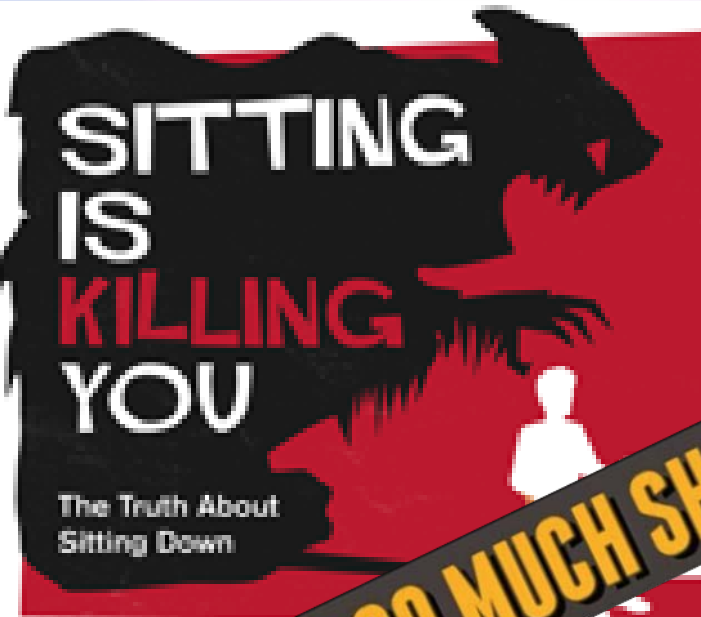


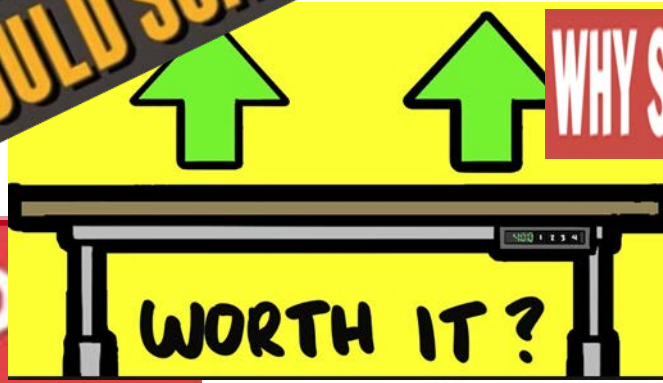
Benefits of sit-stand desks (SSD)

Fact or Fiction?

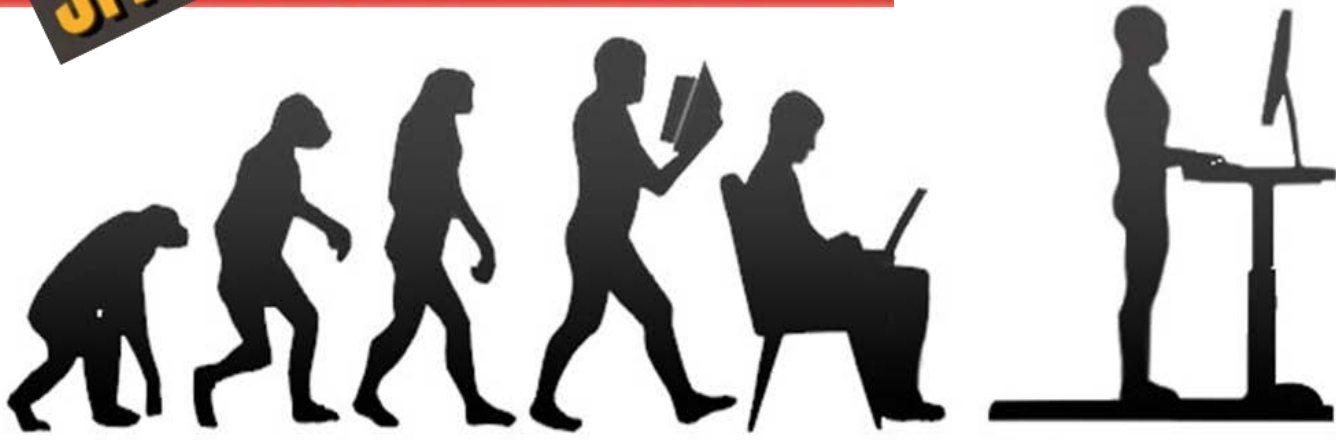


SITTING SO MUCH SHOULD SCARE YOU

SITTING VS. STANDING



WHY STANDING IS THE SOLUTION



Excessive occupational sitting is not a "safe system of work": time for doctors to get chatting with patients

