergonomics program coupled with employee involvement at several levels. Three critical elements have been identified as essential to the success of the process, including:

- The office ergonomics process is driven by risk reduction strategies. A proactive approach to ergonomics means that factors known to contribute to injury or illness are consistently identified and addressed early. Responding to risk, not just responding to consequences like injury and illness is an essential part of effective risk management.
- The ergonomics process leverages known solutions through office design standards and workstation design templates. Because of the proactive design approach, this element is known as “fix once, repeat many” or FORM.
- Adopting a “30-inch view” of people and performance can lead to dramatic reductions in injury rates and significant gains in profitability, while creating a culture of respectful employee engagement.

The Truth About Pain and Fatigue

Pain and fatigue are a daily burden for many in the work force. With good ergonomics, you can systematically decrease the amount of pain and fatigue that people experience at work. Pain is a barrier to pride in workmanship and it reduces the willingness to communicate. Workers in pain are unable to focus their attention on finding and acting on opportunities for improvement. Healthy people perform better than people who are sick and tired.

Typically, up to one-half of office workers and well more than half of all production workers routinely experience job-related discomfort. One workplace study conducted by CTD News of more than 13,000 office workers found that 16 percent reported being in extreme pain at the end of the work day. When it comes to physically strenuous jobs on the production floor, the numbers are even more worrisome.

Pain and fatigue are natural outcomes of jobs that are designed outside known human limits (reach distances, applied forces, manual handling requirements, etc.). Workplace ergonomics strives to fit the job to the worker – both “built in” through the application of ergonomics design guidelines and “bolt on” through ergonomics risk identification and reduction.

In the short term, anyone who is distracted by pain simply cannot focus on improving anything except reducing the pain. In the longer term, pain from soft tissue damage (such as when poor ergonomics contributes to work-related musculoskeletal disorders) is accompanied by the release of cytokines in the blood stream. Cytokines are a known contributor to depression and malaise.

When employees are so distracted by pain that they cannot focus on their jobs, they often suffer from the modern malaise of “on-site absenteeism”; workers don’t have to be home to be absent.

As more jobs are created in the service sector and the manufacturing sector veers from manual, high-volume production jobs, on-site absenteeism and the associated discretionary productivity become a huge financial sink hole. Effectively, the profit a company makes will be dwarfed by the amount of productivity that is at the discretion of its work force. A company may measure the wounded and maimed on its OSHA log, but we must not forget that pain and the cytokines also are measured on the bottom line.

Essential Element #1 – Adapt a Proactive Risk Management Strategy

Observation is the most basic form of assessment. Many ergonomic risks factors can be easily identified and solutions implemented at the office occupant level using observational tools. This is the low-tech approach to ergonomics. The goal is to capture existing insight and information from the work force, and then quickly move to resolving problems. To take advantage of this simple approach to risk assessment, Humantech recommends that companies develop a process for employees to identify known challenges and provide suggestions through a simple on-line assessment and e-learning process.

Efficient office ergonomics assessment tools help companies obtain information needed to make decisions with as little effort as possible. The most effective office ergonomics assessment tools highlight your priority situations and provide consistent quantitative data for identifying and prioritizing ergonomic risks.

It is not just about assessments; it's also about the corrective actions to be completed to minimize the identified risk. The most useful tools should also identify alternative job improvements and suggest no-capital options when applicable. The process must be simple enough to be used reliably by all staff and at the same time it should provide sufficient information to be useful.

To address this, Humantech recommends a structured risk factor survey called ergoTool version 5.0 (<http://ergo5.humantech.com/demo/index.do>) that incorporates a customized office needs questionnaire in order to prioritize and educate personnel on office ergonomics issues. This assessment identifies easy-to-implement solutions and recommends available equipment options. In fact, occupants using the ergoTool software are able to address many ergonomic challenges in the office by simply adjusting or arranging their existing equipment.

The ergoTool V5.0 survey examines the most critical ergonomics components in the office environment and captures quantifiable ergonomic data along with job information, task breakdowns, and employee discomfort.

