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Midliner
A Publication for the Central Society of END Technologists

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Just a reminder!
Don't miss the
2008 Annual Meeting of the Central Society of The Electroneurodiagnostic Technologists

April 24-25, 2008
Radisson Quad City Plaza
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Davenport, Iowa 52801
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Joyce Riedel, B.A., R. EEG T., CNIM, R. NCS.T.
HealthPartners Neurology Clinics

OFFICERS

President :Ed Carlson, R.EEG/EP.T. ecarlson@mnepilepsy.net

Vice-President: Elizabeth Huber, R.EEG/EP.T./CNIM ndx_liz@hotmail.com

Treasurer: Peggy O'Neill, R.EEG.T. poneill@chw.org

Secretary: Michelle Sloane, R.EEG.T. msloane@chw.org

Vendor Coordinator: Pat Trudeau, R.EEGT. trudeau.patricia@marshfieldclinic.org

Nominating Committee: Stacey Austin, R.EEG/EP.T., RPSGT. Saustin@westernTC.edu

Midliner: Patti Baumgartner, R.EEG/EP.T, CNIM. patti_baum@sbcglobal.net

Local Arranger: Katie Sholl, R.EEG/EP.T., RPSGT shollk@genesishealth.com

2007 CSET BUSINESS MEETING
April 13, 2007
Minneapolis, MN

Meeting called to order at 12:32pm by President, Pat Trudeau. Attendees were thanked were coming and the meeting was successful with good attendance.
A quorum was present

Vendor Drawings –
Representatives from Rhythmlink, Weaver and Company and the Marshfield Clinic were called on to give away Drawing gifts –
Leah Hanson from Rhythmlink gave a $100.00 American Express Gift card away to -------.
Patti Baumgartner from Weaver gave a Neurology Book away to Mickey Robbe.
Pat Trudeau from the Marshfield Clinic gave an I Pod Nano away to Grace Shaud.

12:33pm: Approval of 2006 Board Meeting Minutes–
Motion made by Phyllis Skowron-Videtich, seconded by Ryan Lau. Motion passed @12:33pm

II. 12:34pm: Reading of Reports -
Treasurer Report: Peggy O'Neill
Last year CSET had $14,142 at years end and so far in 2007 we will have an estimated $15,000 after meeting expenses are paid and dues are paid.
Nominating Chairperson: Stacey Austin
Stacey stood and thanked Patti Baumgartner for her assistance with the nominating committee. She then reported that a total of 14 nominations were received and results for new officers are Ed Carlson – CSET President, Michelle Sloane – CSET Secretary, and Peggy O'Neill will remain CSET Treasurer as there were no willing parties that were nominated.
Membership Chairperson: Brenda Terranova for Jaime Kurtz who was not present.
Notices were sent in November 2006, membership remains $25.00 with student membership at $15.00. Currently CSET has 95 members one of which is a student, 9 are new this year.
Brenda also Thanked Pat Trudeau as the outgoing CSET President and said that a plaque will be given to her for her work in the position.
E. Vendor Coordinator: Pat Trudeau
Pat reported that this years CSET Meeting had 19 vendors

Scholarship Chairperson: Becky Ann Becker
One Scholarship application was received this year and it was awarded to Julie Rocksvold – Congratulations to Julie!

Midliner Editor: Patti Baumgartner
Patti reported that she successfully sent out 2 issues of the Midliner in 2006 for only $162.00. That was in part due to the generosity of ASET who graciously paid for copies and had them stapled and collated as well as giving us the mailing list for the Central Society.

12:40pm: Presentation of Awards – Pat Trudeau
Local Arranger – Ed Carlson
Training & Education – Joyce Reidel
Course Directors –
Course I: IOM –Liz Huber and Ryan Lau
Course II: PSG-Linda Bachman, Karen Lucy & Vicki Loving

Minneapolis and St. Paul, Minnesota

Course III: EEG-Phyllis Videtich-Skowron and Brenda Terranova

Board Members – Phyllis Videtich, Karen Lucy, Brenda Terranova and Vicki Loving (outgoing).

Officers –

Vice President – Liz Huber
Secretary – Heidi Horan
Treasurer – Peggy O'Neill

Committee Chairs –

Educator of the Year – Pam Roth
Membership – Jaime Kurtz
Midliner – Patti Baumgartner
Nominating – Stacey Austin
Scholarship – Betty Ann Becker
Training & Education – Joyce Reidel
Vendor Coordination – Pat Trudeau
Web Page – Clare Gale

ABRET Update – Aatif Hussain

Discussion of recertification and recent changes: In the year that recertification is due there will be no grace period after December 31st of each year. In order to avoid recertification the requirement is to maintain CEUs or take the full exam over. The website can be helpful in keeping up with your status and obtaining exam information.

