

## The Impacts of the Sit-Stand Workplace Intervention on Cardiometabolic Risk

**Authors :** Rebecca M. Dagger, Katy Hadgraft, Matthew Teggart, Peter Angell

**Abstract :** Background: There is a growing body of evidence that demonstrates the association between sedentary behaviour, cardiometabolic risk and all-cause mortality. Since full time working adults spend approximately 8 hours per day in the workplace, interventions to reduce sedentary behaviour at work may alleviate some of the negative health outcomes associated with sedentary behaviour. The aims of this pilot study were to assess the impacts of using a Sit-Stand workstation on markers of cardiometabolic health in a cohort of desk workers. Methods: Twenty eight participants were recruited and randomly assigned to a control (n=5 males, 9 females, mean age 37 years  $\pm$  9.4 years) or intervention group (n= 5 males, 9 females, mean age 42 years  $\pm$  12.7 years). All participants attended the labs on 2 occasion's pre and post intervention, following baseline measurements the intervention participants had the Sit Stand Workstations (Ergotron, USA) installed for a 10 week intervention period. The Sit Stand workstations allow participants to stand or sit at their usual workstation and participants were encouraged to the use the desk in a standing position at regular intervals throughout the working day. Cardiometabolic risk markers assessed were body mass, body composition (using bio impedance analysis; Tanita, Tokyo), fasting blood Total Cholesterol (TC), lipid profiles (HDL-C, LDL-C, TC: HDL-C ratio), triglycerides and fasting glucose (Cholestech LDX), resting systolic and diastolic blood pressure and resting heart rate. ANCOVA controlling for baseline values was used to assess the group difference in changes in risk markers between pre and post intervention. Results: The 10 week intervention was associated with significant reductions in some cardiometabolic risk factors. There were significant group effects on change in body mass (F (1,25)=5.915, p<0.05), total body fat percentage (F(1,25)=12.615, p<0.01), total fat mass (F (1,25)=6.954, p<0.05), and systolic blood pressure (F (1,25)=5.012, p<0.05). There were no other significant group effects on changes in other cardiometabolic risk markers. Conclusion: This pilot study highlights the importance of reducing sedentary behaviour in the workplace for reduction in cardiometabolic risk markers. Further research is required to support these findings.

**Keywords :** sedentary behaviour, caridometabolic risk, evidence, risk makers

**Conference Title :** ICPESS 2015 : International Conference on Physical Education and Sport Science

**Conference Location :** London, United Kingdom

**Conference Dates :** May 25-26, 2015