The employee survey addresses these seven (7) areas:

- Workstation Layout
- Keyboard/Input Device Support
- Seating
- Computer Equipment
- Lighting
- Work Environment
- Special Considerations

ergoTool An ergonomic assessment of your work environment

Humantech

Office Survey

My Account Help Logout

Font

Workstation Layout

Workstation layout can affect your motions and postures throughout the day. Work surfaces at comfortable heights and sufficient space are critical workstation layout issues.

Workstation Space

Do you have adequate storage at your workstation for files, office supplies, and personal items?	<input type="radio"/> Yes	<input type="radio"/> No
Is there sufficient space at your workstation to store your computer, phone, and other necessary equipment?	<input type="radio"/> Yes	<input type="radio"/> No
Do you have sufficient free desktop space to perform your required job tasks (writing, etc.)?	<input type="radio"/> Yes	<input type="radio"/> No

Functional Space

Are frequently accessed items (phone, files, keyboard, etc.) within an easy arm's reach?	<input type="radio"/> Yes	<input type="radio"/> No
Do you have adequate leg room at your workstation?	<input type="radio"/> Yes	<input type="radio"/> No
Are you able to position source documents for easy reference while using the computer?	<input type="radio"/> Yes	<input type="radio"/> No
Is your monitor positioned in front of you while typing?	<input type="radio"/> Yes	<input type="radio"/> No

Work Surface

Are your primary work surfaces free from hard and/or sharp edges?	<input type="radio"/> Yes	<input type="radio"/> No
Does your work surface provide enough depth to position your monitor in line with your keyboard?	<input type="radio"/> Yes	<input type="radio"/> No
While performing non-computer tasks, does the height of your work surface allow your arms to form a 90-degree angle?	<input type="radio"/> Yes	<input type="radio"/> No

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Definitions

Free desktop space
Work surface space that is available for reading, writing, editing documents, sorting materials, etc.

Easy arm's reach
Reaching without moving the chair or having to bend or twist the back.

Source document
Papers, manuals, or books that are referenced while entering information into the computer.

Adequate leg room
Space to pull your chair close to the workstation without hitting your knees or thighs.

Primary work surface
Work surfaces where you perform most of your job tasks, including computer use, phone use, writing, document sorting, etc.

Monitor
The computer display.

Sample Portion of ergoTool V5.0 Survey

Those ergonomic risks that are not easily resolved may require analysis with a higher level of knowledge, usually from a specifically trained group of employees, facility managers or outside ergonomists. For those situations that have a high degree of ergonomic risk and require more significant capital investment to resolve, an in-depth analysis may be necessary. Very few ergonomic challenges require this depth of analysis, however, Humantech's highly trained ergonomists are available nationwide to uncover the root causes of the problem and identify the most effective corrective actions needed.

Essential Element #2 – Solution Implementation: Fix Once–Repeat Many (FORM)

Many companies focus exclusively on curing existing ergonomic problems, while ignoring the future. We call this “design amnesia,” a vicious circle in which known problems are replicated in new workstation layouts, even after effective solutions to the problems have been defined and implemented. Design amnesia often occurs because those specifying the layouts or purchasing equipment have a greater understanding of pricing requirements rather than people requirements.

You can avoid design amnesia with two simple mechanisms: education for the specifiers to recognize ergonomic problems and easy access to effective design solutions. By combining ergonomics education with design solutions, your company can achieve a culture shift to an ergonomics design strategy called FORM (Fix Once-Repeat Many). With the FORM strategy, the layout and outfit of office workstations optimize human performance, and you can prevent design mistakes from the start.

Office design requires informed decision making to formulate the best solution while balancing a wide range of trade-offs (e.g., cost, vendor conformance, compatibility). One trade-off often

overlooked is the ergonomic “quality” of the design for those who must use the product or equipment. This is simply due to the lack of education for technical or purchasing personnel in the principles of ergonomics and human performance. To fully leverage a company’s design investment, individuals who specify equipment must be able to recognize potential problems and take the steps necessary to rectify them. Learning to recognize potential problems in designs and to apply ergonomic criteria is critical to breaking the cycle of design amnesia.

