Integrated Health and Wellness in the Workplace: Workers Compensation Implications

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Abstract

Wellness is about the person and decisions they make about their health, safety and well-being both on and off the job. However, conflicts can arise in the occupational (health protection) and non-occupational (health promotion) side of the wellness. For example, positive steps can be made in off-site wellness but if the design of jobs, tasks, equipment and the organization do not match the capability and limitations of the worker then we have a wellness conflict. This paper will begin with an overview of wellness including the dimensions of wellness and impact on workers compensation claims frequency and costs. Integrated approaches to wellness will be described and an evidence-based integrated wellness continuum will be introduced. This wellness continuum will highlight specific safety and ergonomic interventions critical to the success of occupational wellness initiatives. Finally, an Integrated Health and Wellness roadmap will be provided offering guidelines for implementing health promotion and health protection interventions.

What is Wellness?

Wellness has been described in different ways by many different people over the years varying from basic approaches of physical health and lifestyle to more expanded approaches that include multiple dimensions. There is no universally accepted definition of wellness. Many websites simply define wellness as “the state or condition of being in good physical and mental health” (dictionary.com). Charles B. Corbin, Ph.D. and Robert P. Pangrazi, Ph.D. of Arizona State University in their 2001 paper entitled “Toward a Uniform Definition of Wellness: A Commentary” recognized the absence of a clear definition of wellness has resulted in confusion and misinformation on what is and is not wellness. Their proposed uniform definition of wellness is as follows:

“Wellness is a multidimensional state of being describing the existence of positive health in an individual as exemplified by quality of life and a sense of well-being.”

While there is disagreement on the exact number or even types of dimensions, there is general agreement among professionals that wellness is multidimensional. Wellness addresses the whole person with “wellness” and “wellbeing” often used interchangeably. The sub-dimensions of wellness described below are adapted from multiple public internet sites but notably Swarbrick, 2006:
• **Physical:** Taking personal responsibility for one’s own health, healthcare and safety. The physically well person exercises regularly, achieves proper rest, maintains a healthy diet, doesn’t smoke, and avoids harmful habits such as drug and alcohol abuse. The physically well person learns about and identifies symptoms of disease, gets regular medical checkups, wears seat belts and uses personal protective equipment.

• **Social:** Encompassing optimism, self-esteem, self-acceptance, and the ability to share feelings. The socially well person strives to be engaged, involved with others that support their interests and a positive contributor to their community.

• **Intellectual:** Requiring critical thinking skills and the ability to make sound decisions. An intellectually well person uses the resources available to expand one's knowledge and improve skills and “do the right thing”.

• **Emotional (mental):** Including feelings of self-esteem, self-confidence, self-efficacy and trust. The emotionally well person manages stress well and has more time to enjoy life. The emotionally well person strives to be positive and optimistic while recognizing the feelings and needs of others.

• **Environmental:** A sense of good health by occupying pleasant, stimulating environments that support wellbeing. An environmentally well person leads a lifestyle that is respectful and minimizes harm to the environment.

• **Spiritual:** Creating a sense of inner peace. A guiding set of principles, values and beliefs that provides a sense of meaning and purpose in life. The spiritually well person lives a life consistent with those values and beliefs and can be expressed through good deeds, nature, art, music, religious beliefs, meditation and/or others.

• **Occupational:** Personal fulfillment from jobs or chosen career fields while still maintaining work-life balance. An occupationally well person contributes to their career and makes a positive impact on the organization they work for and society in general. Choice of profession, job satisfaction, career ambitions and job performance are key indicators. The occupationally well person also recognizes activities during work that can contribute to an injury.

Thus the simplified definition of wellness proposed by the author:

“**Wellness is about the person and decisions they make about their health, safety and well-being both on and off the job.**”

**Wellness and the Workplace**

The impact of wellness in the workplace is clearly evident in the costs of workers compensation (WC) claims due to duration of disability and comorbidities e.g. diabetes, chronic pulmonary disease, drug abuse, hypertension, obesity and others. In one study of insurance industry WC claims, the share of claims with a comorbidity diagnosis nearly tripled from Accident Year 2000 to 2009, growing from a share of 2.4% to 6.6%. This same study concluded WC claims with a comorbidity diagnosis are more likely to be lost time (Laws and Colon, 2012).

