SEPs were performed when they were transferred to rehabilitation medicine department. SEPs findings divided into three groups; normal, abnormal and absent response. Berg balance scale (BBS) and functional ambulation category (FAC) at discharge were compared with initial tibial SEP findings by the one-way ANOVA study.

**Results**—Thirty-one hemiplegic patients were included. BBS and FAC were significantly different according to the SEP findings (ANOVA, *P* < .001). Post-hoc analysis showed significant difference between normal and absent response in BBS (*P* < .001) and FAC (*P* = .001), and between abnormal and absent response in BBS (*P* = .012) and FAC (*P* = .019). Functional outcomes of normal response group were better than abnormal group, but there was no statistical significance.

**Discussion**—These findings suggest that initial tibial nerve SEP can be a useful biomarker for prognosticating functional outcomes in hemiplegic patients.

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**CO69-003-e**

**Therapeutic effects of positioning in patients with CNS lesion – RCT**

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**Keywords:** Positioning; Acquired brain lesion; Rehabilitation; pROM; RCT

**Introduction**—Positioning severely impaired patients is used as a matter of course, but there is little evidence regarding the effectiveness of positioning. This study compares the effects of conventional positioning (CON) with Positioning in Neutral (PiN) on passive range of motion (pROM) and on comfort.

**Material and methods**—In this prospective, multicenter, assessor blinded RCT we enrolled 218 non-ambulatory patients, randomly assigned to PiN (*n* = 105) or CON (*n* = 113). Patients were lying in the allocated position for two hours. For primary analysis an analysis of covariance (ANCOVA) with change of pROM of the hips as dependent variable, type of positioning (PiN/CON) as independent variable and baseline measurement as covariate was used.

**Results**—The change of pROM of flexion of the hips was significantly higher in the PiN group than in the CON group (*P* < .001, mean change PiN–CON: −7.35°, 95% CI [4.10;10.61]) whereas there were no changes in the CON group. The effects on shoulder pROMs are similar (*P* < .001). PiN is perceived as substantially more comfortable than CON (*P* < .001).

**Discussion**—Decreased pROM is associated with pain, limited function and delay of rehabilitation. Only PiN showed therapeutic effects on pROM while being perceived as more comfortable.

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**CO69-004-e**

**Post-stroke rehabilitation mobile team: Lessons to be pulled of an experience from Lille**

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**Keywords:** Hospital–home link; Mobile team; Support; Relay

**Introduction**—Since “Filière AVC Lille Flandre Lys”’s creation in January 2008, we notice a discontinuity between hospital and town at patient’s release, compared with his care’s and life’s projects.

**Observation**—The “ARS” made in April 2012, in “filière AVC”, a mission development called “EM2R”, composed by occupational therapists, speech therapists, neuropsychologists and social workers. This team works in support from acute phase to patient’s life environment.

So we define new objectives: coordinate information, optimize experience’s transfer, purpose and organize relay with all professionals and caregivers who work at patient’s home for them to assure an optimal care’s continuity, inform and form all daily life’s caregivers, improve the service provided in fight against dis- ability in real life’s situation. Since 1 year of functioning, EM2R have supported 60 patients at home, which represent 66% of patients followed in rehabilitation services.

**Conclusion**—After more than 1 year, we realized mission’s assessments to highlight determining factors of success and axes of improvement, to contribute to optimize link between hospital and home.

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**CO69-005-e**

**Epidemiological data in length of stay in cerebrovascular accident (CVA) patients**

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**Introduction**—Our purpose was to study epidemiological data in length of stay of CVA patients who were hospitalized in our clinic and correlate with problems revealed during their hospitalization.

**Methods**—Three hundred and eleven patients with CVA (197 males and 114 females), from 26 to 82 years old (mean age 54) – 163 with right hemiplegia and 148 with left hemiplegia – were recorded.

**Results**—Patients have been referred from neurological and internal medicine departments. The admission’s delay varied from two weeks to three months. The mean time of hospitalization in these patients was correlated with the severity of the CVA, complications, pre-existing pathological status and relatives’ support. The rehabilitation mean time for patients without complications and with good relative support without pre-existing pathological problems independently from age and gender was 10 weeks. With complications it rises to 14–18 weeks. With pre-existing pathological status, it depends on the severity of it. With no relatives’ support, independently from all the other factors we have a delay from two to nine months.

**Discussion**—Generally, out of the international standards of length of stay in a rehabilitation clinic one of the main reasons for delay of hospitalization time seems to be the relatives’ environment.

