ERGONOMICS, A QUESTION OF FEASIBILITY pdf

1: Chapter III: Technological Feasibility

Ergonomics, a question of feasibility: hearing before the Subcommittee on Oversight and Investigations of the Committee on Education and the Workforce, House of Representatives, One Hundred Fifth Congress, first session, hearing held in Washington, DC, July 16,

Employers with locations in California are well-advised to evaluate their work environments in light of these latest developments and consider the need for workplace safety experts to assess their individual circumstances. The Court adopted a fact-based approach that depends not on the entire job, but on the specific task s a worker is performing when the question of seating arises. Accordingly, an expert ergonomics assessment of specific job tasks is critical for California employers. This can help determine not just if seating is reasonable and feasible, but whether it could create new ergonomic hazards or other problems associated with the task in question. Origins of Suitable Seating Litigation In , California enacted legislation requiring employers to: Litigation over suitable seating was minimal until , when the California appellate court in Bright v. The PAGA allows an employee to bring an action for civil penalties for violations of provisions of the Labor Code that do not provide for the recovery of a civil penalty. The Ninth Circuit asked for the analysis because it was hearing two appeals of suitable seating cases in federal district court â€" Kilby v. If an employee has not provided any seat, must a plaintiff prove a suitable seat is available in order to show the employer has violated the seating provision? On April 4, , the California Supreme Court issued an opinion holding that: If the tasks being performed at a given location reasonably permit sitting, and provision of a seat would not interfere with performance of any other tasks that may require standing, a seat is required. Finally, the Court put the onus on employers to explain why they cannot provide suitable seating if the nature of work and totality of circumstances call for it. While these answers do not provide a bright-line test on whether seats must be provided in any given situation, they do give employers and their attorneys a great deal of room to argue that seating is not required. They are also almost certainly going to give rise to even more lawsuits. The Supreme Court added: Courts should look to the actual tasks performed, or reasonably expected to be performed, not to abstract characterizations, job titles, or descriptions that may or may not reflect the actual work performed. This analysis, when applied by the courts that are hearing suitable seating complaints under the PAGA, should reduce the likelihood of class certification for groups of employees with the same or similar job titles. With the Court embracing individualized assessments of job duties, locations, task duration, etc. Importance of an Ergonomic Assessment Ergonomic assessments have played an important role in the internal evaluation of whether seating is necessary given the nature of the work but also in defending against collective actions. Suitable seating at its core relates to whether the nature of the work permits a seat. A simple answer to this question would be to provide seats for every task or in every work area. This approach, while it seems to satisfy the ruling, would not necessarily be the best option for the employee because the introduction of a seat in a work space may actually increase awkward postures, forces, and movements that would cause injury instead of providing relief from fatigue or decreasing the risk of injury. The best way to determine the appropriate use of a seat is to perform an ergonomic analysis. Ergonomic analysis looks at the tasks that are being performed and the capabilities of the individuals performing those tasks to ensure that tasks are being performed in an efficient, consistent way that does not put undue stress on the body and cause injury. Ergonomic analysis can evaluate the nature of the tasks large and small and the work environment to determine if the tasks should be performed in a seated or a standing posture. Ergonomic principles provide established criteria for seated and standing work. Through the application of ergonomics models, an ergonomist can evaluate the tasks, apply appropriate criteria, and evaluate if seated or standing work is recommended. Additionally, a certified professional ergonomist CPE can evaluate scenarios where the introduction of a seat may change work-related ergonomic risk factors such as posture, frequency, and force that may significantly impact the injury risk. The evaluation of the duration of tasks may include not only the overall duration of the tasks that make up a substantial part of the work day, but also the duration of other significant tasks. The duration of a task along with information related to the presence of other risk factors is a