Unanswered questions

- What is sedentary behaviour
- Why all of the attention on sitting
- Does standing address the issues – and if so will SSDs help to address sedentary behaviour and deleterious health impacts
- Why the emphasis on not sitting – if standing does not address the health issues
- How do we deal with it

Sedentary behaviour

- Claims that sedentary behaviour contributes to all-cause mortality and chronic disease
- Sedentary behaviour is being interpreted or operationalised as 'sitting'
- Increased sitting in the workplace, so as an employer do we have a moral obligation to address this
- What is the contribution of occupational sedentary behaviour to these deleterious health impacts
- Needed evidence to better inform our practice

Collecting evidence

Purpose:

- Define sedentary (through a comprehensive literature review)
- Determine if SSDs address occupational sedentary behaviour in office workers (via systematic literature review)

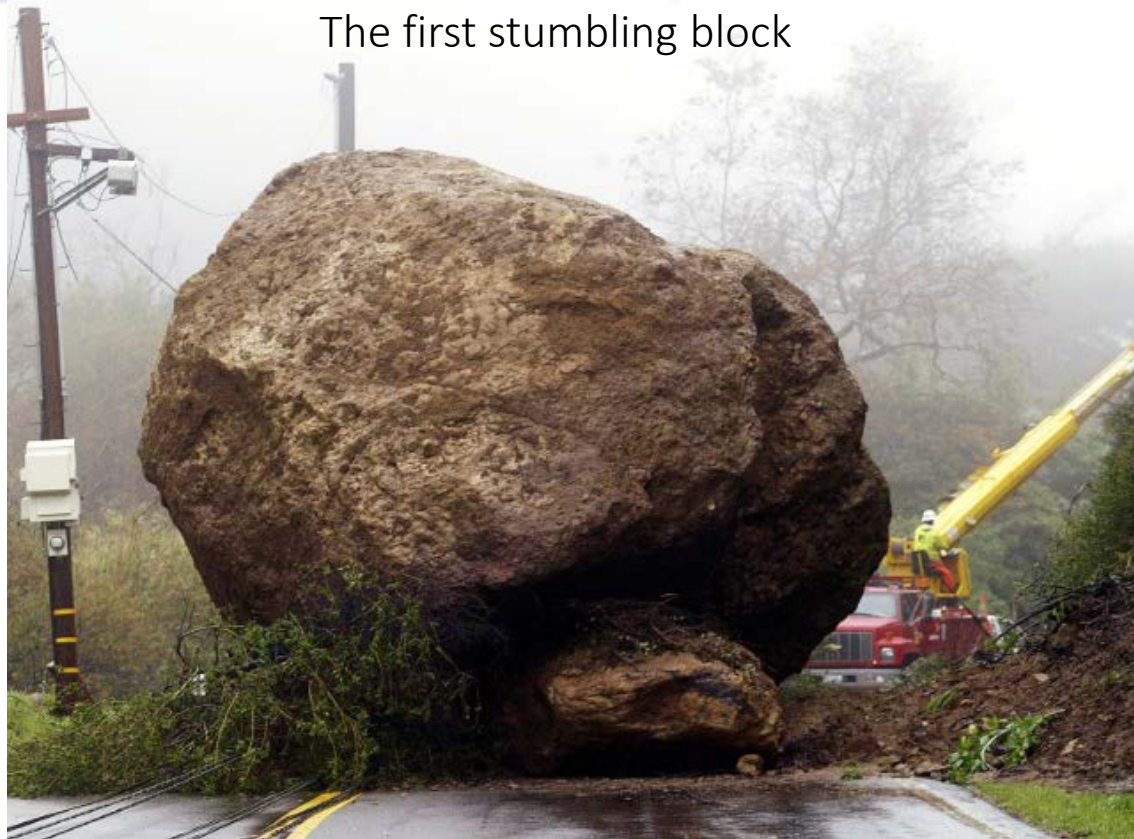
Research question: Does the introduction of SSDs reduce sedentary behaviour in office workers?

