

Fitness balls are not suitable as chairs

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This guidance note is designed to help employers and employees understand why a fitness ball is not appropriate as a work chair. It also provides advice on sitting posture and the design of workplace chairs.

Fitness balls

The fitness ball (also known as a 'Swiss', 'exercise' or 'physio' ball) is an inflatable ball designed for use in training and exercise programs, with a variety of exercises targeting different parts of the body. It is also used in physical rehabilitation programs, usually under the direction of a qualified instructor or health professional. Fitness ball manufacturers suggest that individuals may also find them useful to reduce back pain in sitting and to increase postural control. Some organisations and individuals have adapted their original use to one of providing a dynamic sitting surface, in place of a conventional office or workplace chair, in the belief that it will be of benefit to workers with back pain.

Using a fitness ball at work

There is little, if any, evidence of scientific trials or studies to demonstrate that the effect fitness balls have in exercise and training makes them suitable for use on a daily basis as a seat at work. The use of a fitness ball to provide exercise opportunity should not be confused with the requirement to provide suitable and safe workplace equipment. From the literature to date, researchers do not recommend the fitness ball to be a generic alternative to conventional seating in the workplace. Because employees use fitness balls for exercise, which includes sitting posture, this does not make them suitable for seating at work.

Work related injury management

The use of a fitness ball may be recommended by a health professional for a specific person following a work related injury. In such a case the use of the ball should be prescribed in a documented and supervised treatment program that is integrated into a return to work

plan. The documentation should include recommendations about length of time over the day, duration of use and any other treatments provided. Prior to its use, a worksite assessment should be undertaken to ensure that the work can be safely performed while seated on the fitness ball. The use of the fitness ball should be regularly reviewed by the relevant health professional.

(Note: For more information regarding the requirements of return to work plans see *Returning to work, A guide for injured workers*, available from the WorkSafe Victoria website.)

The problem of using a fitness ball as a chair

Using the fitness ball as standard seating would constitute a daily regime of constant exercising. There is no evidence that use of the ball over a day has the beneficial effect that is expected when it is used as just one part of an exercise regime.

Providing fitness balls in a workplace may place the employer at risk of introducing a hazard. An employer needs to assess the risk to health and safety where the balls are used, or planned to be used, as seating at work.

Known hazards include:

- high concentration levels and fatigue from sustained exercising
- the initial upright posture is likely to be lost over a long period of sitting because there is not full seat and back support
- upright postures are not able to be maintained during tasks requiring any reaching or moving around
- employees cannot swivel or navigate around the workstation
- getting on and off or reaching from the ball may constitute a falling hazard
- the sitting surface does not provide adequate support for the buttocks and thighs.

There are some adaptations of the ball to fit within a standard adjustable chair base with a backrest.

This would seem counterproductive as most of the exercise advantage would be lost, and the sitting surface would further decrease support for the buttocks and thighs.

Chairs in the workplace

People sit at work to perform tasks that require concentration, posture, stability and visual access, often to be sustained up to eight or nine hours. Computer usage is an example of such work. For these situations, seating should be supportive and not require excessive work to maintain the seated posture. In general, seating for the workplace should:

- be adjustable in height and back position
- be stable and safe to use, not putting people at risk of falling, particularly when getting on and off
- have appropriate lumbar and thigh support
- allow movement of the chair
- allow a variety of supported postures relevant for the sort of work being done.

Clearly fitness balls do not have most of those characteristics and as such would be generally unsuitable for use as a work chair.

Posture and the design of chairs

Sitting reduces energy expenditure during work. However prolonged sitting may also affect the trunk muscles and increase compression on the spinal discs and the incidence of low back pain. Research shows that in sitting there is a significantly increased load on the lower lumbar discs compared to standing erect, and an even larger load when sitting in a stooped posture.

Researchers have determined that increasing the seat angle produces reduced muscle activity in the back and reduces disc pressure. Leaning back at an angle between 110 and 120 degrees decreases disc pressure to even lower than that in standing.

In addition both lumbar support and the use of armrests have been found to always result in reduced disc pressure. Muscle activity is reduced even further with a wider seat/backrest angle.

As a result, chairs have been developed with a variety of back rests and improved adjustability, including seat-to-backrest angles. These features assist the sitter to achieve optimum posture. Modern approaches to chair design reject the concept of a fixed 90 degree sitting posture, in favour of a more dynamic posture centred around an 'open' trunk-thigh angle of 105 degrees or more. A variety of chairs provide this dynamic posture, such as dynamic chairs (adjustable seat/backrest angle), 'sit/stand' chairs and 'sit/kneel' chairs.

Environment and work practices

Seating type, adjustment and 'comfort' are only some of the factors which influence risk from sitting at work. The length of time that people sit, job design that does not provide opportunity for a variety of postures, the pressures of deadlines, the layout of materials on desks, the lighting and glare, and the visual demands of the task, are all factors that need to be considered. No matter what seating type is used, education is required to ensure users understand the reasons for optimum seated postures, how to adjust their seating, and the need to change postures and get up from seating at regular intervals.

Short term or intermittent use of fitness balls may be appropriate as a physical rehabilitation aid as part of a proper rehabilitation plan.

In general, WorkSafe Victoria recommends that fitness balls are not to be used as dedicated workplace seating.

Legislative requirements

The *Occupational Health and Safety Act 2004* requires employers to provide, so far as is reasonably practicable, a workplace that is safe and without risk to health.

This means that employers need to take into account what is known about safe design of workplace equipment and work activities and implement suitable systems of work. The employer has a duty to carry out a hazard identification of equipment and plant, and assess and control any potential risk which may occur.

Employers will not satisfy their legal duties to make work safe by providing fitness balls as furniture. This doesn't apply to a situation where a health professional has recommended limited use of a fitness ball as a work chair as part of a rehabilitation program. In that case it would clearly be consistent with the employer's duties.

Acts and Regulations

- *Occupational Health and Safety Act 2004*
- Occupational Health and Safety Regulations 2017

Acts and regulations are available from Information Victoria on **1300 366 356** or order online at **www.bookshop.vic.gov.au**.

View the legislation at Victorian Law Today at **www.legislation.vic.gov.au**.

Standards Australia

- AS 4438 – 1997 (R2016):
Height adjustable swivel chairs
- AS 4438 – 1997 (R2016): Amendment 1:
1999 Height Adjustment Swivel Chairs

Copies of standards can be obtained by contacting Standards Australia on **1300 654 646** or by visiting the web site at **www.standards.com.au**.

Further information

WorkSafe Victoria publications

- *Hazardous Manual Handling Compliance Code*

Note: *This guidance material has been prepared using the best information available to WorkSafe Victoria. Any information about legislative obligations or responsibilities included in this material is only applicable to the circumstances described in the material. You should always check the legislation referred to in this material and make your own judgement about what action you may need to take to ensure you have complied with the law. Accordingly, the WorkSafe extends no warranties as to the suitability of the information for your specific circumstances.*

This guidance has been reviewed and updated for the sole purpose of amending year and regulation references relating to the Occupational Health and Safety Regulations, in line with amendments which came into effect on 18 June 2017.