Also, "written" exams are now given with a computer based format, ABRET is no longer using scantron sheets.

The process of lab accreditation is still ongoing with the help of Dr. Greg Fischer, as of this time there are 23 labs accredited.

There is a new CNIM prerequisite starting in 2008 which will require that candidates for the CNIM exam have either registration in EEG, Evoked Potentials or Nerve Conduction studies or they must poses a bachelors degree. Candidates also must still have 100 Intra-operative cases completed and be signed off by a manager or supervisor in regards to cases completed. No allied Health professionals.

Starting in August of 2006 in Atlanta, GA the Evoked Potential Oral Exam will be changing to follow a similar exam type as the EEG oral exam. See website for more details.

Also available in 2008 will be the second advanced practice credential for Long Term Monitoring. Information will be forthcoming, but the registration will be known as the CLTM exam and candidates are required to have R. EEG T. as well as 1 year of monitoring experience.

Outstanding Educator Award – Pam Roth

Pam gave an extensive description of the winner's accomplishments, including a 30 year history of END, a frequent speaker at annual meetings, this person is very active in the Michigan program, she is involved in several regional societies as well as ABRET and ASET, she is an AES Speaker and is on the AES advisory board and is also the commissioner of the national society. Big congratulations to Judy Ahn Ewing this year's educator of the year!!

IV. 12:54pm: Old Business –

Pat Trudeau stood to introduce Katie Scholl who will be the local arranger for the 2008 CSET meeting which be held in Davenport, IA. Katie then stood to talk about meeting plans so far, including the dates of April 23rd and 24th, 2008. The meeting will be held t

the Davenport, IA Radisson which has beautiful rooms and great food, Katie then talked about the specific menu. Next she discussed that the meeting will include 2 days of PSG, 1 half day of Evoked Potentials and 1 half day of Nerve Conduction Studies (Thursday), 1 day of IOM (Friday), 1 day of Advanced END (Thursday), and 1 day of Basic EEG (Friday). She asked for volunteer speakers in those areas and thanked Joe Shields of Nihon Kohden for offering to sponsor the social, which will include a DJ, open bar and appetizers. Katie also said that it was hoped that ABRET would follow the meeting, but at this time we are still waiting for confirmation.

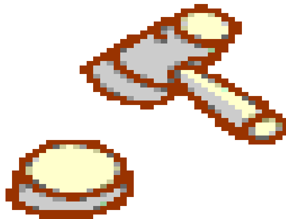
V. 12:57pm: New Business –

A. Ed Carlson new CSET President stood to ask for input on the 2009 CSET Meeting. It was suggested by Brenda Terranova that the meeting be held at a more southern central location such as Texas. Brenda has contacted Barb Voth who has volunteered to host the meeting if the location is approved. Ed then suggested Milwaukee is the other meeting location possibility for 2009 and asked for thoughts on the two suggested locations. Though not many people spoke up, it was asked that attendees consider whether or not they would attend at the suggested locations and provide feedback on those ideas.

VI. 13:01pm: Motion to Adjourn –

Motion to adjourn made by Liz Huber and seconded by Patti Baumgartner. Motion carried at 13:02pm

Minutes Respectfully Submitted by Heidi Horan (CSET Secretary)



Down’s Syndrome and Obstructive Sleep APNEA

ABSTRACT: Down’s syndrome patients don’t always get tested for Obstructive Sleep Apnea. This paper will explain what Down’s syndrome is, what Obstructive Sleep Apnea is and what polysomnography is. Further discussion will explain why Polysomnography is necessary in patients with Down’s syndrome.

Down’s Syndrome

I was sitting in the sleep lab one day when I saw a child come walking out one of the rooms. He was over weight, had a small nose, eyes that were more centered than normal, and a short neck. He looked at me and smiled. I smiled back. I was shocked at first because I wasn’t expecting to see a child come out of a room that was supposed to be for sleep studies. His mom and dad were with him trying to keep his attention. I looked at the tech that I was working with and asked why a child was getting a sleep study done. She told me he has Downs’s syndrome and was being tested for Obstructive Sleep Apnea.

In 1866 John Landgon Down was the first English physician to publish an accurate description of Down‘s Syndrome (DS). Later, 1959 Jerome Lejeune correctly stated that DS is a chromosomal anomaly as he studied the 47 chromosomes present instead of the normal 46. This extra chromosome is present only in DS patients so was thus an indicator of the condition. If you were to look at a person’s DNA that doesn’t have DS it would have 23 pairs of chromosomes, half from each parent. With DS patients some or all of the cells have an extra full or partial copy of chromosome 21. There are an estimated 350,000 cases of DS in the United States, one of every 733 births.