consideration in whether a seat is recommended from an ergonomics perspective. Along with the duration of tasks, the frequency of a task was also noted in the court ruling. Frequency may indicate the overall frequency of an activity or task, such as how often a transaction is occurring; however, there are other frequency considerations from an ergonomics perspective. Frequencies of awkward postures, forces, and manual handling activities have a direct impact on the risk of injury in the workplace, whether it is in a seated or standing position. An evaluation of the risk related to frequency using existing models is an important consideration to evaluate the implications of introducing a seat to tasks that are currently being performed while standing. The location in which a task or tasks are being performed has a direct impact on the awkward postures, forces, and frequency required to complete a task. From an ergonomics perspective, the physical layout of a workstation should be designed around the tasks being performed and the characteristics of the task lifting, bagging, handling, assembling, moving, walking, reaching, etc. An appropriate ergonomic evaluation of the tasks includes these items and documents the duration and frequency of tasks and risk factors, while taking into account the locations in which these tasks are being performed. A key component involves considering all of the individuals working within an area. The location and physical layout of a workstation and the tasks of other individuals in the same area are important considerations when determining, from an ergonomic perspective, whether a task should be performed in a seated or standing position. Reasonableness and Feasibility In addition to the nature of the work, it is important to assess whether a seat can be used safely and effectively within the work environment. A review of the tasks will yield guidance as to whether a task can be performed in a seated position; however, additional feasibility considerations are necessary. These may include whether a seat will interfere with other standing tasks, the frequency of transition from sitting to standing and the impact of quality and effectiveness of task performance. An assessment of the introduction of a seat into the work area and whether it interferes with other standing tasks in near proximity may either confirm the use of seats or reveal additional considerations. One major consideration is the extent to which other tasks can be performed within the work area. Are employees able to walk around and effectively accomplish other tasks? Can employees safely exit the work area if needed? Are clearances maintained within the work area? The ergonomic analysis may have indicated that some portion of the tasks should be performed from a standing position while others may be performed from a seated position. If a seat is provided, what is the frequency of transitioning between sitting and standing? The use of established ergonomic models to perform an analysis of the impact of these transitions between sitting and standing will indicate whether additional risk factors are introduced on the employee related to reaching, lifting, or pushing and pulling to accomplish work tasks. Finally, the consideration of seated or standing work on the impact of quality and effectiveness of task performance is important from an ergonomics perspective. Any changes to a task, including changes in work area layout, task location, or the introduction of a seat for a task that is currently performed while standing could impact the quality and effectiveness of the tasks that are being performed. Ergonomists who are cross-trained in industrial engineering techniques can use models to evaluate the impact of these proposed changes to ensure that quality of service and effectiveness are not compromised. At its core this is not a rigid calculation using strict ratios of duration of different tasks and other quantitative factors, as the Court made clear in its opinion. This analysis begins by examining the relevant tasks, grouped by location, and whether they can be performed while seated or require standing. The task-based assessment is balanced against considerations of feasibility. Here is a link to the registration page with more information about this free webinar.

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2: Ergonomics FAQ 4

*Ergonomics, a question of feasibility: Hearing before the Subcommittee on Oversight and Investigations of the Committee on Education and the hearing held in Washington, DC, July 16, [United States] on www.enganchecubano.com *FREE* shipping on qualifying offers.*

You know that an effective ergonomics improvement process can systematically identify and reduce injury risk. You understand the role good workplace design plays in not only preventing common and costly injuries, but also in maximizing human performance and making steady gains in productivity and product quality. You recognize that it is your responsibility to provide a job within the capabilities and limitations of the person you are asking to perform that job. Creating an effective, sustainable ergonomics process is hard. Many companies have been able to create a successful ergonomics process using internal resources, and many have been able to do so with the help of an ergonomics consultant. The goal of this series on selecting an ergonomics consultant is to guide you through the decision-making process of either hiring a consultant or simply managing and guiding the ergonomics process using internal resources. You might be wondering why we would ever guide you to use internal resources when we would benefit from you hiring us. Question 1 â€" What are your challenges? Are you effectively identifying and removing ergonomic risk factors in your workplace? Is your workforce healthy, fit and engaged? Are you measuring this? Do you have management buy-in for ergonomics? Do you struggle to create a culture of safety and wellness across your organization or facility? A good place to start understanding your specific challenges is to conduct an audit of your entire ergonomics and MSD prevention process. This will let you know where your challenges reside and give you a good indication of the kind of resources needed to make improvements. If you need a handy MSD prevention and ergonomics audit, you can download ours for free. Just click here to go to the download page. Question 2 â€" What are your goals? Second, you need to set goals for your ergonomics process. Get a crystal clear picture of where your process currently stands and where you want it to be. What do you hope to accomplish with your ergonomics process? What are your goals for reducing risk and improving workplace design? What are your goals for creating a healthy, fit and engaged workforce? What metrics are you going to use to measure success and what is your timeline? What are your long-term, BHAG goals? Additional questions to consider are: How do these goals align with other OHS goals? Every company is unique, so the answers to these questions will be different for everyone. Question 3 â€" Do you have the internal expertise? Maximum human performance is achieved at the intersection of good workplace design and a healthy, fit and engaged workforce. Because of this, you will need internal expertise in two areas: In addition to these two areas, your internal experts will need to implement these two elements of human performance in a comprehensive and integrated process. Do you have an in-house ergonomics expert with the qualifications and skills to implement and maintain an effective ergonomics process? Your in-house ergonomics expert should be capable of: Implementing and maintaining the ergonomics process. At the heart of this process is identifying and reducing ergonomic risk factors with cost-effective workplace improvements. This expert should be able to conduct ergonomic evaluations, prioritize and implement solutions, and evaluate those solutions for effectiveness. Because we know that maximum human performance is achieved at the intersection of good workplace design and a healthy, fit and engaged workforce, you will also need an internal expert in the art of creating a culture of safety and wellness. This internal expert should be capable of: Educating and training your workforce on MSD prevention, ergonomics and wellness. Implementing and maintaining an early intervention process â€" a proactive strategy to uncover early warning signs of MSDs and prevent them from happening. You can learn more about early intervention here. It is vitally important that all of the parts to this process are implemented in a comprehensive and integrated way for the best results â€" for maximum human performance. Question 4 â€" Do you have the internal experience? Do they have the business management experience to implement this process in an integrated and comprehensive way and evaluate it for effectiveness? Do they have experience obtaining leadership support for a new initiative and integrating it within existing operations? Chances are good that you know someone at your company who has at least some experience in one or more