Obesity is one of this country’s major health problems with over two-thirds of adults being overweight or obese (Center of Disease Control, 2010). In the U.S., employers bear a large share of healthcare costs and it is estimated that in 2010 direct health-care costs attributable to being overweight or obese exceeded $100 billion (Wang et al., 2008). Research has shown a clear relationship between BMI and cost of WC claims (Østbye et al., 2007). Insurance industry research has shown there are systematic differences in the outcomes for obese and non-obese WC claimants with comparable demographic characteristics, and a greater risk that injuries will create permanent disabilities if the injured worker is...
obese (Shuford and Restrepo, 2010). In the comorbidity and WC study mentioned above, 81% of lost time claims with a comorbidity diagnosis were attributed to obesity. Longitudinal studies demonstrating a strong association between obesity and occupational injury over time are rare but one Liberty Mutual study (Lin et al., 2013) provides compelling evidence that obesity plays a role, not only as a co-morbidity making post-injury outcomes more complex, but also as a contributor to injury risk. In this study, obese workers were associated with 29% higher odds of sustaining workplace injuries than those of normal weight.

Implications of these studies provide support for engaging employees in health promotion programs targeting obesity and healthy behaviors. These programs can now be viewed as having a potentially protective benefit in terms of workplace safety and disability prevention.

Integrated Approaches to Wellness

Considerable public attention has been given the past several years to integrated approaches to workplace health and wellness as evidenced by the NIOSH Total Worker Health™ (TWH™) initiative formally known as the NIOSH WorkLife Initiative. TWH™ is a strategy integrating occupational safety and ergonomics or “health protection” initiatives with non-occupational “health promotion” initiatives to enhance overall personal health and wellbeing and prevent worker injury/illness.

The NIOSH TWH “Research Centers of Excellence” provide very useful resources on background and how to implement an integrated health and wellness process. These “Centers of Excellence” include the:

- Center for the Promotion of Health in the New England Workplace (CPH-NEW) at University of Massachusetts-Lowell.
- Harvard School of Public Health Center for Work, Health and Wellbeing.
- Oregon Healthy Workforce Center (ORhwc).
- University of Iowa Healthier Workforce Center for Excellence (HWCE).

While integrated approaches make great sense, implementation is often a challenge as health promotion and health protection initiatives are often managed separately from each other with decision makers located in different departments. In addition, a level of ergonomics knowledge is required on both sides to connect why the design of the job and employee role in safety is so critical to their support of health promotion and health protection initiatives. Implementing integrated health and wellness programs requires an understanding of how the “well” worker and the “well” organization combine to produce positive outcomes in personal wellbeing, safety, productivity, injury and disability.

The “Integrated Workplace Health and Wellness” continuum depicted in Figure 1. provides a deeper view of the scientific evidence-base supporting health protection and health promotion with an eye towards managing workplace safety and ergonomics. Employee participative approaches and a positive safety climate are critical variables linking health protection and health promotion. Health promotion elements in this continuum are depicted by the red font or the “well” worker and the blue font are those elements that are important to a “well” organization. Ergonomics is a common theme in the “well” organization elements.
The following is a discussion of each element in the continuum and overall importance to worker wellbeing.

Employee Participative Approaches

The research basis for health promotion and health protection participatory ergonomics is described by Henning et al., 2009. Participative approaches in workplace safety and ergonomics has been applied for years and known to be a key to successful outcomes. In other words, employee participative approaches are key to a “well” organization. Active employee participation includes:

- Recognition and positive reinforcement to employees who actively participate.
- Procedures to respond to employee input, suggestions, and complaints.
- Frequent communication to employees on program components, expectations and progress.
- Teams to generate active involvement; especially in the design of interventions.

The NIOSH TWH™ initiative has provided tools to assist organizations in determining readiness for integrated approaches and developing an employee driven process in the design of interventions. The CPH-NEW, Healthy Workplace Participatory Program site provides readiness and design guide tools for organizations with minimal to complex health and safety programs and Table 2. “Measures by Indicator of Integrated Approaches” in Sorensen et al., 2013 (see references) provide key elements required for successful integration.

