

# Pacing Strategies Study

## Main Study Questions

The purpose of this study is to learn whether a new wearable sensor can provide real-time pacing guidance that allows a user to complete a 5-mile run/walk with a cooler body temperature than when using just their own experience. Additionally, this study aims to collect data that will help researchers predict how individuals use carbohydrates and fat during exercise.

## Motivation for Research

Emergency workers and military personnel can often find themselves engaged in critical, high exertion work conducted under challenging environmental conditions. Hot environments pose a risk of increased body temperatures and heat strain, particularly when heavy workloads and/or protective clothing ensembles are necessary. An application that can provide real thermal-work strain monitoring and automated feedback regarding optimal work rates would aid in preventing thermal injuries and provide a means to optimize work rates to minimize overall thermal work strain.

By performing this protocol in a room calorimeter, an individual's metabolic flexibility in response to diet and exercise was also examined. This will expand on data collected for the Metabolic Flexibility Study.

The study ran from the end of October, 2014 until mid March, 2015.



