



December, 2012



## TEST REPORT

Walking with BungyPump training poles in comparison to walking with rigid poles and walking without poles. A project in collaboration with **BungyPump of Sweden** and **MODO SPORTS ACADEMY**

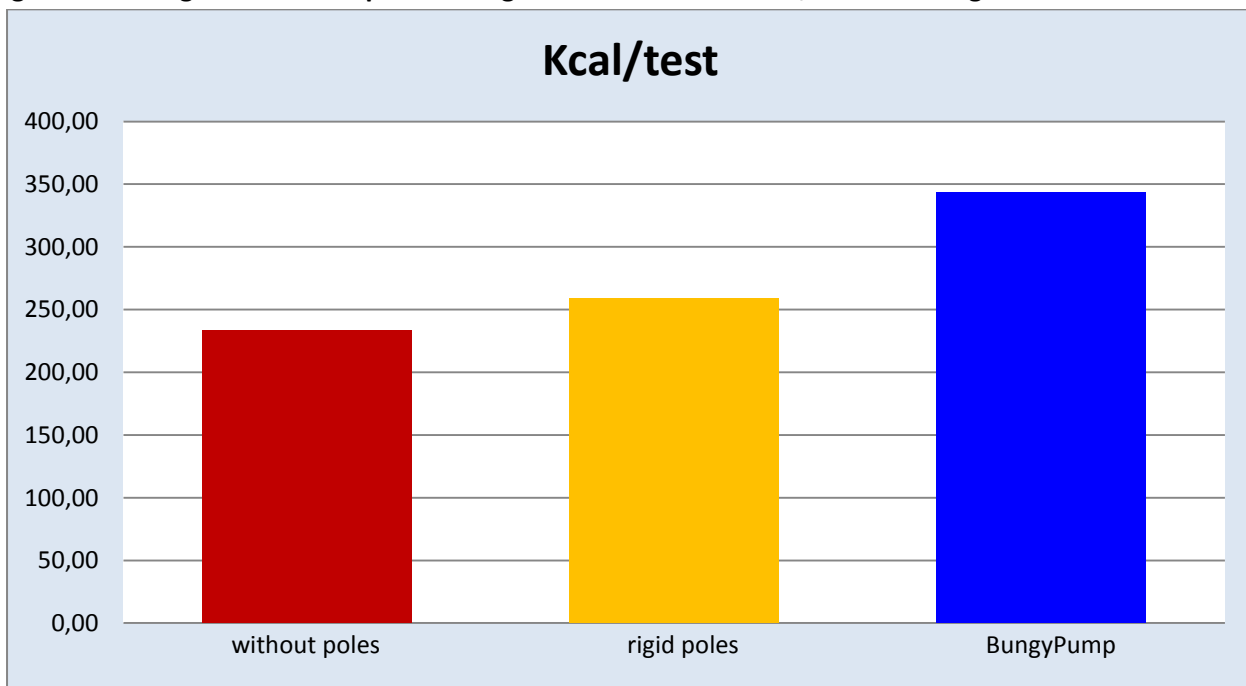
BungyPump are unique training poles with approximately 20cm built-in suspension and up to 4 or 6kg resistance. Because there are different resistance levels available and the user can choose how much they wish to press down when walking, the load may be customized to suit all individuals regardless of physical condition. BungyPump is intended for all who want to increase fitness while getting an effective workout.

The aim of the study was to compare the effect of walking with BungyPump training poles in comparison to regular walking and walking with rigid poles (no suspension). The parameters compared were VO<sub>2</sub>max and calorie consumption.

The test group consisted of 15 people aged between 21 and 57 years of age. On three separate occasions, all subjects were to perform a 30-minute walk on a treadmill - 1. walking without poles, 2. walking with rigid poles and 3. walking with BungyPump training poles. Calorie consumption and VO<sub>2</sub>max was measured with a Polar RS800CX and OwnCal calorie counter and Cosmed VO<sub>2</sub>max test equipment. Every 10 minutes, the gradient of the treadmill was increased from 1 degree to a final gradient of 3 degrees. The speed of the belt was a constant 6.5 km/h.