An important first step is forming a Steering Committee consisting of senior and mid-level managers along with key personnel in both the traditional wellness and safety/ergonomics sides of the house who can bring resources to the table. The Steering Committee works with the Design Team, a core group of line-level employees. The Intervention Design and Analysis Scorecard (IDEAS) tool (Robertson et al., 2013) is a seven-step process that engages employees in the root cause identification of work-related safety and health concerns and design of appropriate interventions. A facilitator is required to
guide the process by organizing and documenting the group activities involved in each step. Before using the tool, one or more health or safety concerns are identified through an assessment process.

IDEAS Step By Step:

- Step 1: Identify Problems & Contributing Factors
- Step 2: Develop Intervention Objective & Activities
- Step 3: Set Selection Criteria
- Step 4: Apply Selection Criteria
- Step 5a: Rate Interventions
- Step 5b: Select Intervention Alternatives
- Step 6: Plan & Implement Interventions
- Step 7: Monitor & Evaluate Interventions

Interventions include examples from workplace ergonomic, behavioral and lifestyle interventions. A desirable outcome of the IDEAS process might be interventions targeting behavioral and lifestyle thus increasing the opportunity to engage the at risk worker population described above who generally do not participate in the company wellness program regardless of incentives offered.

Safety Climate

A positive safety climate is essential to success of integrated wellness approaches. Safety climate refers to the workers’ perception of an organization’s policies, procedures, and practices as they relate to the true value and importance of safety within the organization (Zohar, 1980). Important to wellness, is safety climate can predict employee motivation to work safely as well as the extent of their knowledge about safe practices. These factors, in turn, predict the extent of safe behaviors or safety performance. Consequently, there is firm evidence that safety climate is a leading indicator of safety; while incidents and injury rates are a lagging indicator. To quote Dr. Dov Zohar, “The evidence is irrefutable; safety climate is a solid predictor of safety outcomes”.

Validated and reliable safety climate surveys are available (see Zohar and Luria, 2005, Huang et al., 2013a and 2013b) but without a positive safety climate, achieving a “well organization” could be difficult.

Health Promotion Overview

Health promotion is the non-occupational side of wellness or traditional wellness program interventions that focus on healthy lifestyles and healthy behaviors. A 2008 survey of large manufacturing employers reported 77% offered some kind of formal health and wellness program i.e. initiatives that enhance personal health and wellbeing (Baicker et al., 2010). In this study, benefits of a healthy workforce include reduced healthcare costs, reduced workers compensation costs and reduced costs associated with absenteeism (off the job) and presenteeism (on the job but not functioning at full capacity). Health promotion initiatives often involve a number of different components such as:

- Disease management programs
- On-site or near-site health clinics
- Health risk assessments
• Biometric screenings
• Health coaching by health professionals
• Information campaigns on healthy lifestyles and nutrition
• On-site exercise facilities and classes
• Discounts or company subsidies for off-site exercise facilities and classes
• Employee assistance programs that address physical and mental health, workplace stress, caregiving challenges, and other issues; and
• Employee fitness challenges (such as exercise or weight loss competitions).

The health risk assessment/appraisal (HRA) most often serves as the initial intervention or requirement for participation in a wellness program. An HRA is a survey that assesses work and home environments and commonly used with biometric screening of risk factors such as blood pressure, cholesterol and body mass index (BMI).

An HRA gathers baseline self-reported health data from the employee which, in turn, is used by the employer to tailor subsequent interventions. Participation is almost always voluntary. A downside of voluntary programs is that they often times fail to engage those employees at greatest risk. In one study, researchers conducted a voluntary health risk appraisal of all employees and about 1/3 of the respondents were labeled high-risk for future prolonged disability, because of self-reported physical pain, current or future concerns about physical ability to do their job and more. An occupational health intervention program for high-risk employees was implemented and results were impressive with an average reduction of 11 days lost per person. The greater reduction occurred in MSD cases (Taimela et al., 2010).

Many organizations have implemented incentives to increase the participation rate in wellness programs. Some have implemented penalties for not participating and others have tried mandatory participation but legal challenges to these provisions have been raised so always consult with legal counsel before implementing such programs. Proactive wellness programs addressing higher risk workers can be helpful in reducing likelihood of disability and disability days lost. Increasing voluntary participation as a participatory ergonomic solution is an opportunity of integrated approaches to be discussed later.

