

## Effects of electromyostimulation on skating performance of ice hockey players

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### Purpose

The aim of this study was to examine the influence of a 3-wk period of electromyostimulation (EMS) training on the strength of the knee extensors and the skating performances of a group of ice hockey players compared to a control group.

### Methods

Two groups of 9 electrostimulated (ES) and 8 control ice hockey players (C) were studied. EMS sessions were carried out 3 times weekly; each session consisted of 30 contractions. Muscular strength of the knee extensors was determined with an isokinetic dynamometer at different angular velocities (from  $-120^{\circ} \cdot s^{-1}$  to  $360^{\circ} \cdot s^{-1}$ ). The jumping capacities were evaluated using Squat Jump (SJ), Counter Movement Jump (CMJ), Drop Jump (DJ) and Repetitive Counter Movement Jump during 15 s (15J). The skating performances for 10 and 30 m were measured with infrared photoelectric cells.

### Results

After the three weeks period, the peak torques increased significantly for ES in both eccentric and concentric conditions ( $P < 0.01$  and  $< 0.05$ ) while vertical jumps decreased significantly for SJ (-8.4%;  $P < 0.05$ ), CMJ (-5.7%;  $P < 0.05$ ) and DJ (-4.0%;  $P < 0.05$ ).

The skating times declined significantly ( $P < 0.05$ ) by  $0.11 \pm 0.03$  s for the 10 m sprint. No significant change was found for C.

### Conclusion

These results showed that an EMS program of the knee extensors increased the strength (1, 2, 3) and skating performances of a group of ice hockey players.

### References

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