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It’s six months into my term as president and I can proudly say that the Society continues to move forward. Several exciting new projects are in the works: we’ve established the Sleep Research Society Foundation, developed a seed grant program, are presenting our first two-and-a-half day course titled “A Primer of Sleep Research” and have assembled a task force charged with developing a proposal in relation to collecting and archiving historical records pertaining to sleep research. And this is just the beginning! Our goal of reaching 1,000 members has also been attained; the Sleep Research Society is growing and thriving and I am excited to be a part of it.

As a result of our strategic plan, this past summer, the Research Committee proposed a seed grant program, offering grants at two levels. To better facilitate this program, the Board voted to establish the Sleep Research Society Foundation to aid in the development and distribution of the grants. The Foundation will also administer the Travel Awards distributed at the APSS Annual Meeting. The program is in final development stages and will be announced officially this spring. Here is a sneak preview of what’s in store:

**Pilot Grant** - This grant will provide financial support to beginning investigators in sleep research for the purpose of gathering pilot data for future grants.

**Near Miss Grant** - This grant is intended for researchers to gather additional pilot data for NIH grants that are scored close to the funding level, but not funded.

Applications and guidelines for these grants will be available this spring.

A Primer of Sleep Research Course was developed and chaired most graciously by Michael V. Vitiello, PhD. The course will be held February 4-6, 2005 at the Fontainebleau Hilton Resort in Miami, FL. Dr. Vitiello worked incredibly hard on this course and pulled together an impressive program with a top-notch faculty. More information can be found on page 8.

I believe it’s critical to preserve the history that has gotten the field of sleep to where it is today. For this reason, I have asked Jerry Siegel, Ph.D. to chair the historical record task force. With Dr. Siegel’s enthusiasm and dedication to this project, I am confident the task force will be very successful in generating ideas to begin collecting and archiving important pictures, interviews, records, equipment and other data to preserve the field of sleep.

This summer, the Membership Committee set a goal of attaining 1000 members for the year 2004. We are proud to announce that this goal has been reached! We continue to grow and thrive as a field and it is important to have an organization to foster new ideas, build relationships, mentor junior researchers and continue to enhance the sleep field together. Those of you who talked to friends and colleagues and asked them to get involved in the society deserve a hearty thank you. When you believe in your work and in an organization in which you participate, it is easy to communicate to those who may not be aware of the SRS but become aware because of your dedication and commitment. Thank you for passing on the value of SRS membership. We could not have met this goal without your help. Remember, for each new member you bring in, you get a free SRS mug. Personally, I’m working toward a full set of 15.

Thank you to the board, committee chairs and committee members and all SRS members for all you do. It is you, the members, that really make us what we are – a vital, thriving, successful SRS.

Sincerely,
As Editor of the *Journal of Clinical Sleep Medicine*, a new journal published by the AASM, I would like to encourage members of the SRS to submit manuscripts for possible publication. The scope of *Journal of Clinical Sleep Medicine* is clinical sleep medicine. Its emphasis is the publication of papers with direct applicability and/or relevance to the clinical practice of sleep medicine. This includes some original manuscripts such as clinical trials as well as clinical reviews, clinical commentary and debate, medical economic/practice perspectives, case series and novel/interesting case reports. The journal is peer reviewed and will be searchable on PubMed sometime in early 2005. At this time, it will be a quarterly publication with its first issue scheduled for January 15, 2005. Submission will be done via the internet and further instructions can be found on our web site at http://www.aasmnet.org/JCSM.asp. I look forward to your support for the Journal.

Stuart F. Quan, M.D.
Editor, *Journal of Clinical Sleep Medicine*

A call for nominations to elect new Section Heads for the 2005-06 program will be sent in February. Please watch your mail and E mail for important announcements regarding the election of both Board of Directors and Section Heads. It’s important that each section is represented on the Board and the only way to do that is to have input from you.

SRS Sections are once again holding concurrent meetings at the APSS 19th Annual Meeting in Denver. All meeting attendees are invited to attend the section meetings. Location and time will be announced at a later date.

Current SRS Sections are: Basic Sleep Research, Circadian Rhythms Research, Sleep and Behavior Research and Sleep Disorders Research. Please contact Brooke Fairchild to confirm your section affiliation at bfairchild@aasmnet.org. Section descriptions are posted on the SRS Web site.
The most recent Club Hypnos was held during the Society for Neuroscience Annual Meeting in San Diego. This year's reception was a success with 150 in attendance. Of these attendees, 81 were not members of the SRS. The number of non-SRS members attending Club Hypnos indicates the broad appeal of our field for neuroscientists. New this year was a raffle drawing, each guest filled out a raffle ticket to win an SRS coffee mug, hat or key chain. A slide show highlighting previous SRS events was also added.

