

Special Speed-Strength Testing Before and After a Competitive Training Race to Optimize the Training Design of a Motorcycling Racer

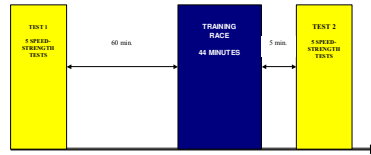
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SPECIAL SPEED-STRENGTH TESTING BEFORE AND AFTER A COMPETITIVE TRAINING RACE TO OPTIMIZE THE TRAINING DESIGN OF A MOTORCYCLING RACER

Purpose

The aim of this study was to evaluate the effect of a competitive training race on special speed-strength capacities three months before the competition in order to make effective changes in the training design.



Methods

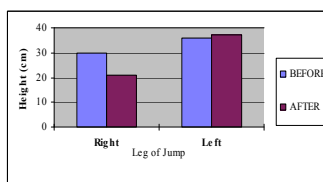
Five special speed-strength tests were performed 60 minutes before and 5 minutes after a 44-minute competition training race.

Athlete: One experienced motorcycling racer, aged 35, training for the 24 Hours International Motorcycling (Catalunya Circuit).

TESTS & RESULTS

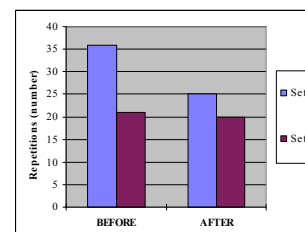
ONE-LEG VERTICAL JUMP - 1LVJ

1) One-leg explosive vertical jump holding a stick with one hand –for right and left legs- (1LVJ)



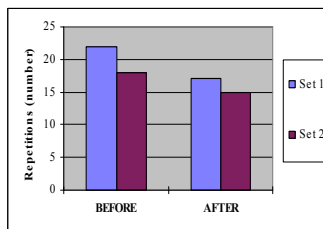
2X30'' –2,5 kg on shoulders- STRAIGHT PUSH UPS - 2x30 sec PU

4) Two sets of 30 sec (second set with 2,5 kg on the shoulders) –30 sec. rest in between- executing straight push ups on the motorcycle (2x30 sec PU)



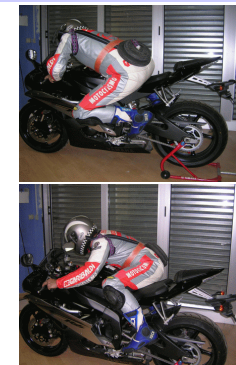
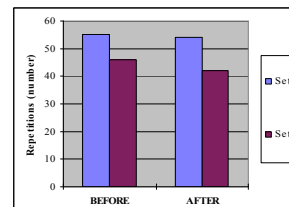
2X12'' SIDE-TO-SIDE PUSH UPS - 2x12-sec PU

2) Two sets of 12 sec. –48 sec. rest in between- executing side-to-side push ups on the motorcycle (2x12-sec PU)



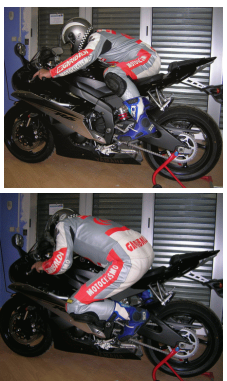
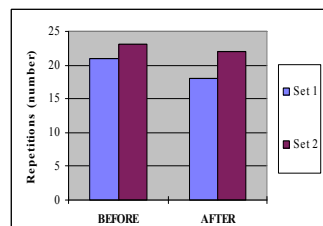
2X45'' –7,5 kg on hip- JUMPS SHIFTING FROM SIDE TO SIDE - 2x45-sec SHIFT

5) Two sets of 45 sec. (second set with 7,5 kg on the hip) –60 sec. rest in between- executing jumps shifting from side to side on the motorcycle (2x45-sec SHIFT)



2X15'' JUMPS SHIFTING FROM SIDE TO SIDE - 2x15-sec SHIFT

3) Two sets of 15 sec. –45 sec. rest in between- executing jumps shifting from side to side on the motorcycle (2x15-sec SHIFT)



Analysis

- There are significant performance differences between the results before and after the competitive training race in: 1) Right Leg-1LVJ (right leg: 30 before – 21 after, left leg: 36 before – 37 after), demonstrating a reduced explosive capacity of the right leg; 2) 2x12-sec PU (before: 40, after: 32) and 4) 2x30 sec PU (before: 57, after: 45), showing a decrease in the push up speed-strength capacity of the arms. No significant performance differences exist between the results before and after the competitive training race in: 3) 2x15-sec SHIFT (before: 44, after: 40) and 5) 2x45-sec SHIFT (before:101, after: 96).

Changes in the Training Plan

- a) to increase the explosive conditions of the right leg in the training of special-competitive strength for shifting from side to side;
- b) to increase the training proportion of directed strength to brake during the next month,
- c) to increase the rest time in between training sets of special strength to brake and to perform effort sets from 15 to 30 sec. until fatigue,
- d) to maintain the proportions of the four levels of strength for acceleration.

CONCLUSIONS

- Special speed-strength tests performed before and after a competitive training race provides significant information to optimize the training periodization of a motorcycling racer.
- This method for training monitoring is specially useful in periods close to competition when the limits between precise peaking and prevention of overtraining are highly relevant.

References

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Acknowledgements



Paco Martínez Martos
Excellent Motorcyclist and Sportsman



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