aimed to quantify the degree of contracture in 8 key muscles at a chronic stage after the lesion.

**Methods** Four independent raters assessed 18 adults with chronic hemiparesis (age: 50 ± 14, mean ± SD; time since lesion 5.3 ± 2.4 years) treated with guided self-rehabilitation contracts (GSC) [1], using the 5-step clinical assessment [2] previously described, of which step 2 evaluates passive range of motion (angle of arrest at slow speed, XN) and step 3 measures the angle of catch at fast speed (XF). Data from the 4 investigators were averaged. Coefficients of shortening (CSH = (XN − XF))/XN, XN normal expected amplitude) and of spasticity (CSP = (XF1 − XF)/XF1) were derived. Muscles assessed were shoulder extensors (SE), elbow flexors (EF), wrist flexors (WF), finger flexors (FF), gluteus maximus (GM), rectus femoris (RF), soleus (SO) and gastrocnemius muscles (GM).

**Results** Mean values were: SE, CSH: 0.21 ± 0.03; CSP: 0.25 ± 0.03; EF, CSH: 0.04 ± 0.02; CSP: 0.27 ± 0.04; WF, CSH: 0.07 ± 0.02; CSP: 0.24 ± 0.04; FF, CSH: 0.16 ± 0.04; CSP: 0.32 ± 0.04; GM, CSH: 0.16 ± 0.03; CSP: 0.13 ± 0.02; RF, CSH: 0.09 ± 0.01; CSP: 0.26 ± 0.03; SO, CSH: 0.15 ± 0.02; CSP: 0.10 ± 0.01; GM, CSH: 0.21 ± 0.01; CSP: 0.12 ± 0.01. There was a suggestion of negative correlation between CSH and CSP (Pearson’s r = −0.37, NS).

**Conclusion** In chronic hemiparesis, plantar flexors and shoulder extensors were the most shortened muscles, followed by gluteus maximus and finger flexors. This might represent an incentive to promote more aggressive posturing in the acute stages to maintain length of these important muscle groups.

**Keywords** Muscle contracture; Chronic hemiparesis; Self-rehabilitation

**Disclosure of interest** The authors have not supplied their declaration of conflict of interest.

**References**


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**CO14-002-e**

**How to predict requirement for rehabilitation following stroke: An analysis of the Rhône-Alpes inpatient database**

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**Objective** To predict the requirement for rehabilitation unit after acute care hospitalization for stroke: how many and which type of rehabilitation unit?

**Population** Data were obtained from the Rhône-Alpes inpatient database in Acute Care and Rehabilitation. All acute care hospitalization for stroke in Rhône-Alpes region where considered.

**Method** Five groups of acute stroke inpatient where determined according to the type of discharge required (rehabilitation, nursing home or home …) applying recommendation of the French Society of Physical Medicine and Rehabilitation (Sofmer). These groups were determined analyzing information contained in database (age, comorbidity, medical procedure, wards …). For each of the 5 groups, the type of discharge required was compared with the real discharge of the patient. When patients were admitted in rehabilitation units, logistic regression model was used to analyze effect of the type of rehabilitation (neurological unit or no) on dependence score improvement.

**Results** (1) Type of discharge required: among the 7511 discharges of surviving acute stroke, 858 (11%) had no indication for rehabilitation and should be supported in nursing home, 389 (5%) had very serious clinical conditions and required specialized post-acute care rehabilitation units, 1255 (17%) required an hospitalization in general or geriatric rehabilitation unit because of their bad prognosis factors of functional outcome and 1865 (25%) required a PMR unit. (2) When hospitalization in a PMR unit was required, 896 (48%) were actually admitted in rehabilitation unit, of which 703 in PMR unit. Those admitted in PMR had a greater probability of functional improvement compared with no neurological unit (aOR = 1.64 [1.09–2.46]) after adjustment for age, comorbidity, initial level of dependence, and the duration of hospitalization.

