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ПЕТИ КОНГРЕС НА ФИЗИЈАТРИ НА РС МАКЕДОНИЈА  
со меѓународно учество

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## ABSTRACT BOOK

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## EVALUATION OF RANGE OF MOVEMENTS IN LIMB LEGTHENING USING THE ILIZAROV METHOD

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**Introduction:** Limb lengthening using the Ilizarov method often leads to temporary and sometimes permanent restriction of movements in different limb segments due to soft tissue changes in the whole extremities.

**Aim of the study:** To correlate the amount, rate and frequency of gradual limb lengthening with the severity and extent of restriction of movements and to evaluate the functional improvement of the extremity using physical therapy throughout the whole lengthening treatment.

**Patients and methods:** 25 patients treated with the method of Ilizarov at the University Clinic for Orthopaedic Surgery in Skopje, were analyzed for a period from 2012 to 2020. 15 were in an age group from 5-29 years, 10 over 29 years of age. Average age was 22.04 years. 12 segments were lengthened less than 5 cm, 13 over 5 cm with 12 cm as a maximal lengthening. 76% were with congenital shortening, 6 patients with acquired deformities.

**Results:** The restriction was presented in all the patients with lengthening over 5 cm, mostly due to joint contractures below the lengthened segment. (92%). Residual restriction one year after removal of the apparatus was in 7 patients (28%). 18 patients showed a complete restoration of movements within one year of complete weight bearing without the apparatus. An intensive physical therapy has been performed throughout the whole treatment, an additional therapy till one year after the removal of the construct.

**Conclusion:** The degree, rate, frequency and rhythm of lengthening is very important in determining the extent and severity of restriction of limb movements. Physical therapy throughout the whole procedure leads to significant improvement in the range of movement and in the functional capacity of the extremity.

**Key words:** Limb lengthening, restriction of movements, physical therapy