

Ergonomic Improvement Work Sheets

1. Ergonomic Assessment
2. Task Analysis
3. Improvement Follow-up

Cal/OSHA has a series of publications designed to assist employers and employees in California. Current Cal/OSHA publications may be viewed and downloaded from the Department of Industrial Relations Web site www.dir.ca.gov/dosh/puborder.asp. These ergonomic worksheets are designed to be used in conjunction with the following guides:

- **Back Injury Prevention Guide in the Health Care Industry for Health Care Providers**
- **Easy Ergonomics**
- **Easy Ergonomics for Desktop Computer Users**
- **Easy Ergonomics: A guide to Selecting Non Powered Hand Tools**
- **Ergonomic Guidelines for Manual Material Handling**

Analyzing Job Tasks

Before improving the fit between the tasks of a job and the worker, one must define a “job.” Jobs are made up of tasks. Tasks are the things employees must do to accomplish their jobs. Put simply, tasks are the parts of a job. Some jobs may contain only a single task, but many jobs are made up of multiple tasks.

To understand the nature of the jobs that are performed within a department, ask yourself, What are the tasks that are performed there? What do employees do throughout their work shift? What is the path of the employees’ work flow? A job task analysis can be performed to help you answer these questions. There are many different methods of analyzing job tasks. These methods consist of various techniques for taking a systematic look at jobs and work tasks. They help determine which jobs and particular tasks may contribute to musculoskeletal disorders. Once it is known where problems exist, it is easier to come up with ideas for making improvements.

Some methods are relatively simple, and others require detailed analysis and special equipment. Using work sheets and checklists is generally a simpler, less comprehensive method of analyzing job tasks. More comprehensive methods break jobs down into particular movements (e.g., reach, grasp, place) or use other specialized techniques. Job task analysis methods also vary according to the types of work activities they address. Some methods focus on workstation design. Others are more specific to certain types of work (e.g., manual handling of materials or the office environment).

The three work sheets provided may not be the best method for addressing problems in your workplace. More detailed methods may be needed for addressing musculoskeletal disorders. If you feel uncomfortable using these work sheets or if problems seem complicated, severe, or widespread, you probably need additional help. Consult one or more of the following sources:

- Ergonomics consultants
- Industrial hygiene or safety professionals
- Cal/OSHA Consultation Service
- Occupational medicine professionals
- Vocational rehabilitation counselors
- Physical therapists
- Exercise physiologists or wellness specialists
- Trade associations/industry groups
- Unions or employee organizations
- Equipment vendors

Making Improvements Step by Step

Ergonomics should be thought of as a process of making improvements a little at a time rather than as a one-time “fix” or a “solution.” The workplace is a dynamic environment, always changing. Ergonomics is one way in which you can continue to improve the workplace. The process may mean looking at work tasks, selecting improvements and trying them out, looking again to see if they are working, making needed modifications, and so on. Some people refer to this process as continuous improvement.

This document is available with active links at www.dir.ca.gov/dosh/PubOrder.asp

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ERGONOMIC IMPROVEMENT WORK SHEET 1

ERGONOMIC ASSESSMENT

The purpose of this work sheet is to identify job tasks that may have contributing factors for musculoskeletal disorders.

Date: _____

Employee's Name: _____ Job Title: _____

Name of Observer: _____ Job Location: _____

Give a brief description of the job: _____

A	B		C		D
Tasks List each task that is performed in the job	Rate the physical difficulty of the task		Rate how often the task is done		Total score*
		X		=	
		X		=	
		X		=	
		X		=	
		X		=	

*The higher the total score in column D, the higher will be the priority to seek improvement.

Make copies as needed

DIRECTIONS FOR USE

1. Enter the date, employee's name, job title, name of observer, and the job location.
2. Give a brief description of the job.
3. In **column A**, list each task that is performed in the job. Provide a general description of each task. Some jobs may have only one task.
4. In **column B**, for each task listed, ask the employee to rate it for intensity (how physically difficult the task is). Remember that this number is the employee's perception of difficulty.
5. In **column C**, for each task listed, ask the employee to rate it for frequency (how often the task is done). Remember that this number is the employee's perception of frequency.
6. In **column D**, multiply the two scores (Columns B x C) to get a total score. This score may be used later for work sheet 2, "Task Analysis," to help prioritize tasks selected for improvement.

Intensity <i>How physically difficult is this task?</i>	Scale
Very easy	1
Easy	2
Somewhat difficult	3
Difficult	4
Very difficult	5

Frequency <i>How often is this task done?</i>	Scale
Seasonally (a few times a year)	1
Occasionally (a few times a shift or week)	2
Frequently (up to 4 hours per shift)	3
Constantly (more than 4 hours per shift)	4
Extended hours (more than 8 hours per shift)	5

ERGONOMIC IMPROVEMENT WORK SHEET 2

TASK ANALYSIS

The purpose of this worksheet is to analyze tasks selected for improvement.