of these areas. The key is to get all of these pieces of the process working together as one, and the best way to do that is through an experienced professional who has been there before and understands how all parts of this process work together. One red flag that you do not have the right amount of internal experience is that an effective and sustainable ergonomics and human performance improvement process does not exist at your facility. If the right people with the right experience are already in place, your process should already be up and running with great success! Question 5 â€" Do you have the other internal resources? The next question is, do you have the other internal resources you need? Namely, time and buy-in from leadership. If you do have someone with human performance expertise and experience, do they have the time to execute and maintain this process? Are they willing to dedicate themselves to it? Do they have the credibility and leadership support to take this process and run with it? In Conclusion Deciding whether or not to hire an ergonomics consultant can be a difficult decision. A great ergonomics consultant will bring the expertise, experience and passion for injury prevention and human performance that will help you win that battle. This is the first post in our new series on selecting an ergonomics consultant if you need one in the first place.

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3: Typical Questions to Ask in a Capital Campaign Feasibility Study | CCM

Conducting a feasibility study prior to a campaign is a common and proven way to gauge what level of support may be achieved in a campaign and what strategies should be employed - not only to achieve a financial goal but, perhaps as importantly, to build both unity and momentum for organizational success.

This article has been cited by other articles in PMC. Abstract Background and Objectives: Assessment of ergonomic strain during robotic surgery indicates there is a need for intervention. However, limited data exist detailing the feasibility and acceptance of ergonomic training ET for robotic surgeons. This prospective, observational pilot study evaluates the implementation of an evidence-based ET module. A two-part survey was conducted. Participants were given the option to participate in either an online or an in-person ET session. The ET was derived from Occupational Safety and Health Administration guidelines and developed by a human factors engineer experienced with health care ergonomics. The survey was sent to 67 robotic surgeons. Forty-five percent experienced strain resulting from performing robotic surgery and Ergonomic evaluation of surgeon activity resulted in a mean RULA score of 6. The mean SI grand score was MIS strain is exacerbated by the lack of knowledge and training regarding proper ergonomic techniques among surgeons. To date, there are limited data on the implementation of ergonomic training modules in terms of their feasibility, acceptance, and perceived effectiveness. In addition, we wanted to evaluate whether the training provided led to self-reported change in practice and improvements in surgeon-related strain as reported by the surgeons choosing to participate. An invitation to participate in the study was sent via E-mail to active robotic surgeons at UNC. UNC Surgical Services keeps an activity log for robotic surgeons, and this document was used to identify eligible surgeons. Included within the invitation was an explanation of the study and a statement that participation was voluntary and that responses to the survey would be used only for research purposes. The study participants accessed the online survey via a link included in the invitation E-mail. Responses were single-answer, multiple-choice, or numeric response. The question-and-answer structure is included in Table 1. The strain assessment was accomplished using a modified version of the Nordic Musculoskeletal Questionnaire NMQ , a validated tool for strain in epidemiologic studies.