Club Hypnos is an SRS membership event providing an informal social setting for discussions away from the hectic scientific schedule of the meeting. Each year the event becomes more popular with SRS members and non-members alike who are looking to learn more about the society, serving as a good recruitment tool. Membership kits consisting of the Summer SRS Bulletin, a membership application and member benefits form were available for non-members, providing them with the information needed to become an SRS member.

Immediately following the SRS Club Hypnos was the Sleep and Circadian DataBlitz. DataBlitz, sponsored by the National Heart, Lung and Blood Institute of the National Institutes of Health and other organizations interested in sleep and circadian rhythms research, including the SRS. DataBlitz speakers are allowed one minute to present one slide summarizing their most important findings. Presentations, while entertaining are also informative and cover a wide range of topics. A Plenary lecture is also given at DataBlitz. This year the Plenary lecture was given by Dr. Jerome Siegel, of UCLA. Dr. Siegel presented data concerning sleep patterns in a variety of species, including marine mammals. Dr. Siegel's findings are there are dramatic differences in sleep and EEG patterns across marine mammal species providing new insight with respect to the functions of sleep. Holding Club Hypnos in conjunction with DataBlitz provides an opportune way for fellow researchers to discuss the newest data presented during the Society for Neuroscience meeting while catching up with friends and colleagues.
Sleep Research Society
Foundation Established
The Board of Directors elected to establish a foundation in conjunction with the newly created grants. The Foundation will be the governing body to administer all grants related to the Sleep Research Society.

Grants to be awarded in 2006
The Research Committee of the SRS developed two new grants this year. The Pilot Grant will provide support of beginning investigators in sleep research for the purpose of gathering pilot data for future grants. The Near Miss Grant, intended for researchers to gather additional pilot data for NIH grants that are scored close to the funding level, but not funded.

Applications will be accepted the Spring of 2005 and the grants will be awarded at the 2006 APSS Annual Meeting. Additional information on the grants and how to apply, will be available our Web site at www.sleepresearchsociety.org.

Membership Renewals
The SRS mailed invoices to members for the 2005 membership dues. Renewal notices have been sent to the address provided in each member’s record. Please contact the membership department at 708.492.1093 as soon as possible if your contact information has recently changed. Members may also review their membership online at http://www.sleepresearchsociety.org. Members should renew their membership as soon as possible to avoid interruption of their member benefits.

Classic Papers
The SRS Communications Committee is looking for classic papers to add to the Web site. If you have any in your possession or know where additional papers can be found, please contact Kimberly McNamara via E mail kmcnamara@srnet.org. Papers must be written before 1923 to avoid copyright issues. Additional information on the copyright law can be found on the SRS Web site.

Redesigned Web Site
January 2005 will bring a new, re-designed Web site for the SRS. Enhanced features will include: streamlined pages, additional search options, interactive member update page, and much more making the site more user friendly.

SRS Member Honored
Martha U. Gillette, MS, PhD of the University of Illinois College of Medicine at Urbana-Champaign has been recognized for her achievements in neuroscience as a scientist, teacher and mentor. Dr. Gillette received the 2004 Mika Salpeter Lifetime Achievement Award by Women in Neuroscience during the Society for Neuroscience annual meeting in San Diego.

Gillette, who studies the mechanisms that regulate the brain’s circadian clock, is the head of the department of cell and structural biology and a professor of molecular and integrative physiology. She also serves on the SRS Board of Directors, is associate editor of the Journal Sleep, vice president of the National Sleep Foundation and president-elect of the Society for Research on Biological Rhythms.

The award’s recognition also covered her mentoring since 1986 of numerous female medical scholars and female graduate and postdoctoral researchers.

Gillette is the fifth recipient of the Mika Salpeter award, which was created in memory of Dr. Mariam (Mika) Salpeter, who died in 2000. Salpeter’s long and notable career in research established the foundations of quantitative molecular anatomy. Salpeter also was instrumental in creating opportunities for women at Cornell University in Ithaca, N.Y.

Emmanuel Mignot, MD, PhD received the W. Alden Spencer Award during a special presentation at Columbia University in New York on November 29, 2004.

The W. Alden Spencer Award, which has been bestowed annually since 1978 by the College of Physicians and Surgeons of Columbia University, honors young scientists who have made original contributions to research in neurobiology.

Dr. Mignot is professor of Psychiatry and Behavioral Sciences at Stanford University and director of the Stanford University Center for Narcolepsy. He also serves on the SRS Board of Directors and is SRS Past-President.
The APSS 19th Annual Meeting is June 18-23, 2005 in the “Mile High City” Denver, Colorado. This year, our scientific keynote speaker is John Remmers, M.D., Professor at the University of Calgary and Scientist for the Alberta Heritage Foundation for Medical Research. He will address, “Sleepless Or Breathless: The Human Conundrum.”