Health Promotion Return on Investment
A number of studies over the years have shown positive return on investment (ROI) for worksite wellness initiatives but caution is warranted in interpretation of these findings. For example, one recent report, a review of published studies on worksite wellness found that the return on investment is $3.48:1 due to reduced medical costs and $5.82:1 due to reduced absenteeism (American Institute for Preventive Medicine) but many of these results are considered anecdotal.

Two recent meta-analysis studies of ROI and wellness programs provide an interesting view of wellness programs and their cost-benefit. In the first study (36 studies, many industries, and larger companies with more than 1000 workers) concluded on average that medical costs fell by about $3.27 for every dollar spent on wellness programs and absenteeism costs fell by about $2.73 for every dollar spent). Analysis criteria for this study included 1) must have had a well-defined intervention 2) must have had a treatment and comparison group, and 3) must be a distinct new intervention. Average intervention size was >3000 employees and comparison group 4,500 employees (Baicker, et al., 2010).

Another study (51 studies published between 1984 and 2012 with 261,901 participants and 122,242 controls from 9 industry types across 12 countries), downplayed some of the positive ROI in single and multicomponent health promotion programs when considering the quality of a study’s methodology (Baxter et al, 2014). Workplace health programs generated a positive return on investment in all instances.
except randomized control trials. ROI had a propensity to change with methodological quality findings in relation to methodological quality, whereby the highest quality studies demonstrated smaller returns. The authors conclude:

“Although a positive return on investment is probable, considerable critical appraisal of published return figures are needed to increase confidence in the degree of magnitude”.

**Health Protection Overview**

Health protection considers the occupational side of wellness and interventions address workplace safety and ergonomics. Wellness issues are associated with the physical and mental job requirements and potential mismatch with employee capabilities and limitations resulting in fatigue, stress, injury, and disability or absence from work. Background history and the scientific rationale supporting an integrated approach has been provided in NIOSH publication 2012-146, *Research Compendium; The NIOSH Total Worker Health™ Program: Seminal Research Papers 2012*.

The published literature supporting the health protection elements in Figure 1. span more than sixty years but only selected studies are highlighted here to address the specific health and wellness link. NIOSH Publication 2002-116, *The Changing Organization of Work and the Safety and Health of Working People: Knowledge Gaps and Research Directions* is a good reference and describes negative health effects from work organization such as potentially stressful or hazardous circumstances from reduced job stability and increased workload demands. A research agenda was proposed to investigate and reduce occupational safety and health risks associated with the changing organization of work. Notable is the organization of work described in contexts such as the “organizational context or management structures” including supervisory practices, production methods, and human resource policies and “work context or job characteristics” including climate and culture, task attributes, social aspects, worker roles, and career development.

**The Ergonomics Connection**

Ergonomics is simply defined as the design of the job to fit the capabilities and limitations of the worker. Primary factors influencing job demands to worker capacity include characteristics of materials, organizations, tasks and environment and characteristics of the worker including, psychological, physiological or fitness, and biomechanical capability or strength (Dempsey, 1998). The International Ergonomics Association (IEA) describes three domains of ergonomics:

1. Physical – concerned with human anatomical, anthropometric, physiological and biomechanical characteristics as they relate to physical activity.
2. Cognitive – concerned with mental processes, such as perception, memory, reasoning, and motor response.
3. Organizational – concerned with the optimization of sociotechnical systems, including organizational structures, policies, and processes.

The physical domain is often recognized as micro side of ergonomics and solutions mitigate physical risk factors associated with high repetition, long duration, high force, awkward postures and others. The organizational domain is the macro side or simply “macroergonomics”. This domain addresses psychosocial risk factors or the organizational and work context issues described above.
According to the late Dr. Hal Hendrick, "If you take a microergonomic approach and look at the research results over the years, successful programs tend to get a 10-25 percent improvement, whether it is in productivity or accident reduction. But when you get the macroergonomic level in there and it is a true macroergonomic intervention, we normally see 50-90 percent improvement. Associated benefits include better productivity and quality, and improved job satisfaction and employee commitment" (Ergoweb interview republished June 28, 2012).

The following is a brief overview of the scientific evidence base supporting ergonomic job design and relationship to wellness. Broad solutions are also offered.

