

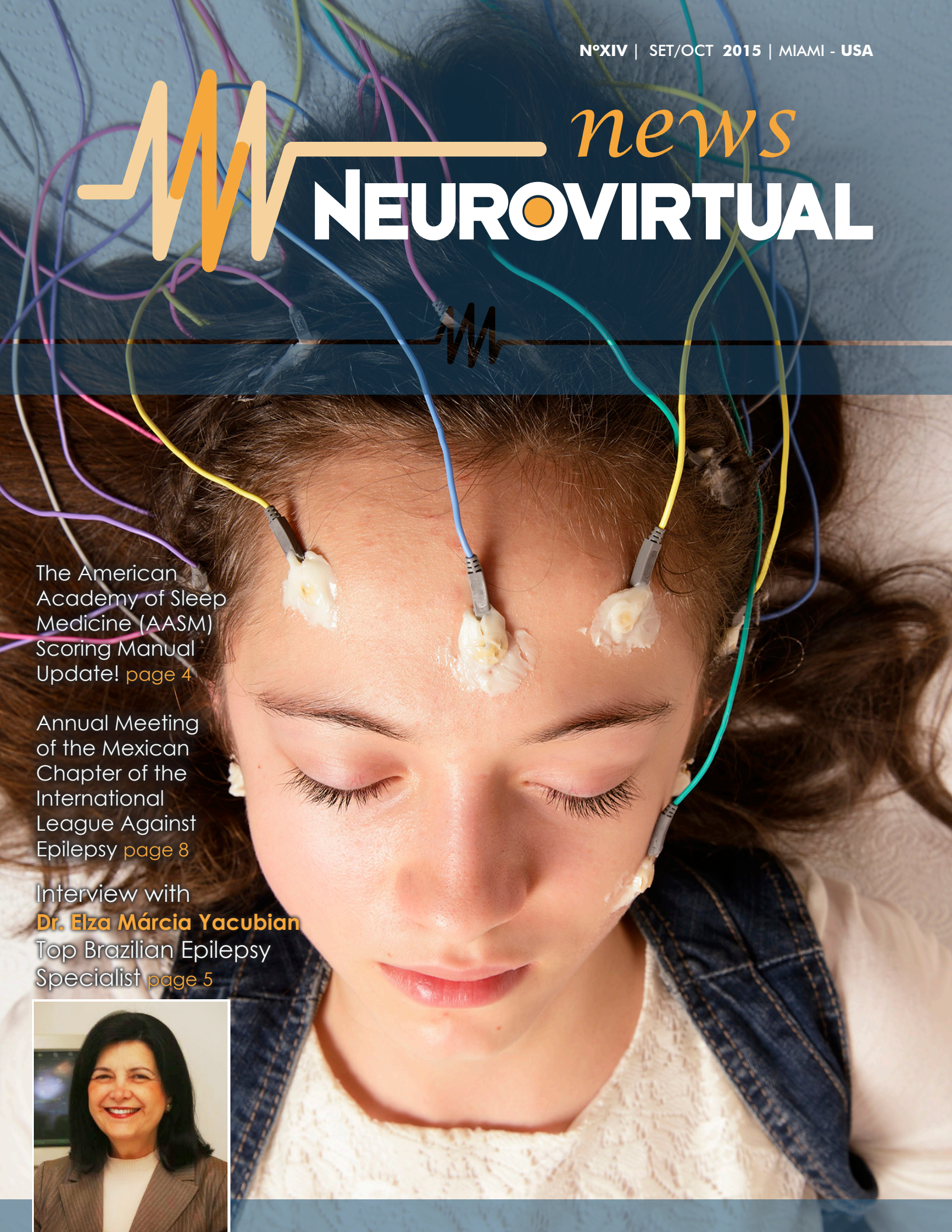


news
NEUROVIRTUAL

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Sleepvirtual Installs 8 BW3 PSG Plus systems at Bellin Health in Wisconsin

by Sergio Solis

The administration at the Bellin Health Sleep Labs considered several solutions when it came time to upgrade their 8 beds. The goal was not simply to swap out old systems for new ones, but rather, to select the best overall experience available. After several considerations, the Sleepvirtual BW3 PSG Plus proved to be the best option in all relevant factors, including functionality, user-friendly software, and costs.