The cause of DS remains unknown. Neither environmental factors, nor what the mother may do or not do during pregnancy are factors in DS. The age of
the mother, greater than 35 years may be a factor. As the mother’s age increases, beyond age 35, the chances of her child being born with DS increases. By the age of 45 the chance of DS increases to one in 30 births. Even with this possible factor, still 80% of DS patients are born to women under age 35, probably due to increased fertility in younger women.

Sleep Apnea

Apnea is Greek for without breath. Obstructive Sleep Apnea (OSA) is causes by a relaxing of the throat muscles during sleep. The airway relaxes and is blocked by the soft tissues of the uvula, palate and tongue. When the patient attempts to inhale, it only causes the block to become tighter. As the patient struggles to breath, he/she is aroused from sleep. An obstructive apnea episode is defined by a period of greater than ten (10) seconds. Some sleep apnea episodes can last as long as two (2) minutes. Many patients suffer upwards of one hundred (100) episodes per night. Arousals during sleep stages III and IV can interfere with normal growth patterns, healing, and immune response, especially in children and young adults. O2 Saturation levels may fall to levels as low as 70%. Pulse rates and blood pressure, and CO2 levels increase. No definite causes of sleep apnea have been observed. Certain risk factors, such as obesity, have been observed.

There are several symptoms of OSA; excessive daytime sleepiness is the most common. Others are: headaches in the morning upon awakening, high blood pressure, dry mouth, snoring, trouble concentrating, weight gain, forgetfulness and depression. Everyone experiences episodic apneas at some time in their life due to infections, tonsillitis, and nasal congestion. But OSA every night affects nearly 1out of 5 Americans.

POLYSOMNOGRAPHY

Polysomnography (PSG) is a test that is performed to diagnose Sleep Disorders. This diagnostic test evalu-

ates many physiologic variables. Electrodes are placed on the scalp to record brain activity, on the chin and jaw to record muscle activity, near the eyes to record eye movement. Heart rate is recorded by electrodes on the chest, and limb leads measure leg movements. An airflow monitor placed around the nose and mouth monitors the airflow in and out. Abdominal and chest bands monitor respiratory effort; there are pulse oxy-meters, and even a device to do detect snoring. The patient sleeps presents to the sleep lab at their usual bed-time. Electrodes are applied and the patient is escorted to a private room designed to look like a bedroom, with all the comforts of home. The technologist sits in a separate room and watches the various monitoring devices, a closed circuit TV **camera** focused on the patient records throughout the night.

Once the test is completed all the information is reviewed by a technologist, as well as a physician specially trained in disorders of sleep and pulmonary disease. The American Academy of Sleep Medicine (AASM) de-fines the Respiratory Distress Index (RDI) as the number of OSA events in one hour. An RDI of 0-5 is normal, 5-20 mild OSA, 20-40 moderate OSA, and over 40 OSA as severe OSA. It is not uncommon to see an RDI of greater than 100 in some severe cases of OSA.

CONNECTION BETWEEN DOWN'S SYNDROME AND OBSTRUCTIVE SLEEP APNEA

The correlation between OSA and DS is extremely strong. DS patients have a small nose and a large tongue. Some DS patients also suffer from pulmonary hypertension, heart disease and obesity. A research study per-formed PSG studies at the Cincinnati Children's Hospital and Medical Center on 56 DS patients in the age range of 4 months to 63 months of age.

The results indicated that 57% (32) tested positive for OSA. The results of this study and others indicate that all DS patients should undergo PSG testing.

TREATMENT OF OBSTRUCTIVE SLEEP APNEA

There are few choices for treatment of OSA. The most popular is Continuous Positive Airway Pressure (CPAP). A small machine with an air pump delivers constant pressure to a mask worn by the patient.
The purpose is to maintain an open airway to allow the patient to breath. The patient can remain asleep throughout the night and progress to deeper stages of sleep than would otherwise be possible. CPAP is 95% effective if worn correctly and the pressure is titrated to the patients' needs.

Although not as successful as CPAP, OSA can be treated surgically. Surgery types include: Genioglossus tongue advancement, hyoid suspension, somnoplasty, maxillomandibular advancement, laser assisted uvu-loplasty and uvulopalatopharyngoplsty.

One treatment option for mild to moderate OSA is Dental Appliances.
These devices move the lower jaw forward to increase the size of the airway passage.

CONCLUSION

In conclusion, there is a strong connection between DS patients and OSA. The risk factors for OSA include: weight, large tongue, short throat and small nose. All patients that have DS should have a PSG by the time they are 3-4 years of age. This simple, non invasive test and subsequent treatment can improve their quality of life.

Patti Baumgartner, Editor
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