**Job Design and Stress**
Job stress is the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources or needs of the worker. Job stress can lead to poor health and even injury (NIOSH, 1999). Low levels of control and work overload are linked to job stress and stress-mediated health outcomes such as cardiovascular disease and psychological disorders (Karasek and Theorell, 1990). Job stress is "when demands are beyond the ability of the worker to cope with them.” (Christa Sedlatschek, EU-OSHA Director at the official launch of the new Campaign, Healthy Workplaces Manage Stress, 4/9/14).

Fatigue is closely related to job stress. People experience abnormal stress when either deprived or over stimulated; minimal stress when stimulation is moderate; in other words a U-function (Selye, 1971). A higher incidence of disease and/or risk condition is associated with higher job stress (Weiman, 1977). Fatigue is closely related to performance. Several studies have shown that people perform best at an optimum level of job activity, difficulty or intensity; i.e., a person can be overloaded i.e. exhaustion, or underloaded i.e. boredom and monotony (Snook, 2005). In office work, lack of job content and poor job design can lead to psychosomatic stress (psychosocial disturbances), result in health problems, increases in absenteeism, and decreases in performance (Robertson et al. 1998).

Macroergonomics utilizes extensive employee participation in identifying work system deficiencies and designing solutions (Hendrick, 2000). Macroergonomic approaches include:

- Recognition of employees for good work.
- Opportunities for career development.
- Organizational culture that values the individual worker.
- Demands (both physical and mental) commensurate with capabilities and resources of individuals.
- Jobs designed to provide opportunities to use skills.
- Employees have input on decisions or actions that affect their jobs and the performance of their tasks.

**Shiftwork Design and Work Scheduling**
Long work hours, demanding work schedules and sleep/wake durations are associated with adverse outcomes on worker safety, health and wellbeing (Caruso et al., 2006). Shorter sleep durations are associated with cardiovascular disease, hypertension, diabetes, depression, and obesity (Gottlieb et al, 2006, Gangwisch et al. 2006, Patel, et al., 2006). Lack of sleep has been associated with traffic crashes (Connor et al., 2001; Teran-Santos et al., 1999) and work-related injuries (Folkard, 2003, Folkard et al., 2005, Folkard and Lombardi, 2004, 2006.).

Based upon available research, consider the following ergonomic guidelines when designing a shift system for safety and health (Rosa and Colligan, 1997, Dembe et al., 2005, Folkard, 2003, and Kerin and Aguirre, 2005):
• Day (morning) shifts are to be preferred over afternoon or night shifts. If additional hours are needed to meet production demands, it may be better to add hours to each shift or add an additional day of work. See below on rest days off.
• Limit work to 5 or 6 consecutive shifts in a row.
• Provide for frequent rest breaks. Hourly breaks are appropriate for many kinds of work, but for highly repetitive or strenuous work, breaks more frequently than once each hour are necessary.
• Schedule work so that all workers have at least two rest days off in a row and that at least one of these days is Saturday or Sunday.
• Avoid several days of work followed by 4 to 7 day mini-vacations, e.g., 10 to 14 days of work followed by 5-7 days off. These schedules should be used when there is no other choice, e.g., mining or oil exploration.
• Keep the schedule regular and predictable.
• Alternate weeks of overtime with weeks of normal time.
• Participatory approaches to shift scheduling are encouraged rather than mandatory scheduling.

Night Work

• Keep consecutive night shifts to a minimum. Only 2 to 4 nights in a row should be worked before a couple of days off. This keeps circadian rhythms from being disturbed and limits sleep loss.
• The European Commission, Working Time Directive recommends keeping night work at an average of 48 hours per week, allowing up to six 8-hour night shifts or four 12-hour night shifts per week.

Sedentary Work, Sit-Stand Workstations and Training

Lack of physical activity is one of the leading causes of preventable death worldwide. Prolonged sitting time, independent of physical activity, has emerged as a risk factor for various negative health outcomes. Studies have demonstrated associations of prolonged sitting time with premature mortality, chronic diseases such as cardiovascular disease, diabetes, cancer and obesity (Pronk et al., 2011). Sit-stand workstations allow the user to adjust the height of the work surface from a seated height to a standing height.