Our team installed six of the systems at the Green Bay Sleep Center and two at the Oconto Sleep Center. We provided an in-depth training of our hardware and easy-touse software, including a full installation and training of our SQL database, the BWCenter Software Suite,



which linked both centers for easier access to patient records, and automatic digital archiving. Beyond the standard installation, we also worked with the team at Bellin to implement custom features such as “look back video”, which allows for

live video review during recording. This and other features were tailor made to accommodate the needs of the team at Bellin Health because we believe that our systems should fit our customers’ needs, and not the other way around.

A year later, the team at Bellin Health is very happy with their Sleepvirtual products and services and we have worked closely with the wonderful staff to keep improving their ability to offer the best patient care possible.



The American Academy of Sleep Medicine (AASM) Scoring Manual Update - Staging in Neonates and HST Rules for Adults

by Felipe Lerida

The American Academy of Sleep Medicine (AASM) released Version 2.2 of the AASM Manual for the Scoring of Sleep and Associated Events on July 1, 2015.

This update is based on the recommendations of the AASM Scoring Manual Committee, the AASM Board of Directors has approved the addition of two new sections to the manual:

- Sleep staging rules for infants
- Home sleep apnea testing (HSAT) rules for adults.

According to the www.aasmnet.org, these new rules represent significant changes that also incorporate key terminology and definitions with which sleep clinicians and technologists must become familiar, including monitoring time and respiratory event index.

Key terminology for scoring sleep in infants:

- Stage W (Wakefulness);
- Stage N (NREM) - analogous to the previously used terminology of “quiet sleep”;
- Stage R (REM) - analogous to the previously used terminology of “active sleep”;
- Stage T (Transitional) - analogous to the previously used terminology of “indeterminate sleep”.



Key terminology for home sleep Apnea testing Scoring:

- Monitoring time (MT): Total recording time minus periods of artifact and time the patient was awake as determined by actigraphy, body position sensor, respiratory pattern, or patient diary.
- Respiratory event index (REI): Total number of respiratory events scored $\times 60$ divided by monitoring time (MT).

All AASM accredited sleep facilities and HSAT programs are required to implement the new rules in Version 2.2 by October 1, 2015.



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Epilepsy: Dr. Elza Yacubian



Epilepsy is considered an important neurological disorder that affects adults and children of different ages around the world. According to WHO (World Health Organization), it is estimated that about 1-3% of the world's population is affected by this disease.

Clinical evaluation to confirm the correct diagnosis of the type of epilepsy and most appropriate treatment performed by professionals is critical in ensuring a comfortable quality of life for patients suffering from this disorder.

To learn more about epilepsy, Neurovirtual News interviewed the medical director of the Research and Treatment of Epilepsy at Sao Paulo Hospital, Professor Dr. Elza Marcia Yacubian:

Neurovirtual News: Dr. Elza Yacubian, what is epilepsy?

Dr. Elza Yacubian: Epilepsy is a disease characterized by the occurrence of spontaneous seizures or epilepsy provoked by stimuli, called reflex seizures such as those caused by flashing lights. In general, we can say that there are focal seizures, which involve neural networks restricted to a region of the brain, usually due to structural damage and generalized seizures in which neuronal hyperexcitability is diffuse and possibly related to genetic causes.

NN: What are the symptoms that can provide a positive diagnosis of epilepsy?

Dr. Elza Yacubian: The diagnosis of epilepsy is clinical with semiological characterization of epileptic seizures, the description from the patient and/or a witness to the events are considered essential for diagnosis. They can be supplemented by electroencephalographic recordings (EEG) and neuroimaging tests, structural and functional, such as MRI and PET studies.

NN: Physically, how can the damage characterized by epilepsy be explained?

Dr. Elza Yacubian: The most common etiologies of focal seizures are typically in the brain repair areas called "gliosis", or caused by developmental brain defects, infections, vascular disorders, and tumors among others.

NN: Is there a link between epilepsy and sleep disorders?

