

## Physio-Master® In-Service evaluation

This was performed by Mandy Greene, Vascular Technician, Department of Radiology.

7 volunteers were recruited from members of staff at the hospital and gave informed consent for inclusion in this evaluation.

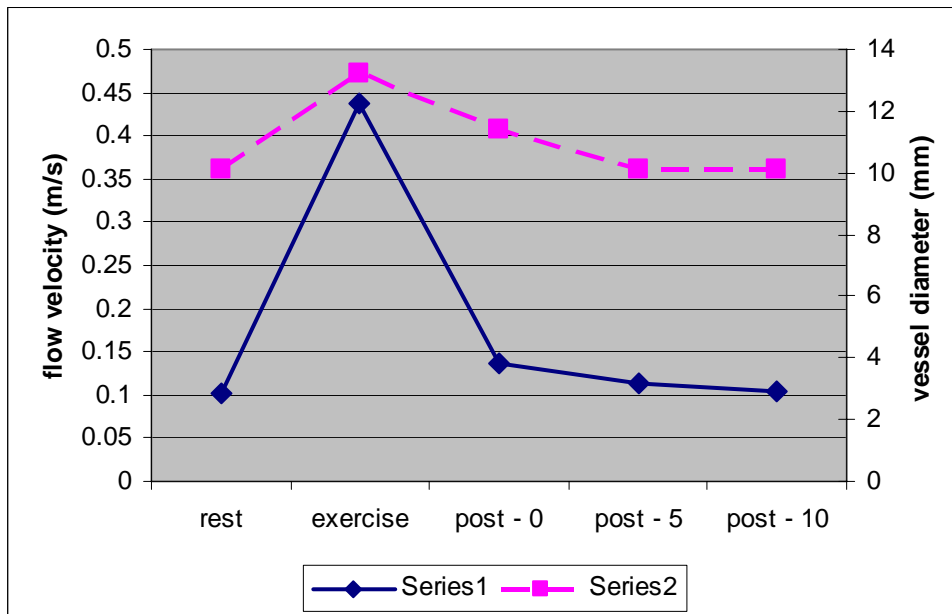
The volunteers sat upright on a chair and their femoral vein diameter and flow velocity was recorded at rest in the upper third of the thigh using duplex ultrasonography. (Siemens Antares machine.) A 9.4Mhz linear array transducer was used to visualise the vein. The transverse diameter of the vein and the peak flow velocity (during respiration) was recorded.

Volunteers then exercised, whilst remaining in the sitting position, using the Physio-master for a period of 5 minutes. Further recordings were taken of peak femoral vein flow velocity and vessel diameter during the exercise.

Volunteers sat still and further recordings were taken immediately after exercise, and after a further 5 and 10 minutes.

Data was recorded and median results are shown in the figure below.

Median peak flow velocity measurements and vessel diameter made at each recorded interval



Series 1 is the peak flow velocity

Series 2 is the vessel diameter

### Results

Results showed that flow velocity more than trebled in all participants during exercise, falling back to resting levels immediately after the exercise was completed.

### Conclusion

Exercise using the Physio-master device increases the peak flow velocity measured in the femoral vein significantly. The duration of efficacy is limited to the duration of the exercise.