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4: Feasibility and Acceptance of a Robotic Surgery Ergonomic Training Program

Ergonomics, a question of feasibility: hearing before the Subcommittee on Oversight and Investigations of the Committee on Education and the Workforce, House of Representatives ; One Hundred Fifth Congress, first session ; hearing held in Washington, DC ; July 16,

How can ergonomics knowledge and methods be applied to improve the design process? So, if you want to improve the design process by using Ergonomics, we have to talk about the ergonomics of knowledge management. There are two parts to this: Both of these are business processes, and are the most important ones in the company, from a long-term, strategic viewpoint. Capturing the capability A generic process for this, as defined by one major company, is given below: Vision - Feasibility - Detailed planning - Establish project - Develop solution - Test integration - Deploy solution - Evaluate and close project. Creating an instantiation of this process, staffing it, and ensuring the right people have the right skills, are all ergonomics tasks. Included in the process somewhere will be a sub-process for evaluating the status and performance of the design process you are trying to improve. This is where ergonomics will pay off again; design is essentially a mental, creative process aided by tools and hedged about with standards, protocols, and so on. Making sure that, from a human point of view, the tools fit the tasks and skills of the design teams especially in relation to the new capability you are trying to bring in ; the tasks and the procedures for completing them take account of human capabilities; issues of user support are addressed; and so on, and all areas where ergonomics can play its part. Furthermore, when you have some idea of what the new capability can do, and will do for your company, there are the issues of re-arranging the company to make best use of this capability. This will require the redesign of jobs, roles, training needs, etc. So, as part of the planning process you would have to plan for deployment of the capability. Then when you have the capability in a reliable, deployable, state, there is the deployment itself. Here, you need to carry the users along, not drag them along. This requires a lot of skill and support. All of these areas are those in which ergonomics skills will be very useful. To look at this from a different perspective; when you insert new capability into a design process, you are inserting formal, technical knowledge e. But all technical knowledge has to have tacit knowledge wrapped round it experience, knowledge of the context of use, knowledge of who the local expert is who could get you out of trouble, etc. Ergonomics deals with both of these types of knowledge, and can provide methods for capturing and disseminating this knowledge. But you probably know all about this.

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5: Informatics Exam Sample Questions | Quiz

Ergonomics and Construction - The Smart Move. Laborers Health and Safety Fund. Laborers Health and Safety Fund. Provides general information about ergonomics and construction with tabs to additional information.

Reduce the required force by: Reducing the weight of the load; Using non-powered conveyors, air bearings, ball caster tables, monorails and similar aids; Using four wheel hand trucks, dollies or carts with large diameter casters or wheels and good bearings; Providing good maintenance of floor surfaces, hand trucks, etc; Treating surfaces to reduce friction where objects must be slid across the surface; Treating surfaces to increase friction reduce slipperiness where holding is involved; Using air cylinder pushers or pullers. Reduce the distance of push or pull by: Improving layout of the work area; Relocating production or storage areas. Use conveyors, air bearings, ball caster tables, monorails, slides, chutes and similar aids; Use lift trucks, two wheel hand trucks, four wheel hand trucks, dollies and similar aids. Reduce the weight of the object by: Reducing the size of the object specify size to suppliers ; Reducing the capacity of containers; Reducing the weight of the container itself; Reducing the load in the container; Reducing the number of objects lifted or lowered at one time. Reduce the distance by: Improving the layout of the work area; Relocating production or storage areas. Thus, employers whose employees engage in manual handling tasks as a core element of their job have available an extensive array of control choices. These approaches have been shown in case studies, epidemiological studies, and workplace intervention studies to be effective in eliminating, controlling, or materially reducing the risk factors linked to MSDs caused by the forceful lifting, lowering, pushing, pulling, or carrying of loads. Manufacturing Production The proposed standard covers all employers in general industry who have employees engaged in manufacturing production jobs, defined as jobs involving the physical work activities necessary to produce a product. Workers involved in repetitive, forceful, or awkward-posture activities in general industry include assembly line workers; product inspectors; meat, poultry, and fish cutting and packing workers; machines operators; apparel manufacturing workers; food preparers; and many others. Employers whose employees engage in manufacturing production jobs have a large number of engineering, work practice, and administrative control strategies available to them to reduce or eliminate the risk factors associated with these work activities. Specifically, the types of controls that can often be implemented in manufacturing production jobs, depending on the risk factors in the particular job, the part of the body upper or lower extremity affected, and the configuration of the particular workplace, include: Upper Extremity Repetition Increase the number of different tasks performed with a corresponding increase in the work cycle time work enlargement ; Rotate employee between different jobs that use different muscle groups; Provide mechanical assists; Implement multifunction tools e. Posture Design work so that the task can be performed with the elbow at the side of the body, without excessive forearm rotation and without deviating, flexing or fully extending the wrist; Control work posture through the location and orientation of the work surface or through the size and shape of the object held in the hand. Contact Stress Increase the diameter and length of tool handles, eliminate or round sharp edges, and use compliant materials; Eliminate or pad sharp edges that come into contact with body parts e. Hand Tools Tools are used as an extension of the hands, and the use of poorly designed hand tools can therefore contribute to musculoskeletal disorders of the hands, fingers, wrist, elbow, and shoulder. The selection and functional design of hand tools are important; however, the work situation as a whole may also need to be evaluated e. The following control strategies are examples of hand tool features employers should consider: Design of the Grip. The design of the grip can influence the type of grip used and the grip force needed, and may also cause contact stress. They add extra pressure because hands vary in size and the fingers will not always conform to the grooves; Reduce grip force requirements by using hand grips that are oval or cylindrical; Use handles that allow all of the hand and fingers to stay on the grip; Use tools with finger stops at the base of the handle to allow for better control of the tool and decrease the amount of force needed for the grip; Cover the handle with material that produces a slight amount of friction. The material should be able to breathe but should not allow penetration by foreign materials such as oil or sharp objects; Keep the wrists straight when gripping the tool. Where possible, bend

