



# Characterisation of Physical Activity Behaviour in Patients with Intermittent Claudication over a 7-day Period

Clare Clarke, PhD Research Student.

Supervisors:

Professor Malcolm Granat, Head of  
Research, GCU.

Dr. Cormac Ryan, School of Health and  
Social Care, Teeside University.

Mr. Richard Holdsworth, Consultant  
Vascular Surgeon, Forth Valley Royal  
Hospital.



Intermittent claudication is a symptom of peripheral arterial disease.

Describes muscle pain or tightness of the calf or thigh on walking which is relieved by rest.

Leads to ambulatory dysfunction (i.e. less walking each day, more stops/starts per walking episode).

Aim of study:-

To characterise physical activity behaviour in patients with intermittent claudication using continuous 7-day monitoring.



## ActivPAL™ monitor

- compact monitoring device  
(5 x 3.5 x 0.7 cm, 20g)
- uni-axial accelerometer
- able to differentiate between both upright and sedentary periods
- generates timing results in sitting/lying, standing and stepping.



## Methods

- 30 patients with intermittent claudication
- 30 healthy controls
- Each wore an ActivPAL™ monitor continuously for 7 days.

Results showed that the claudication patients:-

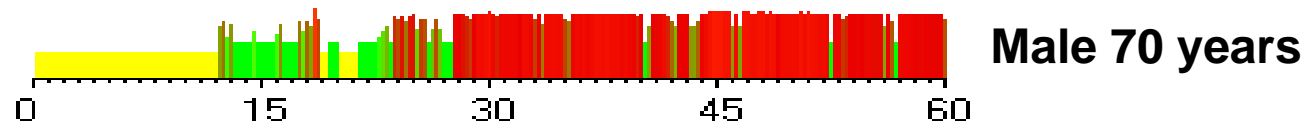
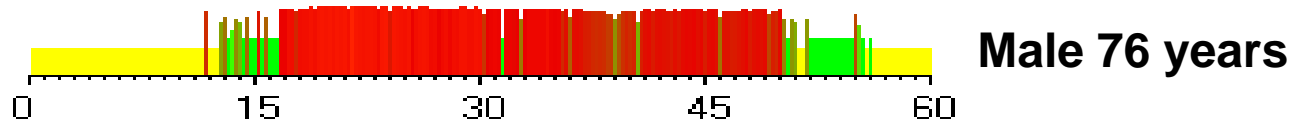
- had a higher mean number of both standing ( $3299 \pm 1801$  vs  $2586 \pm 955$ ,  $p=0.015$  Mann-Whitney U test) and walking events ( $2984 \pm 1617$  vs  $2210 \pm 852$ ,  $p=0.013$ ).
- had more walking events per upright event ( $7.71 \pm 3.07$  vs  $5.76 \pm 2.00$ ,  $p=0.008$ ).
- spent more hours standing ( $33.74 \pm 19.32$  vs  $25.79 \pm 8.49$ ,  $p=0.033$ ) and less hours walking ( $9.5 \pm 5.87$  vs  $12.97 \pm 6.27$ ,  $p=0.003$ ) than the controls.

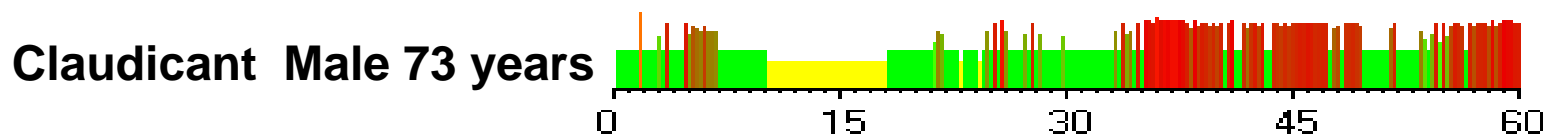
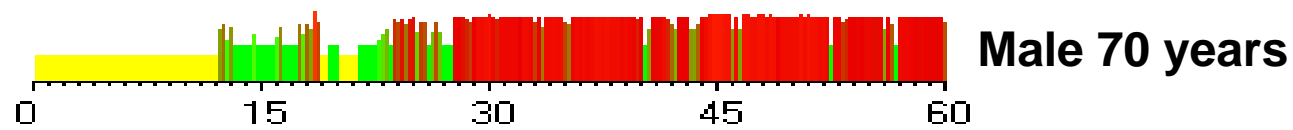
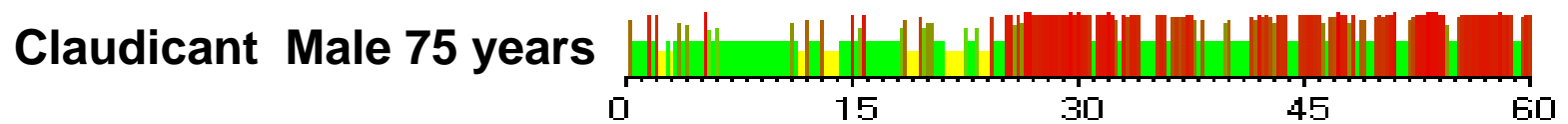
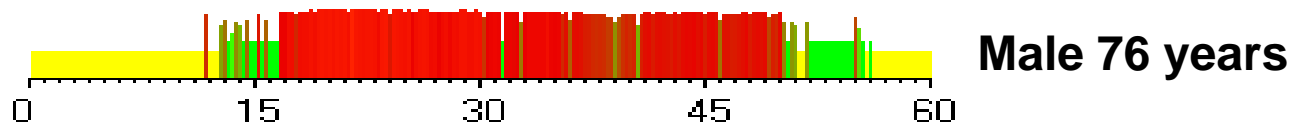
## Conclusions

Seven-day continuous monitoring is able to quantify physical activity behaviour of patients with intermittent claudication.

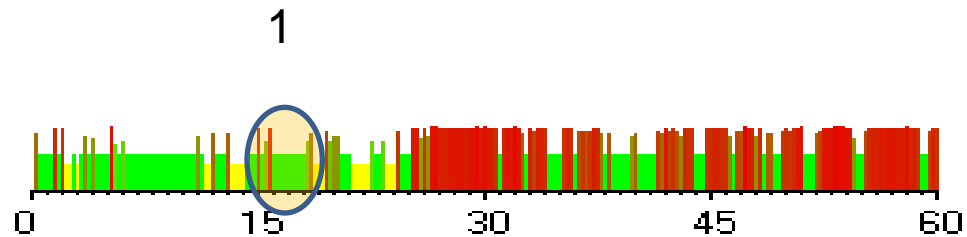
This method of measurement could potentially be useful when analysing the effects of different management interventions.

# Further analysis....





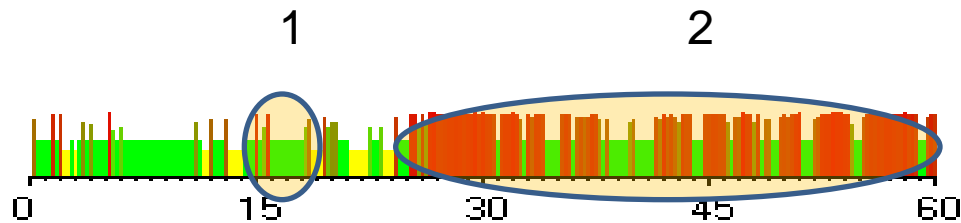
# Claudication Index (CI) = Average number of Walking events per upright event



upright event 1 = 3 walking events

CI = 3

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upright event 1 = 3 walking events  
CI = 3

upright event 2 = 18 walking events  
CI = 18

Any questions or suggestions...