Dr. Elza Yacubian: Yes. Sleep enhances the frequency of epileptic spikes in most forms of epilepsy. Focal seizures are more common in periods of relaxation and sleep. Generalized seizures, are also called 'awakening seizures'

“Epileptic seizures are electrical phenomena and many have made significant efforts to develop acquisition systems of these electric paroxysms in the recent decades.”

and usually occur within two hours after awakening, regardless of time of day, and are more likely to be triggered by sleep deprivation.

NN: Is there any genetic predisposition for the occurrence of epilepsy twins individuals, or is it something acquired through varied events?

Dr. Elza Yacubian: Yes, there is a genetic component to epilepsy. This is an area in which there has been significant progress in recent decades. Study of families with multiple affected individuals have allowed the discovery of genes that determine various forms of epilepsy. The study of families affected can determine the risk of recurrence, which for generalized epilepsies is increased between 4 to 9 times; for focal epilepsies 2-3 and for febrile seizures, 3-5. Twin studies attest to greater agreement for epilepsy in monozygotic twins compared with dizygotic. For generalized epilepsies (8 versus 0.3); for focal epilepsies (0.4 versus 0.03) and febrile seizures (0.6 versus 0.1).

NN: What are the procedures / protocols recommended for the conclusive diagnosis of epilepsy?

Dr. Elza Yacubian: Sometimes a clinical diagnosis is sufficient. Often it is strengthened by EEG and MRI findings.

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BWIII VEEG/ICU/LTM
Epilepsy Monitoring



NN: What types of seizures are considered the most challenging to define the most appropriate treatment, from a physiological point of view?

Dr. Elza Yacubian: All epileptic seizures are complex phenomena and all of them present significant challenges, since their characteristics are dependent on brain development.

Seizures in infants are different from children and adults, and there are also peculiarities in the elderly. The electroclinical characterization of each of these forms require considerable expertise in research and treatment.

NN: Is there technology available in Brazil to support physicians in the proper diagnosis of epilepsy?

Dr. Elza Yacubian: Epileptic seizures are electrical phenomena and many have made significant efforts to develop acquisition systems of these electric paroxysms in the recent decades. There is still a pressing need to improve these systems to expand services dedicated to the hundreds of thousands of Brazilians with epileptic seizures who need diagnosis and treatment at an affordable cost.

NN: What are the treatments best suited for epilepsy control?

Dr. Elza Yacubian: Antiepileptic drugs, which, from 1912 with the advent of phenobarbital, significantly changed the outlook on life of people with epilepsy. The development of new drugs since 1990 with more suitable pharmacokinetic properties, further improved outlook from a therapeutic perspective. There is no way to compare the lives of people with epilepsy who lived in the 19th century with those living in the 21st century.

NN: What are the main objectives of the research department in Epilepsy Unifesp?

Dr. Elza Yacubian: The Unit for Research and Treatment of Epilepsy is part of the Department of Neurology and Neurosurgery of UNIFESP. It brings together a multidisciplinary team of epileptologists (experts and neurologists in specialization), psychiatrists, neurosurgeons, neuropsychologists, EEG techs, social workers and other professionals needed for the development of care, teaching and research in the specialty of the Department.

NN: How many centers specializing in epilepsy currently exist in Brazil?

Dr. Elza Yacubian: There are some, mainly located in the southern and southeastern regions of the country, although they have made significant advances in patient care,

“ The creation of Epilepsy Centers by the Ministry of Health in Brazil since 1990 allowed a significant advance in our specialty, which is one of the most outstanding research areas in the Brazilian Neurology. ”

awareness and research in epilepsy, we are still far from adequately being able to treat all of the Brazilians with epilepsy who require treatment.

NN: What should be the medical training to develop epileptology specialists?

Dr. Elza Yacubian: The formation of an epileptologist is complex and must be performed after the residence of neurology or pediatric neurology. In general, specialized training for at least a year in electroencephalography and clinical epileptology and at least one more year of training in Epilepsy Monitoring Units is needed.

NN: In which cases is surgery recommended for epilepsy treatment?

