The goal of this study was to apply objective laboratory diagnostics of motor functions to discover possible occurance of changes after physiotherapy treatment compared to the results of clinical evaluation.

Method: Five patients (first stroke, more than six months after the onset – from 7 months to 3 years) were evaluated before and after physiotherapy. Clinical evaluation consisted of scandinavian stroke scale (neurological deficit), rivermead motor assessment (motor deficit), Bartel Index (functional status) and Rankin Scale. Additional measurement consisted of evaluation of gait. Data were collected using motion system VICON460 (Helen Hayes model was used) and surface EMG with Motion Lab System. Polygon software was used to elaborate data results.

Results: All patients reported improvement of their motor status after physiotherapy in the interview but there were no changes observed in the clinical scale's results to confirm that. Distinct improvement was stated in additional assessment results in all parameters temporo-spatial (step length, increase of cadence, shortening of double support, symetricity), kinematic (in all joints) and EMG (gluteus maximus, hamstrings, rectus femoris, gastrocnemius, tibialis anterior). Many changes were related to the sound leg but it was not parallel with clinical observations.

Conclusions: Additional and objective assessment creates great possibilities in the field of individual defining of pathobiomechanics and registration of recovery. Results which are acquired this way are supposed to be in the near future a reliable source for verification of treatment methods.

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Weekend versus Weekday Admission and Prognosis from Stroke

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Aim: to explore differences in baseline characteristics, acute care and outcomes of patients admitted on weekends and weekdays in stroke centers participating in POLKARD (National Cardiovascular Disease Prevention and Treatment Program for 2003-2005) STROKE Registry.

Methods: Who Step Stroke questionnaire was used to collect data between June the 1st 2004 and May 31st 2005. To ensure the quality only centers reporting at least 100 patients were analyzed. Clinical characteristic, in-hospital care and early outcomes (death rate and poor outcome defined as modified Ranking scale 3 and above) were compared between 2 groups: patients admitted on weekdays and weekends (i.e. Friday afternoon after 3 p.m., Saturday and Sunday).

Results: 24 498 (51.4% women) stroke patients admitted to 73 stroke centers were registered. Weekends patients were slightly older then weekdays patients (70.5 and 69,6 years, respectively). There were no differences in pre-stroke Rankin score and distribution of risk factors with the exception for alcohol abuse (6,2 and 5,3%, respectively). Patients admitted on weekends more often had consciousness impaired: 17.2% vs 16.0% were drowsy, 7.1% vs 5.9% were in stupor and 5.3% vs 4.7% were in coma, respectively. There were more haemorrhagic (11,4% vs 9,5%) and less ischemic (82,8% vs 84,3%) strokes during weekends. Trombolytic treatment was applied in 0.6% patients both on weekdays and weekends. Patients admitted on weekends were less often treated with ASA (67,7%vs 69,4%), but more often with antihypertensives (73,0% vs 71,6%) and antibiotics (33,3% vs 29,5%). There were no differences in use of heparines, statins, antidiabetics and rehabilitation. More patients admitted on weekends died during hospitalization or had poor outcome at discharge then weekdays patients (14,1% and 55,3% vs 15,9% and 59,8%, respectively). Cox proportional-hazard models used to adjust for case-mix showed no difference in comparing the risk of death associated with weekend versus weekday admissions.

Conclusions: Admissions on weekends are associated with higher mortality and poor outcome rates and can be partially explained by differences in initial characteristics of admitted patients. Stroke service should be organize to ensure the appropriate care for patients with stroke.