The medicsocial project cannot be elaborated without taking into account the environment and the participation of the individual. Legislation, social policies towards the elderly and younger disabled people, regional plans and programmes help to determine the range of possibilities. The French law no 2002-2 modernising the social and medico-social action insists on an individualised life plan which is adapted to the age, is supported, and respects the choices and expectations of the person. A contract is established. An evaluation is planned on a yearly basis. The French law no 2005-102 of 11 February 2005 confirms the primacy of the individualised plan and lays down the principle of the right to compensation. This right consists of a compensation plan as elaborated by the Departmental Office for Handicapped People (Maison Départementale des Personnes Handicapées–MDPH).

The French law no 2005-101 in its article 13 abolishes the age limits of 20 and 60 regarding people who are eligible for allowances. In a period of budget restrictions, the present discussions on the 5th risk (Dependancy) are making it difficult to implement this law which constitutes a present fundamental political stake. There is a charter on the rights and freedom of the elderly person with a handicap and in a situation of dependency. This charter was elaborated by the national foundation of Gerontology, revised in 2007 to show the links between the notion of dependency and handicap.

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**CO37-005–EN**

**Naturalistic assessment of spatial cognition disorders in Alzheimer’s disease using virtual reality**

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**Keywords:** Alzheimer disease; Spatial cognition; Virtual reality

**Introduction.** Approximately 99% of Alzheimer’s disease (AD) patients have impaired spatial cognition. These disorders, associated with episodic memory disorders, appear early, and have disabling consequences that may be dangerous for people. However, deficits of spatial cognition are not currently retained as part of early AD diagnosis criteria because no clinical assessment accurately identifies these problems and provides a measure of their impact in daily activities.

**Objective.** The aim here was to study the possible use of virtual (VR) reality to assess disorders of spatial cognition associated to AD and their impact on everyday life.

**Material/method.** In this context, we developed a virtual environment to assess spatial cognition of elderly in a naturalistic way. This environment is a 3D replica of a neighborhood of Bordeaux.

Performances of two groups of subjects (AD [n = 12] vs. elderly [n = 12]) were evaluated using traditional neuropsychological tests and using the virtual spatial test. Their results were compared with their cognitive complaint formulated through daily difficulties questionnaires.

**Result.** VR showed significant differences (P < 0.05) in spatial performance between the two groups of subjects for errors, hesitations, the picture ordering task, the sketch-mapping task and wayfinding time, in opposition to mental rotation (ie. small scale spatial measure). In addition, preliminary results with the elderly show that VR measures were better correlated with daily difficulties questionnaires than traditional evaluations.

**Discussion.** VR allows naturalistic evaluation of spatial cognition disorders associated with AD. These measures seem to be well correlated to daily difficulties of people, thus providing specific measures of cognitive deficits and their functional impact. Thus, VR would be a relevant tool for the early screening of dementia and the differential diagnosis of AD.

**CO37-006–EN**

**Functional impact of 25 OH vitamin D deficiency for stroke patients**

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**Keywords:** Stroke; Vitamin D; Barthel Index; Global functional autonomy; Rehabilitation

Vitamin D deficiency is associated with an increase in the risk of fall and with an increase of proximal muscular weakness in the elderly. It is also considered as a risk of surmortality for stroke patients [1]. On the other hand, the impact of vitamin D deficiency on functional state and recovery after a stroke is not clearly established.

**Objective.** To study the correlation between the level of 25 OH Vit D at the entry in a Physical and Rehabilitation Medicine (PRM) department and the evolution of limitations of activity and Global functional autonomy among stroke patients.

**Patients and method.** All patients admitted after stroke, between September 2009 and September 2010, to one of the two PRM departments of the University Hospital of Bordeaux were included in this prospective observational study. 25 OH Vit D was measured during the first week in the unit.

The global functional autonomy was evaluated by the Barthel Index (IB) repeated each week for every patient until discharge. The IB at admission, the maximum IB and the time to obtain it, the difference between the maximum IB and the IB at admission (delta IB) as well as the duration of the SR stay were analyzed.

**Results.** Out of 136 patients included, 116 were analysed in the study (Mean age 73.4 ± 14 years). The prevalence of the deficiency in 25 OH Vit D (< 10 ng/mL) was 39.6%, and the insufficiency (10 to 30 ng/mL) was of 50%.

Concerning the IB at admission, the maximum IB, the time to obtain the maximum IB, delta IB and the duration of stay, no significant difference was found between the patients presenting a deficiency or insufficiency in vitamin D and the patients having a normal level of 25 OH Vit D.

**Conclusion.** In our study, the existence of a vitamin D deficiency or an insufficiency did not influence Global functional autonomy for patients admitted in our PMR department.

**Reference.**
