

# Special Strength and Endurance Changes of Elite Taekwondo Athletes during the Preparation for a World Championship

Ribera-Nebot D and García-Navarro FJ (2006), INEFC - Barcelona University (Spain)



## SPECIAL STRENGTH AND ENDURANCE CHANGES OF ELITE TAEKWONDO ATHLETES DURING THE PREPARATION FOR A WORLD CHAMPIONSHIP

### Purpose

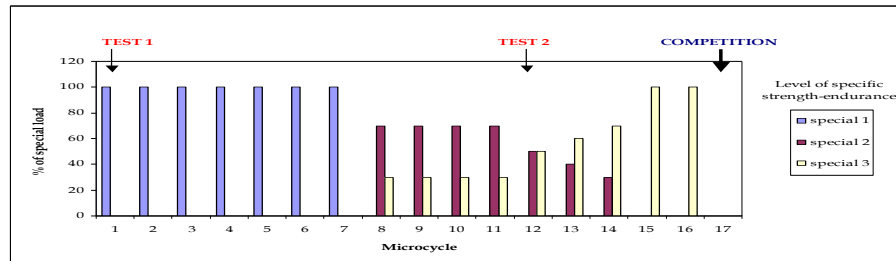
The impact of special strength and endurance training was studied in three elite taekwondo athletes, aged 23-26-27, who were preparing for the 7<sup>th</sup> Open World Taekwondo Championship.

### Tests

The following special strength and endurance tests were performed at the beginning of the final preparatory period and after 12 weeks:

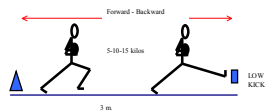
### General Planning of Conditioning Training and Testing

During the final preparatory period (16 weeks before competition), special strength and endurance training was performed 4-1 days/week for 14 weeks.

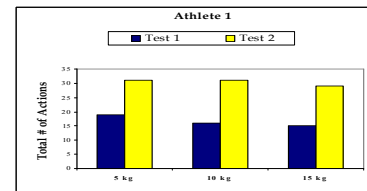
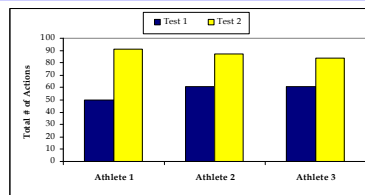


### Results

#### Test of special strength for short movements



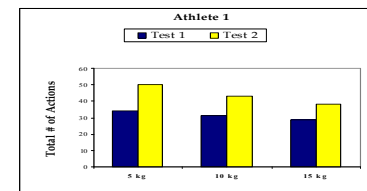
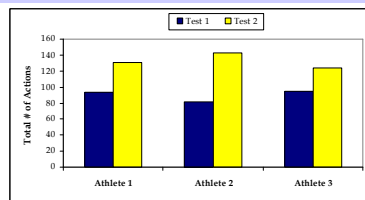
6 sets of 15 seconds (15 seconds rest in between) performing specific short movements with a 5, 10 and 15 kg disc –the number of performed actions is evaluated.



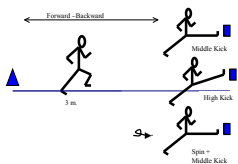
#### Test of special strength for kicks



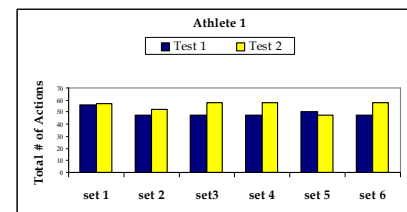
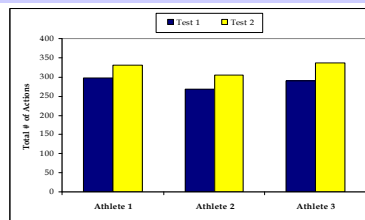
6 sets of 15 seconds (15 seconds rest in between) performing specific kicks with a 5, 10 and 15 kg disc –the number of performed actions is evaluated.



#### Test of special endurance



6 sets of 1 min 30 seconds (30 seconds rest in between) performing specific short movements and kicks –the number of performed actions and recovery heart rate is evaluated.



### Conclusions

- The three taekwondo athletes demonstrated a significant increase in the number of actions performed in all the special strength and endurance tests, although it was not found significant changes in the recovery heart rate (can be explained by a higher stroke volume).
- The present data suggest that special strength and endurance training added to the technical-tactical training can produce an important improvement of special strength and endurance capacities in elite taekwondo athletes, a relevant component of the technical-tactical performance.
- Special strength and endurance testing allows personal planning of special conditioning capacities.

### References

- Seirul'lo Vargas, F. (1994). *El concepto de planificación en los deportes de equipo*. Documento del INEFC-Barcelona.
- Seirul'lo Vargas, F. (1987). *La Técnica y su Entrenamiento*. *Apunts Medicina de l'Esport*, 24, 189-199.
- Seirul'lo Vargas, F. (1986). "Entrenamiento Coadyuvante". *Apunts de Medicina Esportiva*, 23, 38-41.

### Acknowledgements

To the great taekwondo athletes:  
 •Ruben Quintero  
 •Xavi Pastor  
 •Adria Bofill



Find this poster at:  
<http://www.humanmovement.com> (Sport Training)

#### CONTACT

drn@movementsciences.com  
<http://www.movementsciences.org>  
<http://www.sporttraining.org>