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**CO69-006-e**

**Perinatal arterial ischemic stroke: Guidelines for diagnosis, management and rehabilitation of newborn with a high risk of hemiplegia**

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With an incidence around 1/3500 live births, perinatal arterial ischemic stroke is the most frequent form of cerebral infarction in children. About 40% of the children do not have specific symptoms in the neonatal period with a delayed diagnosis of impairments including hemiparesis, language delay, behavioral problems, cognitive deficiency, and epilepsy. Outcome studies demonstrate that neonatal stroke has a low mortality rate and does not recur. Plasticity of the immature brain probably allows limiting motor and language impairment. In our cohort of patients with neonatal arterial ischemic stroke (AVCn), 25% of children present with hemiplegia at 2 years of age. Early determinants of motor outcome were available on neonatal imaging. Quality of live was not different at 3.5 years vs. the general population of children of the same age. If early diagnosis can lead to early rehabilitation intervention, little is known about these interventions’ efficacy and if they may lead to better outcomes for these children. Over the next 5-years, one of the objectives of the French Centre for Pediatric Stroke is to propose guidelines for diagnosis, management and rehabilitation of patients with perinatal arterial ischemic stroke based on expert consensus and literature review.

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CO81-002-e

Energy expenditure of stroke patients in the sub-acute phase according to their walk ability

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Keywords: Stroke; Energy expenditure; Walk ability; Sensor

Objective.-- To determine the level of energy expenditure of stroke patients according to their walk ability.

Method.-- Energy expenditure (EE) of 88 patients was estimated by a sensor Wearable (BodyMedia) carried two consecutive days between 9am and 4:30pm, period of rehabilitation. Patients were divided into three groups according to their self-assessed by Functional Ambulation Classification (FAC/5). G1 (FAC 0, 34 patients who were unable to walk), G2 (FAC 1 or 2, 30 patients walking with physical assistance) and G3 (FAC ≥ 3/5, 24 patients walking without physical assistance).

Results.-- There were significant differences for global EE (Kcal) between G1(162.7 ± 98.1)/G3(129.9 ± 152.0) and G2(81.8 ± 98.1)/G3(129.9 ± 152.0) and the time of moderate activity (minutes) between G1(17.1 ± 28.6)/G3(31.7 ± 37.1). However, no differences were found between G1 and G2.

Discussion.– An increase of EE as a function of the walk ability was expected. But this hypothesis is rejected due to similar EE levels between G1 and G2. These patients should be asked in a double objective: to improve the quality of their walk and increase their EE.

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CO81-003-e

Functional, cognitive and school outcomes after childhood stroke

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Keywords: Stroke; Children; Outcome

Introduction.– Childhood stroke and studies on long-term outcome following stroke are rare. The aims of the study were to study clinical presentation and long-term outcomes following childhood stroke.

Methods.– We retrospectively reviewed the files of children consecutively admitted to a physical medicine and rehabilitation department following childhood stroke between 1992 and 2010. Age at onset, etiology, motor, sensory and cognitive impairments upon admission and discharge, first and last neuropsychological assessments and academic outcome were collected.

Results.– Over the study period, 128 children were hospitalized following ischemic (n=45) or hemorrhagic (n=83) stroke. Upon admission, at day 39, 53% had hemiplegia and 39% were not able to walk. Upon discharge 76% were walking independently and 54% could not use their hand.

Neuropsychological assessment performed on average 6 and 41 months post stroke indicated severe impairments, with FSIQ around 1SD below the expected values. Patients with right hemisphere stroke had impaired PIQ and normal VIQ, whereas patients with left hemisphere stroke had significant impairments in both VIQ and PIQ. After a mean follow up of 52 months, only 37% were following normal curriculum.

Discussion.– Childhood stroke leads to severe and long lasting functional and cognitive impairments, with negative consequences on schooling.

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CO81-004-e

An analysis of tests for hand functions in patients with stroke

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Objective.– Stroke is the source of severe and lasting functional difficulties at the upper limb, a major obstacle to daily life. Our aim is to present actual tests for assessing the upper limb functions, especially at the hand.

Methods.– We have searched on the main Internet sites, with keywords such as upper limb, hand, function scale and stroke. Scales were classified according to the ICF. We have selected those that have been validated in stroke patients.

Results.– A dozen of scales have been identified, evaluating motor control (medical research council; Fugl Meyer), manipulation of non-significant objects (nine hole peg test, box and block test, action research arm test), manipulation of significant objects (Frenchay arm test, arm motor ability test, Rivermead motor assessment, Wolf motor function test), and participation in daily living activities (motor activity log, abilhand, upper limb assessment in daily living). But their psychometric properties and practical interest (therapeutic) were highly variable.

Conclusion.– Many scales have been created to assess the upper limb and the hand. Priority should be given to those which investigate patient difficulties in daily living situations, and help to define objectives and treatment modalities.

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Randomized controlled trial comparing implanted peroneal nerve stimulation and ankle foot orthosis in spastic paresis

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Keywords: Spastic paresis; Gait; Implanted functional electrical stimulation; Ankle foot orthosis

Introduction.– Selective functional electrical stimulation (FES) of the peroneal nerve aims to improve ankle dorsiflexion during the swing phase of gait in spastic paresis. We compared gait analysis with implanted FES versus ankle foot orthosis (AFO) in chronic paresis.