

The aim of this study was to describe influence of dynamic stability training in sport preparation to movement perception and subjective knee problems during training and tried to found out the training change acceptance and cooperation of the top level sportsmen.

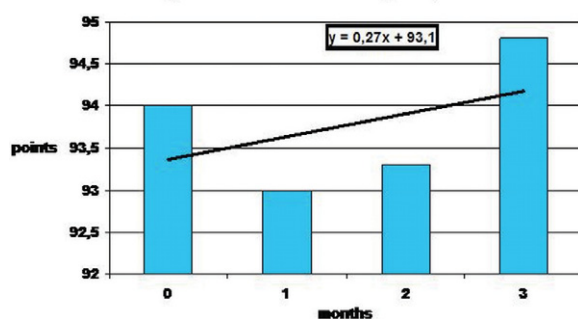
Methods: A group of 21 sportsmen practiced sport on high level or professional basis, mean age 32,7y (23-35y) with knee joint problems during training were tested once a month for a period of 3 months. Sportsmen were after arthroscopic partial medial meniscectomy and had no ligament lesions in arthroscopic and every clinical examination. Average of the Tegner activity score were 9,4 (8-10).

Sportsmen subjective complains in sport training were described by Lysholm knee score, average 94,1 points ($\pm 5,27$ points), total range 81-100 points. During the monitoring we changed their training, they trained two or three times a week 15 minutes of dynamic stability training for a period of two months. Sportsmen were examined before study and than every month and one month after study. Results were compared with sportsmen subjective complains of the knee movement control in training.

Results: Averages of the Lysholm score were: at the beginning 94,0 ($\pm 5,05$), first month 93,0 ($\pm 6,61$), second month 93,3 ($\pm 5,97$) and one month after study 94,8 ($\pm 4,15$).

Eighteen sportsmen had a dynamic instability before study in our test and only two after two months of neuromuscular training had a dynamic instability. Nineteen sportsmen subjective evaluated positive effect. One sportsman interrupted follow-up due to injury. Lysholm score of knee subjective problems during monitoring of the group improved, Pearson's factor of correlation was with significant change +0,435.

Lysholm score of the group



Conclusions: Sportsmen cooperated very well and were satisfied with new part of their training. Their subjective knee problems during training measured with Lysholm score statistically significant improved. They continued with exercise also after monitoring. Our study showed possibility to train dynamic stability of the knee as prevention of ligament injury reduction in training of top level sportsmen.

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DEVELOPMENT OF JOINT ALTERATIONS OF TOP LEVEL SPORTSMEN

D. Waciakowski¹, K. Urban¹, K. Bartak², P. Sponer¹, K. Karpas¹
¹Orthopaedic Clinic, Charles Univ. in Prague, Univ. Hosp. and Med. Faculty in Hradec Kralove, Czech Republic; ²Sport Clinic, Charles Univ. in Prague, Univ. Hosp. and Med. Faculty in Hradec Kralove, Czech Republic

Purpose: Sporting activities can be viewed as a loading test of the locomotor system. Overloading and injuries can lead to a premature degenerative disease of joint cartilage, the result of

which can be osteoarthritis. The joint problems are in high level sport common and occur most frequently in knee joint.

The authors are trying to find risks of high level training for progression of degenerative joint disease.

Methods: A group of 21 sportsmen practiced sport on high level or professional basis, mean age 32,7y (23-35y) with knee joint problems during training were tested once a month for a period of 6 months. Sportsmen were after arthroscopic partial medial meniscectomy and had no ligament lesions in arthroscopic and every clinical examination. Average of the Tegner activity score were 9,4 (8-10).

Sportsmen subjective complains in sport training, described by Lysholm knee score, average 93,8 points ($\pm 5,60$ points), total range 75-100 points were compared with orthopaedic examination.

Results: One sportsman interrupted follow-up due to injury after two months, 18 were in some phase of being impaired, 12 of sportsmen were with vacillation of periods with and without problems, only two sportsmen were with invariable complains during monitoring.

Total average of the Lysholm score were 93,8 ($\pm 5,60$) points, within the range 75-100 points. Minimum arithmetic mean was 83,3 ($\pm 4,59$) points, maximum 98,0 ($\pm 2,14$) points.

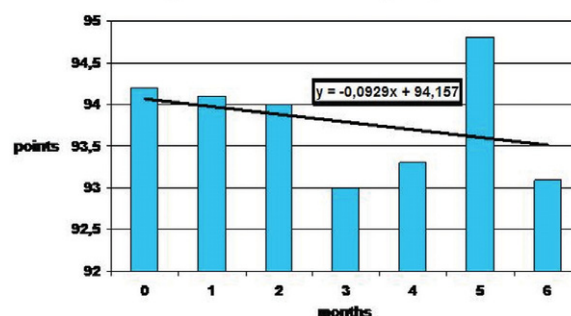
Five sportsmen indicated knee instability feelings without any clinical correlation.

Averages of the Lysholm score were: at the beginning 94,2 ($\pm 5,06$), first month 94,1 ($\pm 4,62$), second month 94,0 ($\pm 5,05$), third month 93,0 ($\pm 6,61$), fourth month 93,3 ($\pm 5,97$), fifth month 94,8 ($\pm 4,15$) and sixth month 93,1 ($\pm 6,56$) points.

Development of knee problems during six months was tested with statistic analysis. Pearson's factor of regression wasn't with significant change -0,339.

In reference to subjective knee problems described with Lysholm score and clinical orthopaedic examination we did not find any correlation.

Lysholm score of the group



Conclusions: The observation supports a view that joint changes depend on a type of training and premature degenerative disease on genetic predispositions. Initial stage of the degenerative disease of the joints may not be able diagnose sport doctor in spite of regularly examination. First sign can be performance degradation. There is no tissue reparation and regeneration of some sportsmen in present professional training. This is result of harmful joint loading, training volume and injuries. But lifelong regular recreational exercise helps to joint function.