

Initiating an Ergonomic Analysis

A PROCESS FOR JOBS WITH HIGHLY VARIABLE TASKS

by Karen M. Conrad, PhD, MPH, RN,
Steven A. Lavender, PhD, CPE, Paul A. Reichelt, PhD,
and Fred T. Meyer, MA

Abstract

Occupational health nurses play a vital role in addressing ergonomic problems in the workplace. Describing and documenting exposure to ergonomic risk factors is a relatively straightforward process in jobs in which the work is repetitive. In other types of work, the analysis becomes much more challenging because tasks may be repeated infrequently, or at irregular time intervals, or under different environmental and temporal conditions, thereby making it difficult to observe a "representative" sample of the work

performed. This article describes a process used to identify highly variable job tasks for ergonomic analyses. The identification of tasks for ergonomic analysis was a two step process involving interviews and a survey of firefighters and paramedics from a consortium of 14 suburban fire departments. The interviews were used to generate a list of frequently performed, physically strenuous job tasks and to capture clear descriptions of those tasks and associated roles. The goals of the survey were to confirm the interview findings across the entire target population and to quantify the frequency and degree of strenuousness of each task. In turn, the quantitative results from the survey were used to prioritize job tasks for simulation. Although this process was used to study firefighters and paramedics, the approach is likely to be suitable for many other types of occupations in which the tasks are highly variable in content and irregular in frequency.