

Ergonomics

Extended Workday: Health and Safety Issues

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What is meant by the extended work day?

Extended workdays refer to work schedules having longer than normal workdays. However, there is no clear consensus about the length of the extended workday. Some sources consider it to be between 8 to 12 hours in length, while others insist that the term applies only when shifts are longer than 12 hours.

Usually, workers on extended workday schedules work fewer than five days a week. When the traditional thirty-six to forty-hour workweek is squeezed (or compressed) into three or four days, the number of days worked in a row is decreased, and the number of consecutive days off is increased. This pattern is not always the case; therefore, working on an extended workday schedule does not automatically mean the same as a compressed workweek.

In general, what are some advantages and disadvantages of extended workdays?

Work schedules are important for both the organization and the worker. They affect the worker's health, safety, and family and social life.

Many hospital, industrial, transportation, mining and office organizations use the extended workday. The decision to set up longer work shifts (up to 12 hours or more) should not be made lightly. The following are examples of the pros and cons of this issue:

Advantages

- More days off and more consecutive days off
- More family and leisure time
- More rest days to recover from fatigue
- Fewer consecutive workdays
- Improved morale
- Increased job satisfaction
- Reduced absenteeism
- Reduced time of commuting

Disadvantages

- More days off and more consecutive days off
- Workers lose touch with their co-workers or team operations
- Long travelling time after a longer work day may add to fatigue
- Fatigue can lead to a decline in safety and alertness
- Workers need more breaks

What should I know about fatigue?

The symptoms of fatigue vary and do depend on the person and their degree of fatigue or sleep deprivation; some examples include:

- weariness
- sleepiness
- irritability
- reduced alertness, concentration, and memory
- lack of motivation
- increased susceptibility to illness

- depression
- headache
- giddiness
- loss of appetite and digestive problems

Many conditions can lead to fatigue. For example, fatigue resulting from long hours of work and a shorter length of time between work shifts is an important concern for the health and safety of workers on extended workdays. Some researchers report that in many cases, the extended workday is more tiring than the eight-hour day. They argue that workers will be too tired by the end of ten or twelve hours and may jeopardize their own well-being, and also the safety of others on the job.

Others report that the eight-hour work schedule is tiring, particularly when many consecutive shifts must be worked with few consecutive days off. The advantage of properly designed extended workday schedules over eight-hour day schedules is that fewer consecutive shifts are required, and longer periods off between workweeks allow for better rest. The longer time off may compensate for longer workdays if the worker maintains healthy and regular sleep patterns.

Another concern about the extended workday is that workers can only do their job, eat, and sleep during the workweek. This lack of free time creates two problems. First, most workers need a certain amount of time to relax after work and before sleeping. When there are only twelve or fourteen hours between shifts, this time is reduced. Second, workers with other types of responsibilities, such as child care, may find the extended workday tiring because they still have tasks to do when they return from work.

Many workplace factors make physical and mental demands on the workers that affect health, mood, performance, safety and fatigue. Examples of such factors are [job design](#), [lighting](#), [air quality](#) and [workstations](#). Reducing any source of fatigue helps workers deal with all of the demands of their work, including the work schedule. For example, a well-designed tool, an extra rest break or a better chair can help reduce the overall demands of a particular job.

Please see the OSH Answers document on [fatigue](#) for more information.

What are the issues surrounding social life?

A primary advantage of the extended workday is that it provides more consecutive days off than most other types of schedules. This schedule allows more free days for family and other activities. However, the disadvantage is that the long hours do not allow much free time on workdays. Long hours can also affect family and social life. Whether the advantage of longer blocks of time off outweighs the disadvantage of little time off on workdays, or vice versa, is not clear and may depend on the individual.

It appears that important factors for being able to adjust to an extended workday relate to characteristics such as age, marital status, parental status, hobbies, and personal interests. Workers who have major responsibilities outside work may have more difficulty with conflicting demands for time on extended workdays, particularly the twelve-hour day. On the other hand, others may enjoy the longer time off and the opportunity for social and leisure activities.

Workers often view time spent travelling to and from work as lost time. The extended workday means fewer commuting trips and, therefore, less wasted time and less cost.

What are the issues surrounding safety?

An issue often raised is the effect of fatigue on workplace incidents and injury rates. The concern is that increased fatigue will contribute to incidents.

