1. FUNCTIONAL PECULIARITIES IN THE RECOVERY OF PROSTHETIC GAIT IN PATIENTS WITH UNILATERAL TRANSTIBIAL AMPUTATIONS

Author: Belov Ana-Maria; **Co-authors:** Tăbîrţă Alisa, Ulinich Michael, Melnic Adrian

Scientific advisor: Tăbîrţă Alisa, MD, PhD, Associate Professor, Department of Medical Rehabilitation, Physical Medicine and Manual Therapy, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Introduction. Recovery of functional abilities caused by amputation is an important indicator of medical rehabilitation and a functionally independent person is more motivated for social life. Prosthetics appreciably improves the functional status of the lower limb amputee, and gait patterns are often adaptive and aimed at maintaining balance, static and dynamic coordination.

Aim of study. Was to analyze the impact of active kinetic methods on gait rehabilitation outcomes after transtibial amputations.

Methods and materials. The study included 140 individuals after unilateral, transtibial amputation of diabetic genesis, randomly divided into two groups of 70 patients. Both groups received conventional rehabilitation treatment and the experimental group was involved in active kinetic programs with a focus on prosthetic gait balance re-education. Integral functional abilities were assessed by using the Tinetti Scale and gait outcomes, the qualitative (points) and quantitative (seconds) "Up & GO" test, and gait autonomy scale at admission, after 1 and 6 months.

Results. The mean age of the individuals was 60.4±2.9 years, and 79.5% were men. Improvement in the quality of the prosthetic gait was observed from the first month in both groups - with a decrease in the maximum value of 25 seconds of the quantitative "Up & GO" test. There was an increase in the proportion of people who recorded values of 11-15 seconds after the first month of treatment (by 25% compared to the control group with this level maintained after 6 months. The qualitative "Up & GO" test in dynamics recorded maximum values of 10-12 points in 18.6% of cases in the control group versus 68.3% in the experimental group. The Tinetti Scale gait balance registered a positive dynamic after 6 months by reaching a maximum score of 7 points in 45.8% of the control group and 21.4% of the experimental group. Also gait autonomy was achieved for 38.9% of the experimental group compared to 12.9% of the control group.

Conclusion. Comprehensive rehabilitation programs, with active kinetic methods, significantly enhanced the functional status after transtibial amputations. The integration of kinetic active techniques positively influenced both qualitative and quantitative parameters of prosthetic gait, with a notable difference of 28% in the dynamics of the "Up & GO" test and 24.4% for the Tinetti test in favor of the experimental group.

Keywords. Transtibial amputations, prosthetic gait, medical rehabilitation, prosthetics.