The real advantage in ergonomics design comes when office equipment specifiers have easy access to design solutions, which typically come in two forms:

- *Office ergonomics design standards* formalize the limits of human capabilities in ways that specifiers can easily apply them. These can be applied as rules, checklists, or purchasing guidelines, that address factors such as viewing requirements, working heights, adjustment capabilities, and postural considerations.
- *Office workstation templates* provide a means for communicating successful applications of the office design standards. These are commonly specific to a job task or function, and provide a starting point for the creation of next generation designs.

Essential Element #3 – Realize The Lasting Power of Respectful Engagement by Adopting a 30” View of People and Performance

The vast majority of workers are smart, well trained and motivated to do a good job. They are knowledgeable about how to increase efficiency and quality. They want to work smarter, not harder. They don’t mind a fast pace as long as it’s a better way to work.

So why do so many office ergonomics initiatives fall short of their goals and fail to keep employees engaged? One common reason is a lack of demonstrated respect. Too often, an office ergonomics teams inform operators about what is going to happen to them, disrupts their daily routines in the name of improvement and then retreats to another area to figure out their next big idea.

Adopting a "30-inch view" of people and performance can lead to dramatic reductions in injury rates and significant gains in profitability, while creating a culture of respectful employee engagement. The “30-inch view” roughly represents the length of a worker’s arm, or the distance between a worker and his or her workstation – issues are dealt with conclusively on a one-by-one basis. At 30 inches, people converse, reach for computing equipment and sit at their workstation. Unfortunately, many employees face multiple barriers to productivity, quality and safety within their 30-inch range of control.

Beyond 30 inches, people have difficulty reading, hearing, speaking and working. At more than 30 inches away, problems become less intimate and appear to be someone else’s responsibility.

With a 30-inch view on continuous improvement in the office environment, the value of ergonomics to safety, quality, production and the ability to meet customer needs is evident. As a result, many “improvements,” even when made with an eye on the 30-inch view, are reversed seconds after the office team moves out of the workstation.

To be effective, office ergonomics cannot be done to people. It must be done with them. Asking occupants to help identify opportunities to improve their jobs is an essential part of the process. Arm them with well-conceived ergonomic assessment tools. Make them part of the continuous office ergonomics improvement team and encourage them to act. In fact, ergonomics can be the key to opening up a whole new dimension to continuous improvement, driven at the workstation level.

Respectful engagement is durable and will help companies through some otherwise unmanageable problems. It is one of the most important elements in an office ergonomics program designed to reduce workplace injuries and on-site absenteeism, and accelerate improvements in productivity and profitability.

Humantech offers:



Web-based office ergonomics management database (ergoTool V5.0) that provides detailed reports and employee-specific solutions for your office ergonomic challenges. Data can be sorted to help you prioritize improvements, and an action plan page helps ensure your solutions are cost-effective and easy to implement:

Cost-effective

- Minimizes evaluation time
- Provides cost-effective solutions
- Operates through your existing Internet channels
- Eliminates the need for costly on-site evaluations by ergonomics experts

Participative

- Employees completing the survey benefit from basic ergonomics awareness
- Employees can view survey results and immediately implement simple, no-cost solutions

Proactive

- Fix ergonomic challenges before they cause injuries
- Target areas of highest opportunity for improvement

Management driven

- Identify and prioritize ergonomic issues
- Access detailed solution sets for each workstation
- Track the impact of ergonomic improvements in your workplace

Flexible

- Tailor certain ergoTool features to your company's specifications

Humantech Consulting & Training Support

We provide organizations with the largest collection of highly skilled ergonomists in North America to address additional office ergonomics issues such as.

- Perform consistent detailed office ergonomic assessments as-required
- Develop company-specific office workstation equipment specifications or workstation design templates
- Provide office ergonomics awareness training
- Provide office ergonomics assessment and workstation design training
- Develop office ergonomics management systems and program support