Employee's Name: _____ Job Title: _____ Date: _____

Name of Observer: _____ Job Location: _____

A	B	C	D	E	F	G
Tasks	Contributing factors	Reasons for contributing factors	Priority	Task improvement	Target date	Follow-up date

It is recommended that follow-up on all improvements be conducted within 3 months of implementation. Use work sheet 3, "Improvement Follow-up," to document findings.

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DIRECTIONS FOR USE

1. Enter the date, employee's name, job title, name of observer, and the job location.
2. In **column A**, list each task you have selected for improvement.
3. In **column B**, identify the contributing factor(s) observed in each task. If you observe more than one contributing factor related to a task, use a separate line for each contributing factor.

Contributing Factors:

Repetitive motion - Performing the same types of motions again and over again using the same muscles, tendons, or joints

Awkward posture - Reaching, twisting, bending, working overhead, kneeling, squatting, or pinch grips

Sustained static posture - Working in the same position for a long time with little or no change in position

Forceful exertion - The amount of muscular effort used to perform a task

Contact pressure - The body pressing against hard or sharp surfaces

Vibration - Continuous high- or low-intensity hand-arm or whole-body vibration

Environmental Factors - Hot/cold temperatures and high/low lighting

Individual Factors - Age, physical condition, gender, stature

Work Organizational Factors - Fast work pace, low staffing levels, shift work

4. In **column C**, identify the part of the task that caused the contributing factor(s). Ask the question, Why? Describe the reasons (root causes) for the contributing factor(s).
5. In **column D**, prioritize tasks for improvement. Although prioritization may be accomplished according to the scores in column D of work sheet 1, "Task Analysis," prioritization may be influenced by other considerations.

Consider the following items:

- Frequency and severity of complaints, symptoms, and musculoskeletal disorders
- Risk factors or other contributing factors identified in a particular task
- Technical and financial resources at your disposal
- Difficulty of implementing various improvements
- Time frame for making improvements
- Employees' ideas for improvements
- Potential effects on productivity, efficiency, and product or service quality

6. In **column E**, identify possible ways to improve each contributing factor observed. Evaluate each improvement by answering the following questions.

Will this improvement:

- Reduce or eliminate most or all of the identified contributing factors and the reasons for those factors?
- Add risk factors or other contributing factors that have not been previously identified?
- Be affordable for this organization (e.g., is there a less expensive alternative that could be equally effective)?
- Be feasible from an engineering standpoint?
- Be able to be fully implemented in a reasonable amount of time?
- Increase or decrease productivity and efficiency?
- Handle the required volume of work for the operation, job, or task?
- Increase or decrease the pace or volume of the work?
- Be accepted by employees?
- Affect employee morale in a positive way?
- Affect the rate of pay or a collective bargaining agreement?
- Require much training to implement properly (e.g., is there a simpler alternative)?
- Require training this organization can provide (either in-house or through outside experts)?

Mark or highlight the specific improvements to try out in your workplace.

7. In **column F**, set the target date for the improvement to be made.
8. In **column G**, set the follow-up date.

ERGONOMIC IMPROVEMENT WORK SHEET 3

IMPROVEMENT FOLLOW-UP

The purpose of this work sheet is to follow up on the implemented ergonomic improvements.

Employee's Name: _____ Job Title: _____ Date: _____

Name of Observer: _____ Job Location: _____

A	B	C	D	E
Date	Task	How did you improve this task?	What happened as a result of your improvement?	Follow-up date

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DIRECTIONS FOR USE

1. Enter the date, employee's name, job title, name of observer, and the job location.
2. In **column A**, list the date when the improvement was put in place.
3. In **column B**, list each task for which improvements were made.
4. In **column C**, describe the improvements that were made.
5. In **column D**, describe the results of each improvement implemented by answering the following questions. **Has this improved:**
 - Had enough time to work (e.g., are employees used to the changes)?
 - Reduced or eliminated fatigue, discomfort, symptoms, and/or musculoskeletal disorders?
 - Reduced or eliminated most or all of the contributing factors and the reasons for them?
 - Reduced or eliminated other identified problems and the reasons for them?
 - Added any new contributing factors or other problems?
 - Worked from a financial standpoint?
 - Had a positive effect on productivity and efficiency?
 - Matched the production requirements of the job?
 - Had a positive effect on product and service quality?
 - Been accepted by employees (e.g., raised employee morale)?
 - Been fully implemented in a reasonable amount of time?
 - Had a positive effect on absenteeism and turnover rates for jobs where changes were made?
 - Been supported with the training needed to make it effective?
6. In **column E**, establish another follow-up date, if necessary.
Continue to use this work sheet for subsequent follow-up evaluations.

Notes