



**School of Sport, Exercise and Health Sciences**

**Influence of prior walking on endothelial  
function and coronary heart disease risk markers  
in South Asian versus White European women**

24<sup>th</sup> July 2018

### **Study Statistical Analysis Plan**

The data collected will be analysed using the software package SPSS (SPSS Version 23, SPSS Inc., Chicago, IL) and an alpha value of  $P < 0.05$  will be set to indicate statistical significance. Parametric assumptions will be checked using the Shapiro-Wilk test to confirm normal distribution of the data and Levene's test for homogeneity of variance. If sphericity is violated, the Greenhouse-Geisser correction factor will be applied. Parametric data will be presented as means  $\pm$  standard deviation (SD). Physical characteristics and exercise responses will be compared between South Asians and White Europeans using the Students t-test. Three-way repeated measures ANOVA with Bonferonni post-hoc tests will be used to examine differences between trials for plasma constituents with the three factors being a) trial (exercise versus control), b) ethnic group (South Asians versus White Europeans) and c) time (serial measurements over 9 hours). Effect sizes (Cohen's *d*) will be calculated for each of these variables by dividing the difference between the mean values (exercise versus control or South Asian versus White European) with the standard deviation (i.e. the average standard deviation from both trials and ethnic groups combined). Area under the plasma concentration versus time curve (AUC) values will be calculated for plasma constituents using the trapezoidal method. These values will be compared using two-way repeated measures ANOVA with the two factors being trial (exercise versus control) and ethnic group (South Asian versus White European). Two-way repeated measures ANOVA will also be used to assess between trial and ethnic group differences for fasting plasma metabolite concentrations and endothelial function.