



The BBC/University of Chester researchers found that both heart rate and energy expenditure were raised significantly by standing work, and that sit-stand computer workstations are both feasible and effective at reducing sitting time in a work setting.

**Researchers, University of Chester**  
Dr. John Buckley, Dr. Michael Morris, Duane Mellor

**Researchers, Countess of Chester Hospital**  
Dr. Frank Joseph, Susan Edwards, Ho Ye Cheung

**Corporate coordinating partners**  
Will Ellerby and Natalie Hewitt; BBC Television  
Rebecca Matthew; Matthew's Estate Agents,  
Chester Jayne Dodgeson and Gemma Sproston;  
Corporate Communications, University of Chester  
Katie Copeland, Physiotherapist, Chester

**Equipment suppliers (unconditional supply)**  
Alex Black; Ergotron, UK (adjustable desks)  
Debbie van der Meer; Animas, UK  
(blood glucose monitors)  
Simon Atkinson; Club Management Partners,  
Harrowgate, UK (movement monitors)  
Mark Jones; Technogym UK (accelerometers)  
Colin Cartwright; Fitness ASSIST, Wrexham, UK  
(heart rate monitors)

**Equipment**  
Ergotron WorkFit-D, sit-stand adjustable desk  
Timex heart rate monitor  
Technogym movement monitor  
Animas continuous blood glucose monitor  
Cortex Metalyser, respiratory analysis system

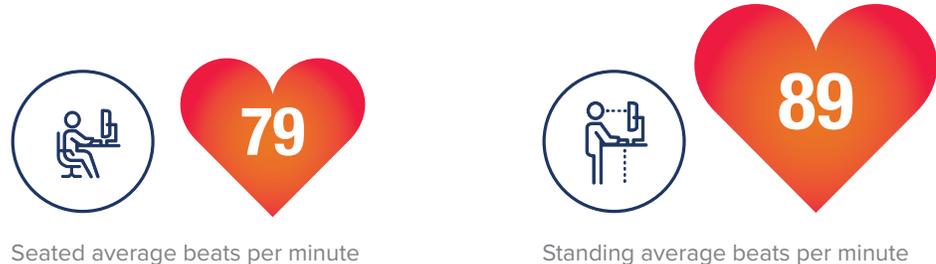
# UK study finds significant health benefits associated with standing

The BBC/University of Chester research, "The cardiovascular and metabolic benefits of standing desk work," was aired October 2013 in the "Trust Me I'm a Doctor" two-part series on BBC Two television in the UK.

The study, conducted by Dr. John Buckley at the University of Chester, was built on previous findings indicating that prolonged sitting causes damage to joints that can lead to inflammation, stress, chronic pain and cardio-metabolic disease.

## heart rate results

Significant increase in heart rate from seated to standing work = 10 bpm (p = .012)



## calorie (kcal\*) expenditure results

Significant increase in calorie expenditure from seated to standing work = 0.7 kcals/minute (p = .014)

\*A kcal is the amount of energy needed to raise the temperature of one kilogram of water by one degree Celsius



## blood glucose\*\* results

\*\*The concentration of sugar in the blood

**Peak (high) 152 minutes after lunch started**  
**Trough (low) 258 minutes after lunch started**

**Peak (high) 84 minutes after lunch started**  
**Trough (low) 144 minutes after lunch started**

