



Ontstaan HandbikeBattle

Rogier Broeksteeg

16 maart 2021

Alpe D'HuZes



Heliomare 2010/2011/2012

Rijndam revalidatie 2011/2012



La Colombière

De Hoogstraat 2012



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Introduction

In Holland most people with a SCI use a wheelchair with an attachable hand cycle unit for mobility and recreation. What would happen if moderately trained persons were given the opportunity to compete in an extreme challenge: climbing the Alpe d'Huez (1135 vertical meters in 13.8 km) with a rigid frame sport hand cycle? Will they succeed and how would their performance relate with laboratorial peak exercise values?

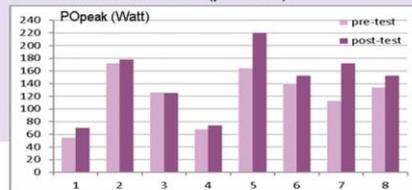
Methods:

In 10 subjects (7M/3F, TSI: 4 ± 3 yrs. Age: 33 ± 9 yrs) with motor complete paraplegia (Th4-L4) Peak power output (PO_{peak}) and peak Oxygen uptake (VO_{2peak}) were determined before and after a 5 months hand cycling training period (non-controlled, 3 to 4 training sessions a week) in a peak exercise test with the hand cycle on a treadmill or ergometer. Associations between time to cycle the mountain and exercise values were calculated.



Results:

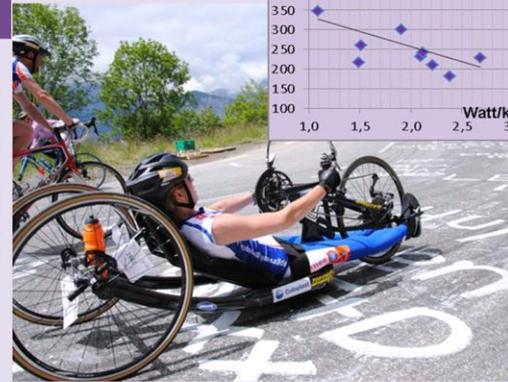
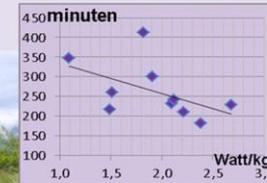
Pre and post-training VO_{2peak}-values were: respectively: 2.0 ± 0.5 L/min and 2.3 ± 0.4 L/min (p=0.002). PO_{peak}-values were 121.6 ± 41.8 Watt and 143.0 ± 51.5 Watt (p=0.033): n=8*.



(*n=8: 2 out of 10 subjects (also with high gains after training) had to be excluded because of different bikes in both tests).

All 10 subjects succeeded on the mountain (time: 260 ± 70 minutes) and PO_{peak}-values were: 141.5 ± 46.8 Watt, 1.9 ± 0.5 Watt/kg and VO_{2peak}-values: 2.3 ± 0.4 L/min, 32.6 ± 4.1 ml/min/kg.

We found a moderately strong negative association between PO_{peak} in Watt/kg and time to cycle the mountain (r=-0.63, p.049); other associations were not significant.



Conclusions:

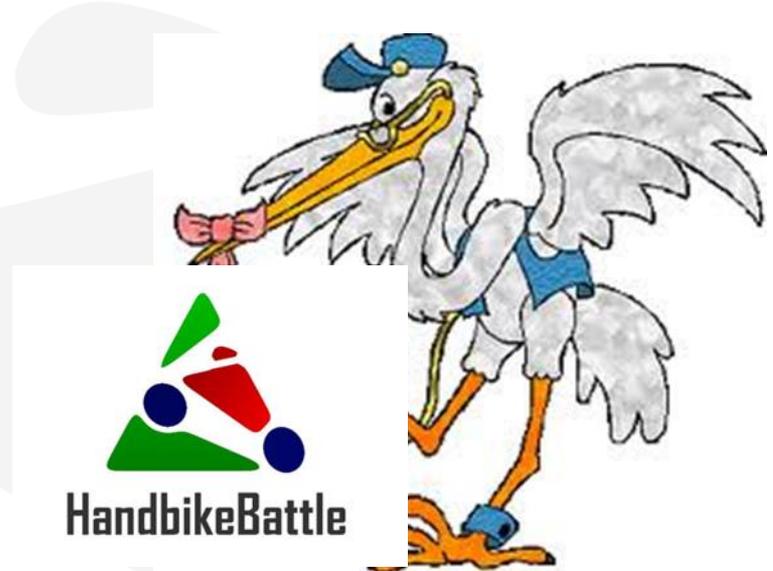
Compared with literature, relatively high peak exercise values were attained in the hand cycle test. The large gains in PO_{peak} and VO_{2peak} after the training period may be explained by the fact that participants were highly motivated to train together) for this challenging (hand) cycling event. Health professionals should make patients aware what they can physically achieve in life and challenge and support them to set extreme goals.



Contact

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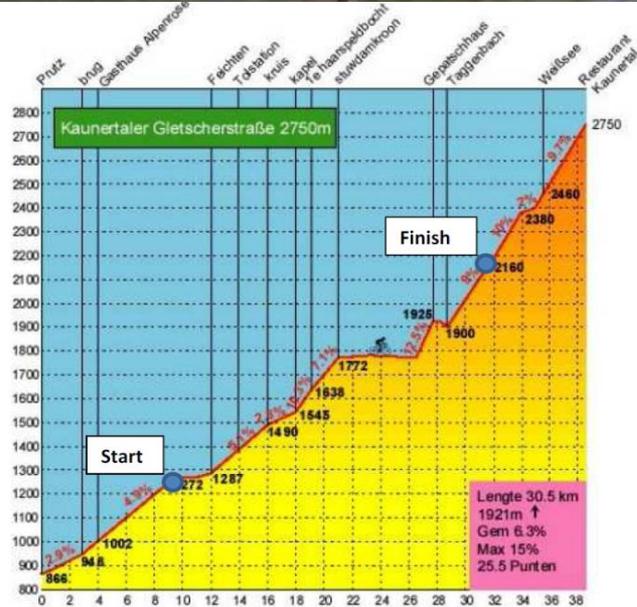
13 juni 2013 eerste editie





- 🚴 Wedstrijd tussen (inmiddels) 13 Handbike teams van Nederlandse revalidatiecentra
- 🚴 Teams van (oud) revalidanten
- 🚴 Individuele handbikers

Een 20 km klim met ongeveer 1000 hoogtemeters Kaunertaler gletsjer in Tirol, Oostenrijk





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