



RESEARCH TO
PRACTICE 2018

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BRISBANE, QUEENSLAND

PHYSICAL ACTIVITY AND NUTRITION TIMING FOR HEALTH: IS IT TIME FOR A REFOCUS?

Dr Evelyn Parr

Attention is typically devoted to the timing of particular medication administration for optimal effectiveness, or the best time for athletes to consume protein to maximally promote gains in muscle growth. However, little consideration is given for the time of day when physical activity and dietary intake for health outcomes should occur for the average, middle-aged adult (i.e.: the non-athlete) that may promote maximal health outcomes. With the exception of those who perform shift work, daily activities and nutrition are typically centered around daylight hours. Indeed, our bodies have normal rhythms of peaks and troughs (i.e. oscillations) in many circulating hormones that dictate our circadian rhythm patterns over 24 h periods. For example, insulin peaks between 12 pm and 6pm and hits a nadir between midnight and 6 am. Natural circadian rhythms vary across healthy individuals and also between individuals with different metabolic conditions. As such, those with metabolic complications, such as individuals with obesity or type 2 diabetes, often have disrupted circadian rhythms where the oscillations are flattened or in a different phase. However, we are only beginning to scratch the surface when collating together the effects of timing of physical activity and nutrition on the metabolic health and circadian rhythms.

The research presented will propose the effectiveness and emphasis of timing of physical activity and dietary intake when we consider an individual's health as an outcome measure. Investigations of time-restricted feeding, changes in macronutrient patterns across mealtimes, behavioural activity patterns across a day, as well as timing of exercise in a day will all be discussed with respect to achieving the most beneficial and meaningful control of glycaemia, reduction in obesity and maintenance of skeletal muscle mass.

Abstract number: 021
Session: It's all in the timing (Exercise & Nutrition to influence circadian in biology)
Date: Tuesday, 27 March 2018
Time: 1:30pm – 3:00pm
Co-Presenters: Prof John Hawley; Prof Glenn McConell, Dr Evelyn Parr
Panel Practitioner: Dr Brooke Devlin
Session Chairperson: Dr Trine Moholdt