

## Sit-Stand Workstation Schedules

An investigation into four different sit-stand workstation use schedules

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### Overview

Work-related musculoskeletal disorders (WMSDs) are common among office workers who spend most of their work time on computers. High static muscle loading is considered a risk factor for WMSDs.

Varying body posture throughout the workday has been suggested as a method of reducing risk. "Sit-stand" workstations have been installed in many offices to allow workers to change postures during work by raising or lowering desk height, but there are currently no guidelines regarding how much time working in each position is most effective.

The purpose of this research was to investigate the effect of different sit-stand workstation schedules in an actual office environment on physical loading and worker discomfort. In this repeated measure study, twelve healthy office workers performed daily work tasks using four sit-stand work schedules. Muscle fatigue, spinal shrinkage, foot swelling, and subjective discomfort were measured three times each day.

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### Research for Safe Work

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### Key Findings

- Static muscle loadings (which is the physical effort to maintain the same body posture) were similar while working in seated or standing postures.
- There was significantly less muscle fatigue in the left low back at the longest standing schedule (60 minutes sitting, 60 minutes standing) compared to the longest sitting schedule (105 minutes sitting and 15 minutes standing). There was a trend toward lower shoulder muscle fatigue at the longest standing schedule.
- Workers experienced significant spinal shrinkage, a measure of spinal loading, over the course of the workday. However, there were no differences in spinal shrinkage between the sit-stand workstation use schedules.
- Workers who engaged in higher intensity physical activity on their breaks, such as walking around the building, had less muscle fatigue in their shoulders and low backs than workers with low intensity break activity. This effect was more significant than that of different sit-stand workstation use schedules.
- The preference of sit-stand schedules was different among workers, but the schedule with the shortest standing time was the least preferred by workers.

### Impact

The effect of sit-stand workstations to reduce muscle loading and fatigue in the shoulder and low back may be limited. A longer standing schedule may lower muscle fatigue, but more research is needed to explore this possible relationship. Workplace wellness programs that encourage active break time activities may be more effective in reducing muscle fatigue.

Find the article here:

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