The Program Committee is actively soliciting proposals and abstracts for presentation and will finalize a highly intensive educational program schedule this January. All notices concerning the status of abstracts and symposia/discussion group/clinical workshop submissions will be sent on approximately February 1, 2005.

Register now for the exciting and intensive SRS Course, February 4-6, 2005 at the Fontainebleau Hilton Resort, in Miami, Florida and take advantage of the opportunity to interact with professionals in the field of sleep research.

The course is a timely, comprehensive review of relevant topics in sleep research. Review the basic concepts of genetics, physiology, immunology, circadian rhythms, neuroimaging and epidemiology as they relate to sleep and the sleep literature; reviews of the unique challenges of studying sleep in special populations across the human lifespan and in certain medical conditions; and, reviews of the advantages and limitations of non-laboratory techniques to evaluate sleep quality, including actigraphy, in-home polysomnography and field studies.

Secure your spot at this premiere educational event by downloading the informational brochure and registering TODAY at www.sleepresearchsociety.org.
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Hotel reservations can now be made online

Preliminary Program available soon: online version in February and print version in March
The Neuroscience Laboratory at Department of Neurology, China Medical University in Taiwan, ROC was funded in 2001. The faculty in this laboratory includes: Fang-Chia Chang, Ph.D. (Assistant Professor, who is the supervisor in this sleep group, email: fchang@www.cmuh.org.tw) and Chon-Haw Tsai, M.D., Ph.D. (Associate Professor, who specializes in the study of movement disorders and is the head of Department of Neurology, email: d8079@www.chuh.org.tw). The research staffs and trainees are: Ya-Ju Chen, M.Sc. (who is a research technician in the laboratory), Pei-Lu Yi, M.Sc. (who is a lecturer in the Department of Nursing, Jen-Teh Junior College of Medicine, Nursing and Management, Taiwan), Ming-Kuei Lu, M.D., Yu-Wang Yang, M.D. (Drs. Lu and Yang are Attending Physicians in the China Medical University Hospital), master degree student Chun-Pang Lin and research fellow Yu-Chin Lin, M.D. (who is the Chief Resident at the Department of Neurology, China Medical University Hospital).

Research Focus of the Laboratory

There are three main research interests in this laboratory.

Sleep and Epilepsy

Sleep disturbance in patients with epilepsy is frequently overlooked, but contribute to the decreased daytime function and the increased seizure concurrence. The relationship between sleep and epilepsy is complicated and reciprocal. An understanding of the influences on each other has important clinical implication. Sleepiness is nearly universal among certain populations with epilepsy; however, sleep disorders are grossly underdiagnosed. Evidence in animal experiments suggests that seizure may disrupt sleep structure, particularly rapid-eye-movement (REM) sleep. In turn, sleep, and particularly deep slow wave sleep (SW S), has direct effects on interictal epileptiform discharges and on the occurrence of certain seizures, but REM sleep seems to suppress seizures. Furthermore, certain sleep disorders, such as sleep apnea, exacerbate seizures. Therefore, an understanding of these relationships is important in seizure control and in maximizing the quality of life for patients with epilepsy. However, neither the mechanisms of sleep disturbance in patients with epilepsy nor the cellular signal pathways for sleep to inference epileptic activities are fully understood. Our interest focuses on resolving questions of how the sleep architectures are altered after epilepsy, how sleep regulates seizure activity, and what the cellular mechanisms are involved. One of our previous results has shown that kindling epilepsy occurred in different times of circadian rhythm produces diverse patterns in sleep disruption. SW S and REM sleep decreased when the kindling was given during the light phase. When kindling epilepsy occurred during the dark phase, SW S increased but REM sleep was not altered. Results from the pharmacological blockade and the Ribonuclease Protection Assay suggest that amygdala kindling-induced sleep-wake alterations are modulated by the central increase in CRH during the light phase or by the increase of IL-1 during the dark phase (Yi et al. 2004a). These results implicate that the use of CRH antagonists and IL-1 agents would be beneficial to improve seizure-associated sleep disruption. We will attempt to further look at the action sites in the central nervous system and the cellular mechanisms for CRH and IL-1 involving in sleep disturbance.

