Welcome address

Dear Colleagues and Friends,

On behalf of the World Association of Sleep Medicine (WASM) and the Spanish Sleep Society (SFS), we are delighted to welcome you to our joint congress: the 5th International World Association of Sleep Medicine Congress and the 22nd Annual Congress of the Spanish Sleep Society in Valencia, Spain, from September 28th to October 2nd, 2013. The congress provides an international discussion forum of sleep professionals from the entire world. It focuses particularly on the interdisciplinary character of our field. Sleep clinicians, technologists, trainees, educators and scientists from around the world will meet here to advance knowledge on sleep science; sleep in public health; sleep health; and the sleep-wake disorders, diagnosis, and treatments. We seek to maximize learning both from formal presentations by the leading experts in their fields and from informal discussion groups emphasizing opportunities for your participation. The social events and the Mediterranean magic of Valencia also support productive professional and personal interactions. The global character and reach of WASM in collaboration with the knowledge of the local Spanish Sleep Society brings the best of sleep medicine to Valencia.

Your involvement in this congress will be greatly valued. You may learn and also share knowledge and skills that will advance sleep health around the world.

We hope that you’ll enjoy the science, learning, collegiality, and social events at our world sleep conference in this lively city with great history, architecture, art, and music. Sunny weather matching the warm Spanish hospitality is nearly guaranteed. Welcome to Valencia!

Warm Greetings,

Claudia Trenkwalden
World Association of Sleep Medicine, Spain

Diego Garcia-Borrego
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**Materials and methods:** 15 patients have participated. Each had 2 full PSG studies evaluating the intensity and frequency of snoring by sound and visual recording of the patient's sleep. Also examined were the quality and quantity of sleep (using EEG and EOG), respiratory activity via cannula, thermistor and thoracic and abdominal bands, the number of respiratory events (apneas, hypopneas), the level of oxygen desaturation and lower limb muscle activity (PLM) by EMG. We evaluated the subjective data of comfort and sleep quality of both the prototype and the usual pillow by patient questionnaire compiled in the morning. The results appear as numbers and percentages.

**Results:** No differences were observed in the macrostructure of sleep, or sleep efficiency between the patient's usual pillows and the prototype. There are no differences in assessing different types of comfort pillow (7.5 vs 7.4). As for the polysomnography values: The prototype reduces the AHI by 74%, the number of snoring by 2470%, the index snoring for hour in a 4369%, time snoring in 1759 min compared with the usual pillow. The average intensity of snoring is reduced by 51% with the prototype. With the usual pillow comfort was evaluated as greater than the prototype (9 vs 3.2).

**Conclusion:** These values show that these pillows could be a valid treatment for mild to moderate apnea.

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**Partial continuous epilepsy as the initial condition of a patient diagnosed with Creutzfeldt-Jakob disease**

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**Introduction:** clinical history: a 52 year old male, with no previous medical history of any particular interest, who was admitted due to a state of no coordination of the movements of the limbs on the left side and myoclonic movements in the upper and lower left limbs, which became progressively worse resulting in a complex partial crisis, treatment with three combined FAEs being ineffective. Associated deterioration of visual capacity, dysarthria, dysphagia, continual abnormal movements and worsening of EEG for which pharmacological coma was induced.

**Materials and methods:** Various EEGs were done in which we observed the negative development the brain activity showed, including persistent critical epileptic discharges predominantly emanating from the Rolandic medial region with association with involuntary movements in upper left limbs and in inferior left limbs on occasion. In the last EEG we identified periodic diffuse epileptic discharges, which were generalized in both hemispheres, associated with myoclonias predominantly in the inferior right extremities. Between both extremes we performed a polysomnographic diurnal sleep test with video recording in which we observed continuous associated partial epileptic discharges predominant in the patient.

**Results:** discussion Epilepsy as the first manifestation of Creutzfeldt-Jakob Disease supposes, according to sources consulted, less than ten percent of cases. Our patient initially showed a partial continuous epilepsy which is even more unusual and suggests other differential diagnoses before citing the final diagnosis.

**Conclusion:** We present the polysomnographic diurnal sleep study and serial EEGs of the patient which, in addition to neuro imaging, may help make an earlier diagnosis than in our case, given the peculiar implications in relation to prognosis and possible transmission of this type of degenerative prionic illness.

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**Evaluation of sleep disordered breathing using non-contact bio-radiolocation method**

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**Introduction:** One of the priority areas of sleep medicine is implementation of novel non-contact technical approaches for remote vital signs monitoring, including screening of sleep disordered breathing (SDB). Bio-radiolocation (BRL) is a modern remote sensing technology allowing non-contact respiratory monitoring, on the base of analysis of specific biometric modulation of radiolocation signal by reciprocal breathing movements of chest and abdominal wall. The objective of this study was to estimate diagnostic informativeness of BRL method in comparison with full-night polysomnography (PSG) for non-contact screening of SDB in adults.

**Materials and methods:** The sample included 7 subjects (4 males and 3 females, aged 43–62 years, with body mass index (BMI) of 21.6–57.7), depending on severity of obstructive sleep apnea syndrome (OSAS): 4 severe; 1 moderate; 1 mild; normal. The PSG records were collected with Embla N7000 system in the sleep laboratory (Almazov Federal Heart, Blood and Endocrinology Centre). Simultaneously BioRak system (RSLab, Bauman Moscow State Technical University) was applied. The internal clock of BRL and PSG systems were synchronized. Subsequently, PSG records were analyzed by a certified specialist and verification of corresponding BRL signals was performed manually by a trained operator.

**Results:** The analysis of PSG records revealed in total 2700 episodes of SDB: 1279 obstructive sleep apneas (OSA); 106 central sleep apneas (CSA); 495 mixed sleep apneas (MSA); 820 hypopneas (Hypa). The result of verification of BRL signal patterns for SDB in comparison with PSG was as follows: 1935 true positives; 745 false positives; 868 false negatives. Thus BioRak system displayed a sensitivity of 69% and an accuracy of 72% in non-contact screening of SDB. The obtained results should be considered clinically significant in each case the estimate of apnea/hypopnea index (AHI) for BRL method got into the same range of OSAS severity scale as for PSG method.

**Conclusion:** Thus, the estimation of diagnostic informativeness of BRL method in comparison with full-night PSG allowed referring BioRak system to Type 4 (continuous single or dual bioparameter recording) of portable monitoring devices for diagnostic assessment of patients with suspected OSAS, satisfying medical recommendations.

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