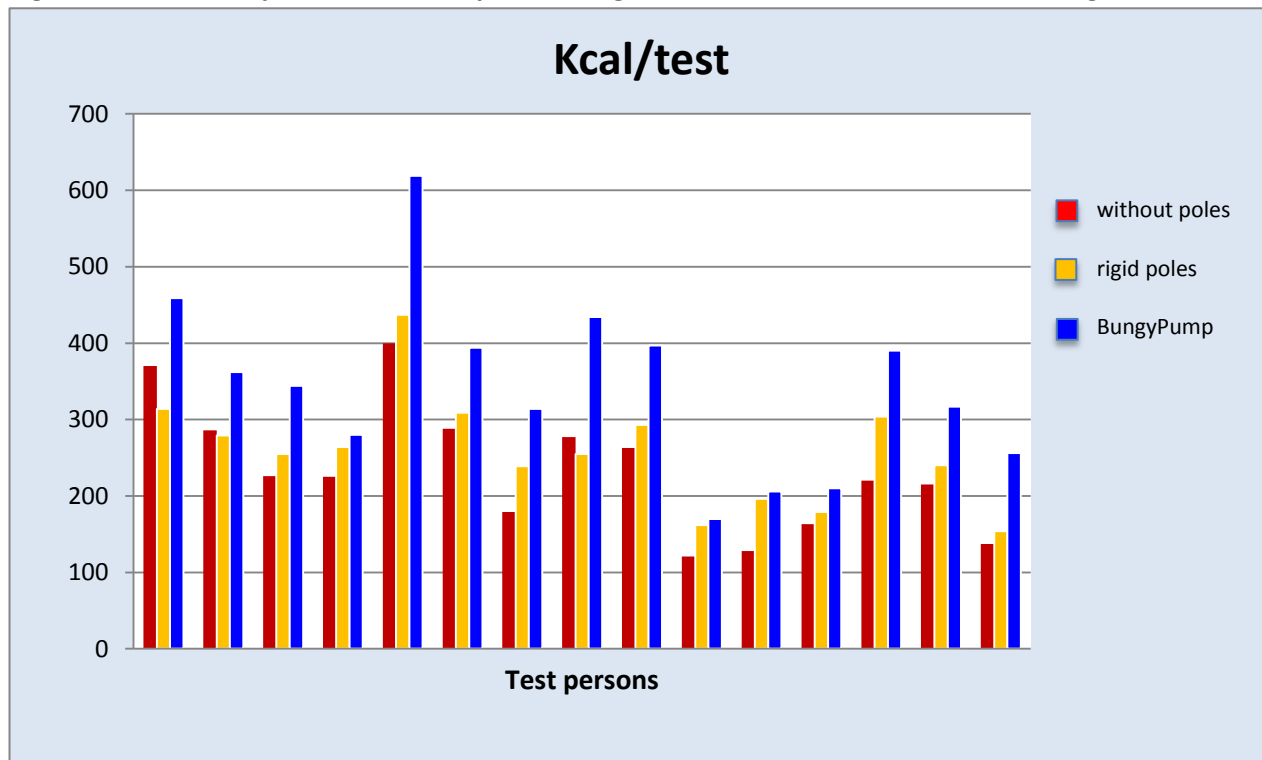
Test results showed that a 30-minute walk at 6.5km/h with 1° - 3° gradient with BungyPump training poles increased calorie consumption by up to 77% with an average increase of calorie consumption of 48% compared to walking without poles and an average increase of calorie consumption of 32% compared with rigid poles.

