

**Electrokinesiological Assessment of Spinal Function in Low Back Pain Patients**

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**Aim.** Determination of the relationship between low back pain intensity and electrokinesiologic variables of spinal mobility.

**Method.** The study was conducted on 152 subjects (59 women and 93 men; median age 35.4 years, range 18-65) who came to our Department for electrokinesiologic testings. Low back pain was a complaint of 110 subjects, and 42 served as healthy controls. The subjects were asked to rate their pain intensity on a visual analog scale from 0 to 100%. Electrokinesiologic testing included surface electromyography (EMG) of erector spinal muscles in lumbar area and polarized light goniometry of flexion-extension body movements. Analog signals were digitalized to obtain electrokinesiologic variables.

**Results.** The subjects could be grouped into five categories according to their subjective assessment of pain (0%, 1-25%, 26-50%, 51-75%, and 76-100%). Analysis of variance and Tukey post-hoc test showed that electrokinesiologic variables significantly differentiated group means of pain categories. Discriminant analysis revealed three functions of electrokinesiologic variables, which may be interpreted as flexibility, contractility, and physical performance indicators.

**Conclusion.** Electrokinesiologic variables should be taken into consideration in reaching a functional diagnosis in low back pain patients.

**Key words:** electromyography; low back pain; spine