- 679 published studies – only six included in the systematic review due to quality of studies
- Issues with quality:
 - Cross sectional data
 - Self reported data
 - Small study groups
 - Short duration studies
 - Non-representative study population

Not all of these quality issues could be addressed, due to insufficient suitable studies to include in the review

What's in a definition

The first stumbling block



There is lack of consensus on a consistent definition of sedentary behaviour, measurement methodology, data analysis and interpretation.

Defining sedentary behaviour

Common theme in definitions:

- Low energy expenditure (1-1.5MET metabolic equivalent unit), only marginally above resting metabolic rate

In 2012 Sedentary Behaviour Research Group introduced another definition to include, low energy expenditure whilst sitting or reclining

Many studies on sedentary behaviour do not define 'sedentary' and most do not measure energy expenditure.

Why focus on sitting

Easier to measure, so easier to study.

But does it represent sedentary behaviour and does it contribute to negative health outcomes?

If sitting is the culprit, it is yet to be convincingly evidenced in quality studies.

A large, white thought bubble with a black outline is centered in the upper half of the page. It contains the text "So is standing better for me?". Below the main bubble are two smaller, empty thought bubbles, one above the other, connected by a thin line, suggesting a chain of thought.

So is standing
better for me?



Is standing better?

Studies have shown that standing does not increase energy expenditure above 1.5MET, so how can standing and hence SSD address sedentary behaviour?

Some studies have shown statistically significant increases in energy expenditure when standing as compared to sitting – but these differences are highly unlikely to be clinically significant.

The research question

Does the introduction of SSDs reduce sedentary behaviour in office workers?

If sedentary behaviour = sitting:

- short term: “Yes”
- long term: “Unlikely”

Does standing address the negative health impacts caused by sitting?

- insufficient evidence

It is not possible to state that SSDs decrease sedentary behaviour and that this in turn will reduce the negative health impacts attributed to occupational sedentary behaviour.

What have we done

- Main message - moving is the only guaranteed way of addressing sedentary behaviour
- Through a guideline, we have given USC evidence that standing in itself does not address sedentary behaviour
- Medical certificate (only) for people with pre-existing medical condition – ensure standing is not contraindicated (we have had two staff insist on SSD to address medical issues and Dr has stated that it would be contraindicated)
- Ergonomic assessment, work rest software (we use WorkRave), behavioural change (e.g. puzzles/games, team challenges, walking meetings, look out for your team, Thera band exercises, manager/supervisor education etc.)
- Awareness of funding and office layout limitations
- SSD type – note: we rarely recommend desk top SSD, as we have found that they introduce additional ergonomic challenges

Questions



For those who are interested: Systematic review criteria



Aim of review – to ascertain if the implementation of SSD in office environments can decrease sedentary behaviour or sitting time in office based workers.

Inclusion criteria:

- English language, peer reviewed, controlled trials 2009-2017
- Adult office workers
- FTE > 0.5
- Primarily engaged in seated office work
- Not already using SSD
- Intervention SSD to address sitting time or sedentary behaviour (compared to normal seated work)
- Must use objective measure of posture or energy expenditure (accelerometer, inclinometer)

Quality assessment

- Was there a clearly stated research question?
- Did the trial accurately address the stated research question?
- At the start of the trial were groups similar with respect to:
 - Sociodemographic factors
 - Other factors (e.g. occupation, background, education)
- Were all participants who entered the trial properly accounted for at the end of the trial?
- Was the method used to objectively measure sitting time/sedentary behaviour in accordance with guidelines for optimal use?

Quality assessment cont.

- Did reporting of results reflect the interpretation of use of all objectively obtained data?
- Were the results reported in such a way that enabled verification of findings?
- Did the authors acknowledge adverse impacts with respect to the use of SSD?
- Were all components used to impact sitting time/sedentary behaviour recognised in the study (i.e. in the case of multicomponent trials)?
- Did the finding add value to the current body of knowledge regarding the impact of SSD on office workers?