the tool, not the wrist; Power grips should surround more than half of the cylinder, but the fingers and thumb should not meet; Force Characteristics. The weight of the tool, as well as its operating characteristics, can influence the force required to grip the tool. The heavier the tool, the more grip force required, the less the time until muscle fatigue occurs. This provides more maneuverability and puts less strain on the employee. Design of the trigger. Use of a trigger may require repetitive precision and forceful exertions. The following strategies may be used to design or select tools with appropriate triggers: The trigger should be designed so it can be used with either hand; For tasks requiring forceful exertions for prolonged duration, the trigger should be designed for activation by thumb muscles. A locking mechanism can be useful in reducing muscle effort in cases where the mechanism does not cause a safety hazard; Tools that require several fingers to operate should be mounted or suspended; Triggers should be appropriate for the task; Force to activate the trigger should be below 2. Localized vibration from hand-held power tools can decrease sensitivity of the hands, increase grip force requirements, and is often associated with hand-arm vibration syndrome. It is important to understand the vibration characteristics of the tools used in the workplace. Avoid vibration in the range of 2 and Hz for tasks performed repeatedly; Eliminate vibrating tools, if feasible; Control exposure if elimination is not possible by designing the tool to decrease the grip force e. Although gloves are used to protect the hands from external agents such as cold, heat, abrasives, etc. If gloves are necessary, the employer should: Provide different sizes of gloves to fit different employees; Cover only the area of the hand necessary to protect the employee; Keep gloves in good repair. Localized Vibration Control measures to reduce or eliminate exposure to vibration consist of controlling the vibration at the source engineering controls , in the path of the vibration engineering and administrative controls , and at the receiver end administrative controls. Ensure that the tools used or purchased are appropriate for the task; Institute a tool maintenance program to ensure the tools are kept in first-class working condition. For example, keep chisels, cutters, etc. Path Decouple the vibration from the hand by using tool stands, isolated fixtures, or isolated handles. Lower Extremity The following section lists examples of controls that may be applied to reduce the risk factors that contribute to lower extremity musculoskeletal disorders. Standing stationary for long periods of time causes pain in the legs and lower back. Where feasible, design jobs to allow workers to sit and stand intermittently. Controls that may eliminate or substantially reduce this MSD hazard include: For kneeling tasks, feasible controls may include: Providing a knee pad or padding for the work surface; Using a mechanical device instead of using the knee as a hammer; Limiting the duration of squatting postures to the extent feasible; Positioning foot pedal controls to reduce awkward postures. When the foot remains in contact with the pedal or requires frequent repetitions, the following positions are appropriate: A pedal that is level with the floor when activated; A seated workstation; Foot pedal angles between 20 to 25; Ankle activated pedal forces 6 to 9 pounds; Pedals at least 3 inches long and even longer for continuous use. Whole Body Vibration Source Maintain floor surfaces even for vehicles such as forklifts, to reduce vibration exposure from driving over uneven surfaces; Obtain specifications from vendors of equipment on vibration characteristics and recommended maintenance schedules; Reduce the speed of travel of vehicles, thereby reducing the vibration levels; Maintain ramps and dock levelers to minimize the vibration created by traveling between the floor-ramp-vehicle. Minimize the seated time at angles of 90 degrees or less. Thus, employers whose employees engage in manufacturing production jobs for a significant amount of their job have a large variety of feasible control methods available to them to eliminate, control, or materially reduce the MSD hazards among these workers. These controls have been shown in case studies, epidemiological studies, and workplace intervention studies to be effective in reducing or eliminating the risk factors associated with manufacturing production jobs. Other General Industry Jobs OSHA anticipates that many general industry employers whose employees engage in jobs other than manual handling or manufacturing production will also experience covered MSDs and thus come within the scope of the proposed standard. Workers in these other general industry jobs are likely to be exposed on the job to activities and conditions associated with the same risk factors as those associated with manual handling and manufacturing: Effectiveness of Ergonomic Interventions in Reducing MSDs and Their Severity Evidence that large numbers of employers have already adopted ergonomics programs and have achieved notable reductions in MSD hazards further supports the feasibility of the proposed standard. Other evidence is extensive see the

