

Use of Swiss Balls in the office – Some evidence

Physio's, doctors, orthopaedic consultants and other medical and rehabilitation professionals are frequently espousing the benefits of 'improving your core stability'. Now, the definition of 'core stability', how we measure it and if training it has a positive impact on back pain more than other forms of exercise, is another topic for another time, but the question I want to consider here is, is sitting on a Swiss ball in the office beneficial? The primary reason that this is recommended by said professionals is to improve core stability and/or overall posture, as they 'force you' to sit correctly.

So let's look at some evidence...

Improving core stability: A study in 2006 in the Clinical Biomechanics Journal ^[1] concluded that sitting on a gym ball produced no difference in trunk muscle activation than simply sitting on a surface without back support (i.e a bench or stool) and a more recent (2013) systematic review of a number of studies investigating the effect of dynamic sitting on trunk muscle activation in the Journal of Applied Ergonomics ^[2] concluded that there was no increase in trunk muscle activation with dynamic sitting in 5 out of 7 studies. Of the other 2 studies, one showed increase muscle activation with dynamic sitting but only in one out of eight muscles measured and the other showed increased muscle activation but also increased 'spinal shrinkage', indicating compression of the discs in the spine and increased pressure.

Improving posture: A 2006 study in The Journal of the Human Factors ^[3] concluded that prolonged sitting on a stability ball does not greatly alter the manner in which an individual sits, yet it appears to increase the level of discomfort. (Note: a latter study showed that with a period of 'accommodation', discomfort levels improve, however posture still remains the same).

Summary: So, is core stability improved when sitting on a Swiss ball, not really. Is posture better, no, posture is the same and reported discomfort is greater, initially, though this improves with a period of accommodation or adaptation.

So, what are gym balls for? Exercise, rehab, strengthening. They are gym equipment and can certainly help you to be fitter, stronger and more injury resistant if used as part of a targeted exercise programme, but the principle of good workplace/office ergonomics is to minimise physical demands and musculoskeletal loading and reduce effort. If someone is unfit and/or generally inactive, trying to 'force' increased activity by increasing postural demands is ineffectual at best and detrimental at worst.

Note this is simply an opinion based on a small amount of research. It is not a systematic review of all the evidence and is not definitive. This is a topic, which divides opinion in many cases and any decision to use or not use a Swiss ball in the office, should be taken in the context of what is practicable in the specific office environment and following discussion with healthcare professionals, who will offer their opinion on the matter, thereby allowing a balanced view.

References

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2. Kieran O'Sullivan, Peter O'Sullivan, Mary O'Keeffe, Leonard O'Sullivan, Wim Dankaerts., 2013. The effect of dynamic sitting on trunk muscle activation: A systematic review. *Applied Ergonomics* 44(4), p.628-635
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