**Figure 1. Average kcal consumption during 30-min. walk at 6.5 km/h with 1° -3° gradient.**



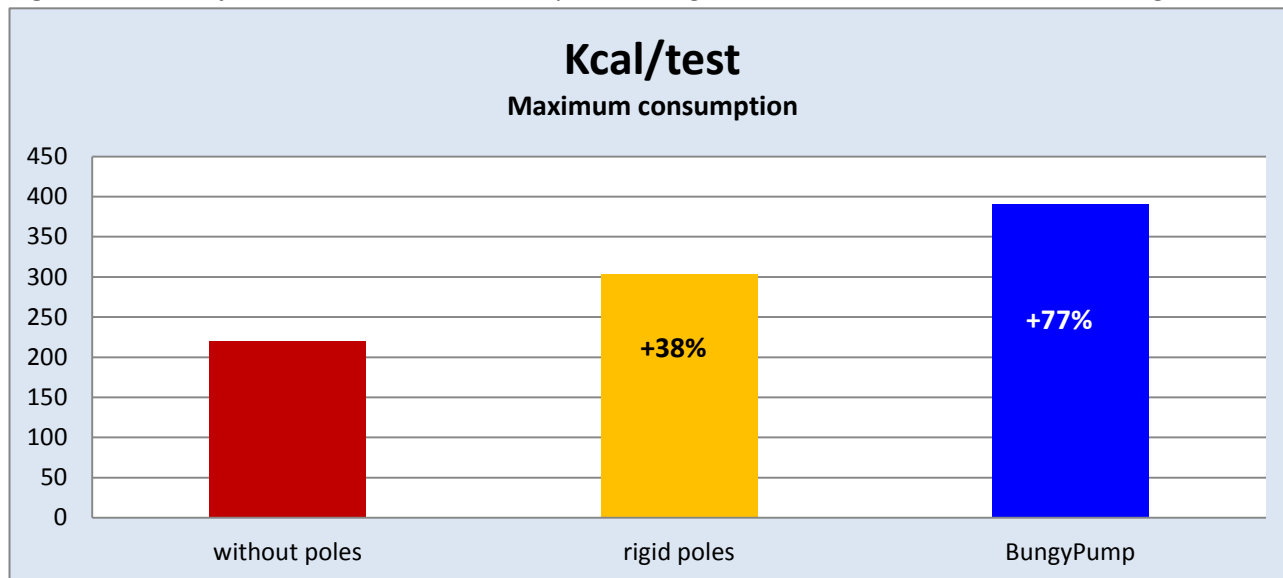
The average kcal consumption without poles was 233 kcal, with rigid poles 259 kcal and with BungyPump 343 kcal (Figure 1).

