



Awarded COFAS Marie Curie fellows – For the FOIP programme



Patrik Wennberg

E-mail:

patrik.wennberg@fammed.
umu.se

Home University:

Umeå University, Umeå,
Sweden

Host University:

Baker IDI Heart and Diabetes
Institute, Melbourne, Australia

Project: The effects of prolonged sitting on postprandial long-term memory and executive functions with and without intermittent bouts of light-intensity physical activity in older overweight adults – an experimental study

Abstract: Prolonged sitting is a ubiquitous component of adults' working, commuting, and domestic lives. Epidemiological and experimental findings have identified unique metabolic correlates and consequences of sedentary behavior (time spent sitting). These are independent from the effects of not meeting the public health guidelines for moderate-to-vigorous physical activity (being inactive). A recent study investigated the acute effects of prolonged sitting on health-related metabolic outcomes in overweight adults. Interrupting sitting time with intermittent short bouts of either light- or moderate-intensity walking was found to lower acute postprandial glucose and insulin levels in overweight/obese adults. Interrupting prolonged sitting with light-intensity breaks may have other physiological benefits that could further motivate workplace implementation of such strategy. Can intermittent bouts of light-intensity physical activity also counteract potential negative effects on cognition from prolonged sitting?

We hypothesize that also postprandial cognitive performance may be improved if a single bout of prolonged sitting is interrupted by intermittent short bouts of light-intensity activity. The proposed trial will add important knowledge to this research area by investigating the effects of interrupting sitting time with short bouts of physical activity on postprandial long-term memory and executive functions in overweight adults. To our knowledge, this is the first trial that combines postprandial tests of cognitive functions with systematic experimental manipulation of intermittent activity bouts. The study will be conducted in a laboratory setting that mimic a typical office workday and the results may therefore be directly translated into workplace interventions.

Career plan: The long-term career plan includes:

- The establishment of a research group within the field of physical activity and health with a focus on the primary health care setting. Dr. Wennberg is currently supervising two medical students who are interested in future doctoral studies.
- A strengthening of the competence in epidemiological and experimental research, using both quantitative and qualitative methods and further experience in research leadership and international collaborations.
- Advancement to associate professor.