Cardiorespiratory Responses in Maximal Cycle Ergometry in Cardiac Rehabilitation

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**Setting the scene:**
The aims of the present study were to measure maximal cycle ergometry cardiorespiratory responses of individuals participating in a cardiac rehabilitation program and to investigate the relation between oxygen uptake (VO2) and heart rate (HR) at ventilatory thresholds (VT1 and VT2).

**What did they do?**
Forty-seven sedentary subjects entered in a cardiac rehabilitation program, performed a maximal cycle ergometry test. The test was performed on a cycle ergometer with a continuous incremental protocol, with a cadence of 60 rpm. The load increased every minute until exhaustion. The expired gases were continuously measured by Aerosport VO2000 analyzer.

- The VO2 mean values were $12.54 \pm 3.52$ ml.kg$^{-1}$.min$^{-1}$ at VT1.
- And $14.16 \pm 3.58$ ml.kg$^{-1}$.min$^{-1}$ at VT2 (VO2 peak = $14.20 \pm 3.5$ ml.kg$^{-1}$.min$^{-1}$).
- The HR at VT1 was $106.5 \pm 21.3$ bpm, at VT2 was $113.5 \pm 20.7$ bpm.
- And at maximal exertion was $115.5 \pm 20.0$ bpm.

It was found that the relation between the three moments of the VO2 and HR measurements and heart rate were more significant than the relationship between the variables studied.

**Takeaway message:**
It was conclude that there is a relation between VO2 and HR variables. The characterization of a behavioural profile of the investigated cardiorespiratory variables for sedentary individuals with coronary artery disease can stratify the risk to start the exercise practice for these individuals, and to indicate in what clinical and functional state these individuals were.