Dr. Elza Yacubian: Surgery is recommended for people with refractory seizures, defined as the persistence of seizures despite the use of two antiepileptic drugs properly prescribed by doctors and used by the patient. Surgical indication is dependent on the precise location of the epileptogenic zone and the balance between risks and expected benefits of the surgical procedure.

NN: Is there any institution that promotes the scientific development of this area in the country?

Dr. Elza Yacubian: The creation of Epilepsy Centers by the Ministry of Health in Brazil since 1990 allowed a significant advance in our specialty, which is one of the most outstanding research areas in the Brazilian Neurology. Its value is attested by a number of research and international scientific publications.

Dr. Elza Marcia Yacubian
Professor, Department of Neurology and Neurosurgery of UNIFESP.
Head of the Research and Treatment of Epilepsy at Hospital São Paulo.

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XXXVIII Annual Meeting of the Mexican Chapter of the International League Against Epilepsy, Mexico

This past August Neurovirtual Mexico participated on the XXXVIII Annual Mexican Meeting of the International League Against Epilepsy. The event was held in Mexico City, at the Sheraton Maria Isabel, and was attended by over 600 Epileptologists, Neurophysiologists, Neurologists, Neuro-surgeons, students and more.

The main topics discussed at the conferences were:

- Epilepsy at childhood;
- Adult Epilepsy;
- Epilepsy and pregnancy;
- Legal aspects of the epilepsy;
- Epilepsy surgery;
- And other important topics.

Represented by current president, Dr. Gerardo Quiñones Canales, the organization is always generating awareness and emphasizing Epilepsy within Neuroscience. It is also a priority due to its high recurring pattern and it is the organization's main responsibility to help and, guide those who suffer from it.





Neurovirtual participates on an average of 30-35 congresses and conferences in different countries around the globe. Taking our goal to humanize the diagnostic, we proud ourselves to be part of this community and be able to give our contribution to clinicians and patients.

Below you will find the list of events, for the remaining of 2015, that Neurovirtual will be presenting its solutions to make neurology and sleep diagnostic more human! We hope to see you there!

September

BRAZIL
17/09 to 19/09
XXV Congresso Brasileiro de Neurofisiologia Clínica
Local: Serihs Natal Grand Hotel, Avenida Senador Dinarte Mariz, 6045 - Vila Costeira, Natal - RN.

COLOMBIA
18/09 and 19/09
Actualizacion en trastornos de Sueño - 2015 - ACMES
Local: Hotel Sonesta, Km 7 Vía Cerritos, Pereira

October

REPUBLICA DOMINICANA
02/10 to 08/12
XXIV Congreso Internacional de Neurologia y Neurocirugia
Punta Cana - Hard Rock Hotel & Casino Punta Cana, Boulevard Turístico del Este Km. 28 No.74.

USA 07/10 to 10/10
Neurocritical Care Society 2015 Annual Meeting
The Westin Kierland Resort & Spa, 6902 East Greenway Parkway, Scottsdale.

MEXICAN 26/10 to 01/11
Reunión Anual De La Academia Mexicana De Neurologia
Centro De Convenciones, Puerto Vallarta

BRAZIL
28/10 to 31/10
XV Congresso Brasileiro do Sono
Enotel Resort & Spa, Rodovia PE 09, s/n - Porto de Galinhas, Ipojuca - PE

BRAZIL 24/10
Workshop de CPAP e Polissonigrafos
Instituto do sono - Rua Marselhesa 500, 15 andar- Anfiteatro I

COLOMBIA 23 to 25/10
I Curso Iberoamericano de Trastornos Respiratórios Del Suenó. Acorl 2015
Bogotá Plaza hotel, Calle 100 # 18a -30.

CHILE
31/10 to 05/11
XXII World Congress of Neurology
Centro de Eventos, Congresos y Exhibiciones Avda. San José María Escrivá de Balaguer 5600 Vitacura, Santiago

November
GERMANY
16/11 to 19/11
Medica
Messe Düsseldorf
Stockumer Kirchstraße 61
40474 Düsseldorf

December
USA
04/12 to 08/12
American Epilepsy Society Annual Meeting
Pennsylvania Convention Center - Philadelphia, 1101 Arch Street, Philadelphia.

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