

## **Stabylometric footboard in clinical balance evaluation**

### **A new instrument for more efficient prevention of work accidents from fall**

M.I. D'Orso<sup>1</sup>, M.A. Riva<sup>2</sup>, G. Ferrari<sup>3</sup>, M. Arbizzoni<sup>3</sup>, M. Gallamini<sup>4</sup>, G. Cesana<sup>1</sup>

<sup>1</sup>*Department of Clinical and Preventive Medicine – University of Milan Bicocca – Italy,*

<sup>2</sup>*Consortium for the Development of Occupational and Environmental Med. – Monza – Italy*

<sup>3</sup>*CAM Centro Analisi Monza - Italy*

<sup>4</sup>*International Society for Posture and Gait Research – Genua - Italy*

**Keywords:** work accident, preventive intervention, fall

#### **Introduction:**

Precipitations at workplaces still are a frequent cause of severe or mortal work accidents. Evaluation of at-height work suitability is by now carried out using many different medical clinical protocols usually based on clinical otorhinolaryngoiatric visit. This visit is frequently carried out with clinical tests the evaluation of which is merely subjective and therefore not always comparable.

#### **Methods:**

To verify the possibility of increasing accuracy of evaluation of at-height workers and to better point out workers hyper susceptible to fall, we experimentally insert in our usual clinical otorhinolaryngoiatric protocol an instrumental balance evaluation carried out using a stabylometric computerised footboard (ARGO Balance Static Force Platform RGMB) collecting contemporaneously 27 items.

The clinical specialized otovestibular examination was composed by a specialized anamnesis, an otorhinolaryngoiatric medical examination, evaluation of tonic segmentary deviations, Romberg Test, research of spontaneous nystagmus, Barany test, Weits test. We compared the results of clinical and instrumental examination in 150 male workers aged from 18 to 65 years engaged in at-height work.

#### **Results:**

145 of 150 patients included in the research have been defined as suitable for at-height work after the otorhinolaryngoiatric clinical evaluation, among the workers defined not suitable for at-height work 4 had pathological result using stabylometric footboard. Among 145 suitable workers 3 had pathological results at footboard too. This fact originates a second level clinical examination which in 2 cases has motivated a change in workers' specific work suitability.

#### **Discussion:**

Stabylometric footboard seems to be a valid instrument to increase possibility of detection of at-height workers hyper susceptible to fall. Instrumental evaluation must be associate with medical clinical specialized examination. Our results have to be confirmed in larger studies which have to be carried out under medical control and better defining the parameters that must be evaluated to classify a result pathological or not.