Significance of Risk and Benefits chapters of the preamble and the Preliminary Economic Analysis, respectively and includes hundreds of case studies, meta-analyses, and epidemiological studies of real workers performing jobs in real workplaces throughout industry. These studies report on programs and interventions that are similar, and in many cases identical, to the program that the proposed standard will require employers to implement and the interventions they will undertake to eliminate, control, or materially reduce the MSD hazards confronting their workers. These programs and interventions are even more effective in reducing the more serious MSDs, i. Appendix III-A contains ergonomic scenarios that describe the kinds of jobs likely to give rise to covered MSDs and the ergonomic interventions that ergonomists and employers have applied to eliminate or substantially reduce the MSD hazards in those jobs. The scenarios, like the proposed rule, focus on manufacturing and manual handling jobs, although a number of the scenarios describe other general industry jobs i. The scenarios, which derive primarily from the technical literature, are used by OSHA to demonstrate the many feasible control approaches employers have taken to eliminate, control, or materially reduce the risk factors in their problem jobs. The control approaches taken include engineering controls, work practice, and administrative controls. When problem jobs are redesigned, the employees in those jobs must be trained to use new work practices that will assist in eliminating, controlling, or materially reducing the risk factors in those jobs. Thus, for all of the jobs depicted by the scenarios, some worker retraining is required. This training in new work practices is generally done on the job, particularly in cases where the worker has been involved in the redesign and implementation of the new controls. For example, the worker whose job is described in Manufacturing Scenario 57 would need to be trained to rest the ladle on the edge of the mold during pouring and to use the mechanical assist rather than pliers to remove the piston from the mold. Similarly, the food packers performing the job described in Scenario MH would require work practice training to use the two-scoop, rather than pinch, method to pick up grocery bags. Many of the scenarios reflect the use of administrative controls, such as job rotation, job enlargement, and the use of teams. Personal protective equipment plays a role in reducing employee exposure to risk factors in several ergonomic interventions illustrated by the scenarios. For example, palm pads, knee pads, and vibration dampening gloves are part of the control strategy chosen in scenarios MFG, 42, and 44, and in scenario MH The scenarios as a group depict problem jobs that involve all of the risk factors addressed by the standard: For example, scenarios MFG 18 and 13, MH, and OGI 12 and 13 all describe interventions designed to eliminate or materially reduce whole-body or localized vibration. Although some of the scenarios see, e. Many of the authors of the technical papers from which the scenarios were derived report that productivity effects accompanied the ergonomic interventions. About 1 in 4 scenarios reported that the ergonomic interventions made also achieved productivity improvements, although these articles generally focused on the details of the ergonomic improvements rather than on productivity specifically. Several of the scenarios also reported some of the other positive effects that result from ergonomic interventions, such as decreases in the number of OSHA-recordable MSDs, better product quality, decreased sick leave, and decreased employee job turnover see, for example, scenarios MFG, MFG, and OGI The scenarios also reflect job interventions ranging from the very simple e. The costs associated with the ergonomic interventions reflected in the scenarios also range from no-cost to moderate-cost to high-cost see, e. Thus, the scenarios in Appendix III-A demonstrate that feasible engineering, work practice, and administrative controls are available and have been successfully implemented by general industry employers with a wide variety of jobs that present MSD hazards. These controls have, as shown by the scenarios, led to the elimination, control, or material reduction in the hazards in these jobs. In addition, many of the scenarios additionally use personal protective equipment to further reduce the exposure of employees to contact stress and excessive grip force. Preliminary Technological Feasibility Conclusion Based on this evidence, OSHA preliminarily concludes that a wide array of technologically feasible methods are available to eliminate, control, or materially reduce MSDs occurring in manual handling, manufacturing production, and other general industry jobs. In addition, because the proposed standard allows employers to use any combination of feasible engineering, work practice, and administrative controls, and to supplement these with personal protective equipment, employers will be able to choose from an even larger number of control strategies than is usually the case in OSHA health standard rulemakings. Further, the proposal