The Government of Alberta, Labour reports that fatigue affects people differently, but it can increase a worker's hazard exposure by:

- reducing mental and physical functioning,
 - impairing judgement and concentration,
 - lowering motivation,
 - slowing reaction time and
 - increasing risk-taking behaviour.
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What are the issues surrounding exposure to physical and chemical hazards?

Exposure to physical and chemical hazards is always a health and safety concern. When the workday is lengthened, the amount of exposure needs to be reevaluated to ensure that acceptable levels are not exceeded. Areas of particular concern are exposures to [chemicals](#), [noise](#), [vibration](#), [radiation](#), [extreme heat](#) and [extreme cold](#). Any method for determining exposure levels for the extended workday should be used with caution and under supervision. Expert advice may be necessary to determine acceptable exposures and controls for an extended workday.

The proper and efficient use of personal protective equipment during an extended workday should also be considered. For example, uncomfortable hearing protectors cannot provide protection if workers find them uncomfortable and do not wear them when they should. Comfort over the whole work shift is important to usage.

What are the issues surrounding exposure to ergonomic hazards?

Ergonomic hazards such as repetitive work or working in a sustained and or awkward posture increase the risk of developing a musculoskeletal injury. Repeated or extended exposure to these hazards causes the body to fatigue and muscles to be damaged. If the body does not have sufficient rest, then the body, specifically the muscles, cannot repair themselves. Damaged muscles can lead to injury through a cumulative loading effect or a one-time peak loading effect.

When designing extended day work schedules, it is important to factor in rest breaks and alternate tasks that use opposing muscle groups to decrease the likelihood of sustaining a musculoskeletal disorder.

What types of jobs are suitable for an extended workday?

Perhaps the most difficult decision with the extended workday is what type of work is suitable for this schedule. There is no easy answer. In most cases, having a trial period in the workplace to monitor the health and safety aspects of particular jobs and determine the level of worker acceptance would be beneficial. The physical and psychological effort required by a job, environmental conditions such as temperature and vibration, and job characteristics such as boredom and repetitive work all contribute to the acceptability of the extended workday.

With these points in mind, some general statements can be made. The sparse information that is available shows that jobs that do not require a high degree of physical exertion or that have natural resting periods may be most suitable for the extended workday schedule. For example, a machinist who has cycle time between setups that allows reduced attention while the machine is running can probably work a longer day. On the other hand, a data entry operator who must continually enter data while sitting in one position and concentrating for long periods would find the extended workday more difficult. People whose work involves creative activities may benefit from this type of schedule as it allows them to work intensively on projects while providing more time away to rest.

Workers on eight-hour rotational shiftwork schedules might prefer the extended workday because it requires fewer consecutive night shifts and allows more recuperative time.

In spite of inconclusive studies and conflicting worker responses about the most suitable length of work shifts, it is probably fair to say that heavy physical jobs or jobs that demand sustained attention throughout the workday do not lend themselves well to extended workday schedules. More suitable jobs would be those that require only light or intermittent work.

What are some guidelines for using an extended workday?

First, find out if there is any legislation in your jurisdiction that requires government approval to schedule more than eight hours of work per day and to average hours over longer periods. The legislation may require the organization to show that workers are aware of and understand the implications of the extended workday and that workers genuinely want to work such a schedule.

Some guidelines to consider when deciding whether to start or continue using an extended workday schedule are:

- Consult workers about their desire to have a change in the work schedule and specifically an extended workday.
- Consider the physical demands of jobs, occupational hazards such as chemicals or noise exposures, and aspects of job design such as rest schedules. Changes in the environment or job design can sometimes make an extended workday more acceptable.
- Consider the mental and emotional demands of the job. Work that requires constant attention or intense mental effort may be less acceptable for the extended workday. Use additional rest breaks or variations of job tasks to help decrease the strain of the extended workday.
- Consider the workers and the other demands on their time. People who have other significant responsibilities each day may require additional support, such as childcare facilities. Seasonal demands may also have to be considered.

If the decision is made to try the extended workday, establish an experimental period. Introduce the extended workday gradually to small groups to allow more flexibility and better analysis of the situation. Evaluate the success of the new schedule by doing the following:

- Monitor health and safety. Look for any changes in accident rates, health levels and especially fatigue.
- Look for any changes in absenteeism rates. Although absences are not always a good measure of health or ill health, an increase may suggest a problem. On the other hand, a decrease may show that the extended workday is successful.
- Ask for workers' reactions and listen to their comments to find out how satisfied they are with the extended workday, and how well they have accepted it and adapted to it.

Fact sheet last revised: 2024-02-26

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