
POSITION ON USE OF EXERCISE BALLS FOR SEATING IN OFFICE / COMPUTER WORKSTATIONS

TO: Duke University and Duke Health Employees

FROM: Ergonomics Division, Occupational and Environmental Safety Office, Duke University and Duke Health

SUBJECT: Position on use of Exercise Balls in offices/computer workstations

DATE: May 2020

With the increasing number of requests and enquiries on use of “exercise balls” in office environments, the Ergonomics Division of Occupational and Environmental Safety at Duke University and Duke Health, has felt the need to provide a statement and clarification on the OESO organization’s stance on the this issue.

The term “exercise ball” is often used as a generic term for like products such as fit ball, swiss ball, balance ball or gym ball. Exercise balls, which are often made out of flexible, rubber-like synthetic material filled with air, were originally intended to be used in gym or rehab settings for stretching, muscle toning and strengthening muscle groups when used during exercise activities.

However, over the past few years, these ball-like devices have been introduced to office environments as aids to promote muscle toning and wellbeing while at work. The Ergonomics Division at Duke OESO has reviewed studies and concluded that the use of exercise balls as seating devices in office environments has significant disadvantages and increased risk of injury to users. Therefore, it strongly discourages the use of exercise balls as replacement to ergonomically adjustable chairs in the office environment.

This conclusion is based on the following concerns:

- Studies have found that overall, there are no significant advantages to sitting on balls versus regular office chairs. Though some studies have reported increased muscle activity, they have also reported that continuous low level of muscle activity over time may result in pain or discomfort (Gregory et al., 1989; Kingma & van Dieen, 2009).
- With muscle activation touted as the primary benefit of using exercise balls in exercise and recreations centers, it must be noted that these benefits are based on use in short time periods for exercise related activities and not for prolonged 4 to 8 hour continuous use as in office settings.
- Another disadvantage of exercise balls as chairs, is the lack of postural support during seating. This is especially true in terms of back and lumbar spinal support. For example, the recommended thigh/backrest angle of 110 degrees while seated, would be difficult to achieve without proper backrest integrated into the seating system (Pheasant, 1991; Sanders & McCormick, 1993). Prolonged use of exercise balls for seating could also cause significant muscle fatigue resulting in awkward postures that produce stresses on the spine and other parts of the musculoskeletal system.

- There is also significant increase in risk due to falls in the workplace. The use of an exercise ball often requires extended/awkward reaches to access work accessories such as telephones, desktop paper work and filing cabinets. These often increase the risk of falling off the ball.
- Overinflated exercise balls have also been known to pop resulting in serious injuries to users. In 2006, over 3 million overinflated exercise balls were recalled due to safety complaints.
- There is also the possibility of misuse of exercise balls in the workplace. Employees have been known to use exercise balls for alternative purposes at their workstations such as leg rests and physical therapy/stretching aids. This may also result in increased injury risk due to falls and strains.

Based on these concerns, the Ergonomics Division at Duke OESO strongly discourages use of exercise balls as replacement to ergonomically adjustable chairs in the office environment.

The following are alternatives to using exercise balls as seating in the workspace:

- Obtain and use a fully adjustable ergonomic chair at your workstation. Listed are [essential ergonomic features](#) for office chairs. Here are office [chairs recommended by Duke Ergonomics](#) and how to purchase them for your work area.
- Incorporate frequent short breaks into your work day. Regardless of how ergonomically designed your workstation may be, the human body is designed to be dynamic and moving throughout the day. Take short 2 minute breaks every 20 minutes all through the workday, varying your postures frequently.
- Do an [ergonomic self-assessment](#) of your work station setup and make changes as needed.
- Use a [sit/stand workstation](#) to allow for postural transitions while at your workstation.

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