**Discussion** Predicting and characterizing the requirement for rehabilitation center following acute stroke can help to optimize the orientation in the care pathway for better efficiency.
CO14-003-e
Healthcare circuits and functional outcomes 3 and 12 months after a stroke in a population-based cohort of 929 patients

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Objectives and methods There are few epidemiologic data about stroke collected on a large, non-selected and representative population of stroke patients. We present a population-based cohort study, which included all adult ischemic (IS) or hemorrhagic (HS) stroke cases recorded in the Rhône area (1.7 million inhabitants) for seven months. The aim was to provide an accurate description of the demographic characteristics of stroke patients, their healthcare circuits (pre-hospital, acute and secondary phases), their activity limitations 3 and 12 months after stroke through the modified Rankin Scale (mRS) and the Barthel Index (BI), and to identify factors associated with the mRS 1 year after stroke by an univariate and then multivariate analysis.

Results Nine hundred and twenty-nine stroke cases have been recorded (697 IS, 232 HS, mean age: 74.1 years, sex ratio = 1). Only 44.5% of patients were oriented prior to hospital admission by the emergency medical dispatch service. 85.4% of patients were first admitted to an emergency department, whereas 8.8% of patients were admitted directly to stroke unit. Only 17% of stroke patients were referred to stroke unit during their healthcare circuit, and more than 55% have never been admitted in a neurology department. Mortality rate was 12.1% one month after stroke and 31% three months after stroke in the ischemic group, compared with 34 and 52% respectively in the hemorrhagic group. Mortality did not increase between the third and the twelfth month post-stroke. A favorable functional outcome (mRS < 2) one year after stroke has been obtained for 47% of IS and 34.6% of HS. The mean BI at one year was 68.5 among surviving patients. Age > 80 years, female sex and presence of severity criteria in acute phase were significant factors associated with non-favorable outcome.

Discussion In this study, carried out with an exhaustive population within a region and a one-year follow-up with few missing data, the results show a morbi-mortality after stroke higher than the one reported in previous studies. The results also confirm the better prognosis of IS.

Keywords Stroke; Healthcare circuits; Epidemiology; Prognosis; Functional outcome; Activity limitations; Disability; Mortality

Disclosure of interest The authors have not supplied their declaration of conflict of interest.

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CO14-004-e
Prevalence of self-reported stroke and disability in the French adult population: A transversal study

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Background In France, the prevalence of stroke and the level of disability of stroke survivors are little known. The aim of this study was to evaluate functional limitations in adults at home and in institutions, with and without self-reported stroke.

Survey A survey named “the Disability Health Survey” was carried out in people’s homes (DHH) and in institutions (DHI). Medical history and functional level (activities-of-daily-living [ADL] and instrumented-activities-of-daily-living [IADL]) were collected through interviews. The modified Rankin Score (mRS) and the level of dependence and disability were compared between participants with and without stroke.

Results Thirty-three thousand eight hundred and ninety-six subjects responded. The overall prevalence of stroke was 1.6% (C.I.95% [1.4%-1.7%]). The mRS was over 2 for 34.4% of participants with stroke (28.7% of participants at home and 87.8% of participants in institutions) versus respectively 3.9, 3.1 and 71.6% without stroke. Difficulty washing was the most frequently reported ADL for those with stroke (30.6% versus 3% for those without stroke). Difficulty with ADL and IADL increased with age but the relative risk was higher below the age of 60 (17 to 25) than over 85 years (1.5 to 2.2), depending on the ADL. In the overall population, 22.6% of those confined to bed or chair reported a history of stroke.

Discussion These results thus demonstrate a high national prevalence of stroke. Older people are highly dependent, irrespective of stroke history and the relative risk of dependence in young subjects with a history of stroke is high compared with those without.

Keywords Stroke; Disability; Outcome and Process Assessment (health care); Observational study

Disclosure of interest The authors have not supplied their declaration of conflict of interest.

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CO14-005-e
Recovery of daily activities and quality of life after stroke: The EAVQ-QdV scale

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Aim Stroke is a leading cause of long-term disability in adults. Few studies have investigated the impact of cognitive deficits on health-related quality of life (HRQOL) in patients or caregivers, notably in function of stroke laterality and of lesion volume. This research aims to a better evaluation of HRQOL with a new multidimensional scale based on description of the person’s present state compared to the pre-stroke state.

Methods EAVQ-QdV is an auto-administered questionnaire composed of physical, cognitive, psychic and social domains. For