**Figure 2. All test subjects kcal consumption during 30-min. walk at 6.5 km/h with 1° -3° gradient.**



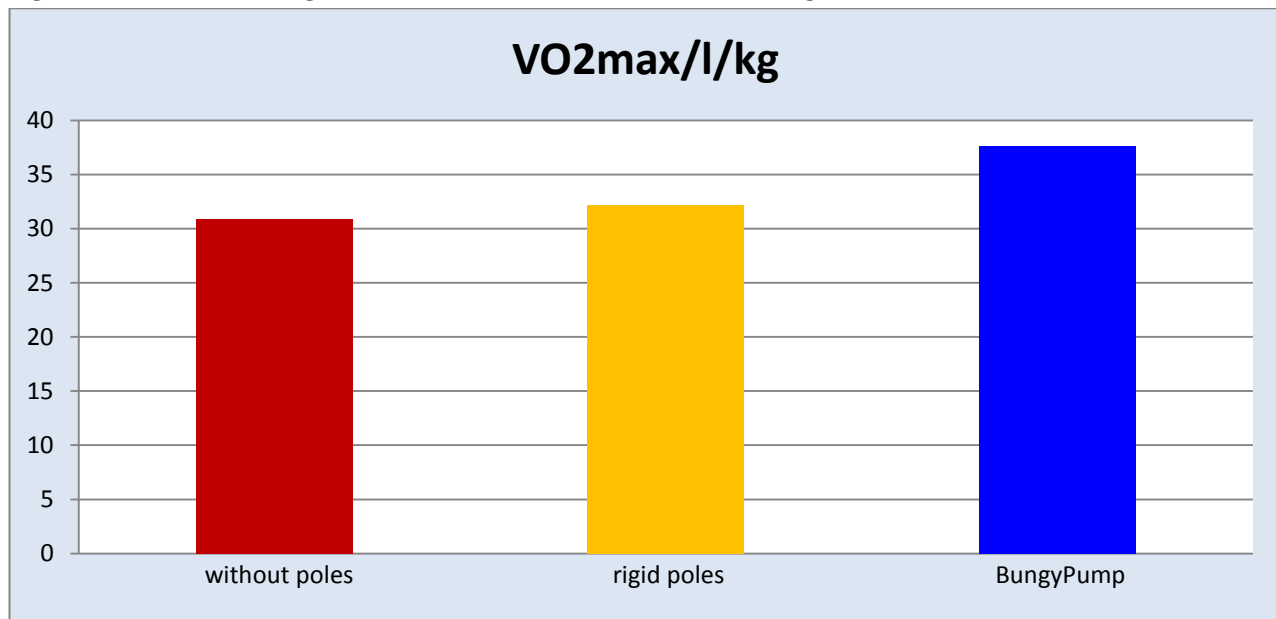
All subjects showed a higher kcal consumption when using BungyPump compared to walking without poles and with rigid poles (Figure 2).

**Figure 3. Test subjects maximum kcal consumption during 30-min. walk at 6.5 km/h with 1° -3° gradient.**



Walking with BungyPump training poles gave an increase in calorie consumption up to 77% compared to normal walking corresponding to a consumption of 390 kcal. Walking with traditional rigid poles gave an increase in calorie consumption up to 38% compared to normal walking corresponding to a consumption of 304 kcal whilst normal walking without poles gave a consumption of up to 220 kcal.

**Figure 4. VO2max during 30-minute walk at 6.5 km/h with 1° -3° gradient.**



BungyPump poles gave an average of 21% higher VO2max/l/kg compared with walking without poles and 18% higher compared to rigid poles (Figure 4).

All the test subjects felt that BungyPump training poles were the most strenuous and most demanding on the whole body. However, many pointed out that it was much easier to keep up the pace of the walk with BungyPump which could lead to a longer distance being covered in a shorter time and thereby enhancing the effectiveness of the training further.

It was observed that the test subjects who were visibly strong in the upper body also had a greater effect from the poles as they could depress them more and for a longer time and therefore could use the poles to a greater degree.

The percentage differences in kcal consumption and VO2max differed considerably between the different test subjects. Calorie consumption varied between 5.9% - 77.27% for "Without Poles vs BungyPump" and 4.9% - 70.19% for "Rigid Poles vs BungyPump", which may be due to variation in technique and upper-body strength. The variations in VO2max ranged between 1.4% - 46.6% "Without Poles vs Bungy Pump" and 2.0% - 61.3% for "Rigid Poles vs BungyPump".

## Conclusion

Training with **BungyPump** training poles provides **increased calorie consumption of up to 77%** and a **higher VO2max** during a 30-minute walk at 6.5km/h with 1° -3° gradient compared with normal walking.

This makes walking with **BungyPump** training poles **more time-efficient** compared to normal walking and walking with rigid poles. To achieve the same kcal consumption during normal walking as during **60 minutes** with BungyPump would need approximately a **90-minute** walk. If the same is to be achieved when walking with rigid poles, approximately an **80-minute** walk would be needed.

Finally, it should be emphasized that if **BungyPump** training poles are to provide the optimal increase in calorie consumption, heart rate and VO2, the practitioner is required to walk with the **proper technique** and push the poles properly at each step to use BungyPump training poles' unique suspension system.

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