

**Introduction:** The effects of treatment on hamstring extensibility are a topic of continued interest to researchers. Hamstring extensibility is an important variable because reduced extensibility has been proposed as a predisposing factor for injuries, non-specific low back pain, and changes in lumbopelvic rhythm. Because the hamstring muscles originate at the ischial tuberosity of the pelvis, tension in these muscle groups has an influence on pelvic posture. The purpose of this study is to determine the effects of hamstring treatment on the improvement of extensibility of these muscle groups comparing the effectiveness of Kinesio Tape and manual techniques method (METs), on the possible improvement in the posture taken by kayakers during their kayak training, on the possible treatment and reduction of the low back pain symptoms.

**Materials and method:** twenty-four boys and girls (16,  $96 \pm 2$ , 34 years) are recruited. Subjects were practicing kayak at a competitive level during the period of the study. All subjects were subjected to a pre-treatment test to verify the general conditions: SRL test, five second footage on a kayak ergometer, fill out a questionnaire about low back pain. Participants were randomly divided in two groups. First group treated with application of Kinesio Tape Muscular Inhibition Technique on hamstrings once a week, second group treated with Muscular Energy Techniques once a week. Total study duration was four weeks plus four weeks of follow-up. At the end of treatment period re-evaluation (SRL, footage, questionnaire) was conducted over all the participants.

**Results:** the results were statistically analysed using T-Student Test. In all examined kayakers reduced extensibility in hamstrings were found. At the end of first four weeks general improvement in extensibility in both groups were registered. In addition, improvements in posture were noticeable in both groups but the results were not statistically significant. Improvements in low back pain symptoms were recorded in both groups at the end of treatment period. Follow-up has allowed to understand, after completion of the period of study, the effectiveness of the treatment in the next four weeks. Subjects belonging to Kinesio Group have maintained values of extensibility better than those of participants of MET Group. In terms of posture there were no statistical significance between the two groups after the follow-up period. Low back pain symptoms increased after four weeks.

**Limitations:** using a low back pain scale not officially recognized is the most important limitation of this study. Low number of participants were able to give the results related to a small group of athletes; treatment period of four weeks was too short even if it still has led to evident results; lack of appropriate equipment has contributed to a more superficial analysis of the variables taken into account in this study

**Conclusions:** Kinesio Tape Group has obtained best results during treatment period and has maintained results longer than the other group. Improvement of low back pain symptoms after finishing treatment period leads to consider that, in kayakers, there is high correlation between hamstring extensibility, posture and low back pain. Systematic stretching program to improved hamstring extensibility is recommended during all the sport season.