The benefit is workers will be able to reduce sedentary time while at work by changing from sitting to standing thereby improving health outcomes, and possibly improving work productivity. Health benefits include increased HDL cholesterol, improved mood outcomes, reduced eye strain, and reduced upper back, neck and shoulder pain (Alkhajah et al., 2012, Pronk et al. 2011, Robertson et al., 2013). Sit-stand workstation users, who received comprehensive training (1.5 hours) varied their postures at work, exhibited increased productivity at work, compared to those who were not trained (Robertson et al., 2013). Training objectives in this study are as follows:

• Recognize work-related MSDs and risk factors.
• Understand importance of varying postures.
• Know how to re-arrange the workstation to maximize the “comfort zone”.
• Recognize and understand visual issues in the office environment and reduce visual discomfort.
• Understand computing habits (rest breaks) and know how to change work rest patterns.
• Know how to use various work spaces for individual and group work.
• Be aware of existing company health and ergonomic programs.
• Know how to obtain ergonomic accessories through the company’s programs.
**Return to Work Programs**

Return to work programs can have a positive impact on overall health and wellness. Studies have shown that long-term work loss with a higher risk of heart disease, depression and other disorders resulting in diminished quality of life, and shortened lifespan (Waddell et al., 2007). The longer a person is away from work, the less likely he or she will return to work-ever (Pransky, 2010). Supervisors trained to respond to work injuries in a positive way including communication and problem solving with employees on return to work accommodations significantly reduced the number and cost of disabling WC claims (McClellan et al., 2001, Shaw et al. 2006). In addition, significant decreases in absenteeism and workers compensation claims can result when RTW programs are integrated in health and wellness strategies (Chapman, L.S., 2003). RTW programs and integrated disability management strategies complement strategic health and wellness initiatives by shifting attention to employee health as an investment (Burton Blatt Institute, 2012). Key elements of a RTW program include:

- Policy stating management commitment, responsibility, and support for the program.
- Managers, supervisors, and employees aware of their roles and responsibilities.
- An internal RTW coordinator possessing strong organization and communication skills to coordinate injury management plans, company claims handling procedures, employee benefits, accident investigation and follow-up reporting.
- Essential job functions, job descriptions/job analyses with clearly defined critical job tasks and physical requirements consistent with the Americans with Disabilities Act.
- Identification and documentation of appropriate short term modified duty/ transitional work duty options through all departments.
- Written agreements/offers of modified/transitional work after health care provider release.
- Management and Supervisors trained on their roles & responsibilities within the RTW program.

**Implementing an Effective Integrated Process**

The integrated safety, health and wellness roadmap below is a step-by-step approach for implementing an effective integrated health and wellness process.

1. Determine baseline organizational readiness for integrated wellness programs including senior management commitment, participatory culture, Steering Committee/Design Team, resources, ergonomics and safety knowledge (see CPH-NEW Healthy Workplace Participatory Program and Sorensen et al., 2013).

2. Identify the business case or opportunity for integrated wellness in your organization through an analysis of injuries, claims and losses.

3a. Assess your current health promotion initiatives including Health Risk Assessments (HRA), biometric screening, healthy behavior and lifestyle initiatives, and participation rates.

3b. Assess your current health protection initiatives including safety, ergonomics and return to work programs.

Determine overall conclusions from your evaluation of steps 3a and 3b including opportunities for improvement and recommended plan of action to close gaps if necessary.

4. Complete an analysis of problem jobs or opportunities identified in step 2.
5. Employee teams determine health promotion and health protection solutions: a) ergonomics; job/task
design, shiftwork design, workstation design b) behavioral; training, administrative controls, c) lifestyle.

6. Agreed upon action plans are implemented and results monitored over time. Rates of return including
injury cost reduction, reduction in healthcare costs, absenteeism and presenteeism are performance
metrics to be analyzed over time.

Summary

There are many definitions of wellness but it is important for all stakeholders to understand how a “well
organization” and a “well employee” work together to form a win/win for both. Ergonomics ROI studies
have shown promising returns for each dollar spent on health promotion i.e. reduced healthcare costs,
reduced WC costs and reduced employer costs associated with absenteeism and presenteeism. Legacy
studies on safety and ergonomics show positive ROI returns for safety, productivity and quality so clearly
there is a business opportunity with integrated approaches. Management commitment and employee
involvement; especially a positive safety climate are critical variables to successful outcomes. The
contribution of ergonomics to wellness at both micro and macro levels cannot be overstated and the
evidence base is solid. Remember, Ergonomics is about “Healthy Jobs, Healthy Workers and Healthy
Organizations” (NIOSH 99-101).

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