explicitly recognizes, by permitting an incremental abatement approach, that employers may need to try a series of controls before finding the right one to fix the job. These flexible features of the proposed standard ensure that the proposed rule is technologically feasible for covered employers. OSHA believes that this figure has risen since that time, as awareness of ergonomic hazards, and the costs they impose in terms of human suffering and lost productivity, has increased. That such a substantial portion of general industry workplaces has implemented ergonomic controls also attests to the technological feasibility of such controls. The scenarios collected in Appendix III-A represent jobs that the expert ergonomists consulting to OSHA deemed to be problem jobs, and the solutions described for these jobs are ones that will either eliminate, control, or materially reduce the MSD hazards in these jobs. OSHA has included these scenarios as examples of the jobs employers under the standard will be required to correct and the controls available to address them.

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6: Five Questions to Answer Before You Select an Ergonomics Consultant

Preliminary feasibility question: The main focus and most important customer requirement is to reduce ergonomic issues for the operator. How can this be accomplished? Are the ergonomic issues experienced by the micropen operators due to the process or are injuries common for microscope.

You can find out so much by simply asking questions and listening. I want to shine some light on this mysterious conversation that happens between your consultant and your prospective donor. Have you ever wondered exactly how this discussion works? I want to give you the confidence to ask your OWN donors some of these questions. You need to get used to coming right out and asking your donors for their opinions and what they might consider going forward. Just remember your manners. Watch your donor carefully to assess her comfort level with this discussion. Be ready to back off if she shows signs of not really wanting to talk about certain topics. You can always try another tack â€" ask these questions little by little over time. Feasibility Study Questions Take a look at these questions. This is how campaign consultants come up with their magic report at the end of the interviews. This is where and how we gather the data. You can â€" and should â€" be holding some of these same conversations too! Attitudes Toward Your Organization 1. Which programs do you believe are the most important? Questions 5, 6, and 7 are invaluable for assessing the organizations PR profile. You need to know what your donors think your strengths and weaknesses are too! How would you characterize this board? How would you characterize the fundraising strength of the board? How would you describe his reputation in the community? Did you have a chance to read the Vision Statement? Do you personally support the project that is outlined in the Vision Statement? What about the case for support appeals to you most? What are the elements of the case that strike you as most significant or compelling? Are there things in the case that you find troublesome? What questions do you have about the proposed project? These questions about your case are vital. And, who supports which part of the proposed campaign project? Essential information for you to know! Do you think the proposed goal is attainable? Do you think our community would respond positively to a campaign? I always love asking this question. It gives me a sense of how the donor herself will respond! You need to be prepared to place your gift chart smack on the table in front of your prospect. Let the gift chart sink in before you ask these questions. Do you believe that the next year would be a good time for a campaign? Campaign Leadership and Donors 1. Who do you believe will be key to the success of the fundraising campaign? From which individuals, corporations or foundations do you believe the top gifts might come? Question 3 is an important part of sleuthing and pre-campaign reconnaissance. Willingness to Give and Participate 1. This is, of course, THE important question. This is a question that consultants can often ask more easily to staff. Would you be wiling to share in what range you might consider a gift to the campaign? Would you be willing to help with the campaign? Could you suggest other people who might want to help with this campaign? Do you have any other comments or suggestions you would like me to pass on? Dispell the mystery around feasibility study questions. Take a look at this new approach to asking your donors these questions.

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