and its manifestations usually change during the course of development. Currently, increasing emphasis is being placed on a pro-active approach in therapy, including intensive, repetitive target training stimulating neuroplasticity. Robotic-assisted bodyweight-supported treadmill therapy (RATT) enabled by driven gait orthosis can improve motor functions in patients with movement disorders. The aim of the study was to assess the impact of patient’s age on improvement of motor functions in patients with CP. Methods: 78 patients (44 males) with bilateral spastic CP, aged 4–25 years underwent 20 therapeutic units (T.U.) of RATT using driven gait orthosis with a frequency of 3 to 5 times a week. The patients participating in the study were divided into groups according to age and severity of motor impairment determined by the Gross Motor Function Classification System (GMFCS). Outcome measures were dimension A (lying, rolling), B (sitting), C (crawling, kneeling), D (standing) and E (walking, running, jumping) of the Gross Motor Function Measure (GMFM-88).

Results: After completing 20 therapeutic units patients demonstrated highly statistically significant improvement (p<0.001) in all dimensions of the GMFM. Comparing the average improvement (%) in outcome parameters in all groups after 20 T.U., we didn’t record the difference in any of the subgroups. Conclusion: Our study indicates, that RATT can improve the gross motor functions. Effect of the age on improvement in this study has not been demonstrated. Thus, RATT can be suitable and promising treatment option in ambulatory and nonambulatory patients with CP of all ages.

P179 - 2255
Influence of electroencephalography neurofeedback training on motor skills of children with ADHD
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Objective: Neurofeedback (NFB) is a new special neurorehabilitation method that helps with specific mean in different neurological and psychological disorders. Paper analyze influence of the NFB on movements of children with Attention-Deficit/Hyperactivity Disorder (ADHD) and to try to document its possibilities on motor skills. Methods: The study was conducted on group of 30 children (5 girls, 25 boys), mean age 8.9 years with ADHD. NFB procedure consists of 30 sessions with duration of 30-45 minutes/one session (Pendent EEG Pocket Neurobics®, Australia). EEG training was conducted with EEG Spectrum’s standard (ADHD) protocols of augmentation in either the sensorimotor rhythm (SMR, 12–15 Hz) spectral band, or the low beta (15–18 Hz) spectral band, concurrently with inhibition of excessive activity in the 4–7 Hz band and the 22–30 Hz band, at sensorimotor cortex (C3, C2 and C4). Before and after therapy there were performed Physical and Neurological Examination for Subtle Signs (PANESS test) for assessment of motor skills. We evaluated Gaits and Stations, Dysrhythmia, Repetitive and Patterns movements, Overflow. Parents completed 143 items questionnaire – TLC Subjective Assessment (motor, behavioral problems from their parents point of view). Statistical analysis: paired t-test and Wilcoxon signed-rank test, Effect size. Results: Our study showed significant improvement in all followed parameters Gaits and Stations (Input M=28.9±5.89; Output M=16.17±6.46; t(29)=9.81; p<0.05; r=0.88), dysrhythmia (Input M=3.58±2.97; Output M=1.71±1.8; t(29)=3.23; p<0.05; r=0.47), Overflow (Input M=13.92±6.54; Output M=6.33±6.5; t(29)=8.05; p<0.05; Z=−4.51; r=−0.58), Repetitive movements (Input M=8.29±8.91; Output M=3.10±4.35; t(29)=4.05; p<0.05; Z=−4.16; r=−0.54), Patterns movements (Input M=21.43±4.51; Output M=6.60±4.50; t(29)=8.05; p<0.05; Z=−4.66; r=−0.60), TLC Subjective Assessment (Input M=415.83±66.65; Output M=350.63±72.23; p<0.05; Z=−4.74; r=−0.61). Conclusion: Our study has shown that NFB significantly increased control of voluntary and involuntary movements. NFB-regulation induces pronounced attention and motor-cortical activation.

P180 - 2388
Main vital activity disorders in small premature infants with severe perinatal cerebral affection
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Objective: Determination of vital activity disorder in small premature infants with severe perinatal cerebral affection. Methods: The main vital activities were studied in 277 infants: 108 infant with extremely low birth weight (ELBW) and 169 – with very low birth weight (VLBW). Rehabilitation prognosis (RP) and compensation levels of vital activity disorder. Results: 0 compensation level was found in 15% of infants with ELBW and in 9% infants with VLBW in the age of 3–4 years old: minimal mobility degree without ability even to rotate in the bed and partially attend themselves; severe dysarthria and aphasia, dementia more often occurred at double hemiplegia. RP is unfavorable. 1 compensation level was specific for 21% of infants with ELBW and in 18% infants with VLBW: insignificant mobility allowing verticalization and movement with physical assistance or walker support; on the background of rehabilitation over 45% of infants acquired partial skills of daily living but required constant care. Communication with infants was difficult due to motor, speech and cognitive disorders. RP is unfavorable. 24% of infants with ELBW and 32% in premature infants with VLBW had 2 compensation level: they were able to independent verticalization; mobility was provided by support on crutches or sticks; daily living was limited by muscle spasticity, paresis severity, pathologic position of arm joints or hyperkinesia. Over 63% of children had speech or cognitive disorders. RP is close to satisfactory. 19% of infants with ELBW and in 21% infants with VLBW had 3 compensation level: children walked with difficulties but independently; daily living was complete; fine differentiated movements in hands and fingers were difficult; dysarthria was observed. RP is favorable. Conclusion: Main vital activity disorders in small premature infants with severe perinatal cerebral affection are the predictor of actual and potential disability.

P181 - 2393
Specific features of infantile cerebral palsy development in small premature infants with extremely low birth weight and very low birth weight
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Objective: Study of specific features of infantile cerebral palsy development in small premature infants. Methods: Complex clinical and paraclinical (neurosonography, brain MRI, encephalography – EEG) examination of psychoneurological development was performed in 312 disabled children due to infantile cerebral palsy (ICP): 98 infants with extremely low birth weight (ELBW), 109 infants with very low birth weight (VLBW), and 105 mature infants. Results: ICP rate achieved in 29%, 23%, and 11% of infants with ELBW, VLBW, and mature infants correspondingly to the 2–3 years old: 7%, 5%, and 3% – as spastic tetrapaly, or tetraparesis, 12%, 5%, and 5% – lower paraparesis, 9%, 6%, and 2% – hemiparesis, 4%, 3%, and 1% – atonic-atatic and hyperkinetic form. Severe irreversible ischemic-hemorrhagic lesions (subependymal posthemorrhagic pseudocysts, cystic encephalomalacia, progressing hydrocephalia) were visualized in MRI. Symptomatic epilepsy developed in 25% of children with ELBW, 21% – with VLBW, and