Sleep and Parkinson’s Disease

Patients with Parkinson’s disease (PD) clinically can experience a number of sleep disorders, including insomnia, parasomnias and daytime somnolence, especially excessive day time sleepiness and sleep attacks. The predominant lesion in Parkinsonism, observed in PD is cell degeneration and loss of pigmented neurons in the pars compacta of the substantia nigra and the resulting loss of nerve terminals accompanied by dopamine deficiency in the striatum. In addition, the central cytokines and neurotrophins play an important role in the development of PD. Both the pathology of PD and dopaminergic drugs may contribute to
the much higher than expected frequency of sleep fragmentation and disrupted sleep among these patients. Although a body of clinical evidence suggests that sleep pattern may be altered in PD patients, there is a lack of basically cellular mechanism. In a parkinsonism rat model, we target the involvement of dopaminergic and GABAergic systems, cytokines and neurotrophic factors in the parkinsonism-induced sleep alteration.

Acupuncture and Sleep

Electroacupuncture (EAc) is a traditional Chinese medical practice which consists of passing an electrical current through needles inserted into acupoints to obtain a variety of therapeutic effects, including alleviation of pain, reduction of inflammation and improvement of sleep disturbances. The action and mechanism underlying EAc is still controversial. The aims of our studies are to investigate the effects of EAc stimulation on sleep-wake activity and the underlying physiological mechanisms. One of our previous results has shown that EAc increases both REMS and SWS during the dark phase, and the effect of EAc on sleep is blockade by muscarinic cholinergic antagonist. Electrical lesion of bilateral caudal nucleus tractus solitarius (NTS) also produces significant blockade of EAc-induced sleep enhancement. This result delineates the involvement of the caudal NTS of the medulla oblongata in EAc-induced sleep regulation (Yi et al. 2004b). Endogenous opiates, such as endorphin and enkephalin, are well known as the consequence of EAc action. Our future study will attempt to further look at the interactions between cholinergic system and endorphin on EAc-induced sleep alterations.

Technical Capabilities of Laboratory

- Polysomnographic sleep recording and analysis (custom software [ICEUS], which is generously provided by Dr. Mark R. Opp, written in LabView for Windows (National Instruments)
- Patch clamp recording system (Axon Instruments)
- Movement-related cortical potential recording (NeuroScan)
- Eventrelated potential recording (NeuroScan)

Training Opportunities in the Laboratory

Our laboratory is located in the Taichung city, a beautiful city with comfortable climate in the central Taiwan. Our facilities are excellent; we have a shield room for electrophysiological recording and an isolated animal room for animal behavior recording. We now provide positions for graduate students from the Graduate Institute of Chinese Medical Science and the Institute of Medical Science in the China Medical University. Besides, we welcome national and international postdoctoral fellows working in our laboratory. Although the research fund here is limited, the National Science Council in Taiwan gives grants for the postdoctoral training. Our research funds are mostly granted by the National Science Council, the University and the University Hospital.

Publications


Pei-Lu Yi, Chon-Haw Tsai, Jaung-Geng Lin, Cheng-Chun Lee and Fang-Chia Chang, Kindling stimuli delivered at different times in the sleep-wake cycle. Sleep, 27 (2): 203-212, 2004

Fang-Chia Chang, Huei-Yann Tsai, Ming-Chien Yu, Pei-Lu Yi, and Jaung-Geng Lin, Central serotonergic system mediates analgesic effect of electroacupuncture on Zusanli (ST36) acupoint. Journal of Biomedical Science, 11:179-185, 2004

CH Tsai, FC Chang, YT Huang, RS Chen, CC Chen, T Wu, YH Weng, SZ Lee, ZD Lee, CY Lieu, HC Chang, MK Lu, CC Lee, CS Lu, Pallidotomy effect on the central excitability in patients with severe Parkinson's disease. Movement Disorders (accepted), 2004

PC Tsai, FC Chang, CH Tsai, FR Jang, AN Shen, YT Huang, SC Lai, TH Yeh, MK Lu, CS Lu, Focal hand myoclonus caused by a small hematoma underneath the cerebral motor cortex. European Neurology, 50: 114-117, 2003


Fang-Chia Chang and Mark R. Opp, IL-1 is a mediator of increases in slow wave sleep induced by CRH receptor blockade. American J. Physiology, 279: R793-R802, 2000


RESEARCH FOCUS AND LONG TERM RESEARCH GOALS OF THE LABORATORY

Our work is aimed at investigating the role of sleep in host defense mechanisms, and determining the underlying mechanism(s) of the basal inflammatory increase seen during sleep deprivation, sleep restriction and sleep disruption; to investigate its long term clinical implications, preventative strategies and therapies. Good sleep is health promoting and we hypothesize that sleep promotes health maintenance by providing a natural anti-inflammatory, analgesic, stress reducing state, which contributes to the regulation of endocrine and metabolic systems.

Lines of Work

Some of the research in our lab involves the careful characterization of the effects of sleep loss on inflammatory, autonomic, neuroendocrine and metabolic systems using frequent blood sampling in controlled experimental designs. In collaboration with David Dinges, Ph.D. at the University of Pennsylvania, and Christos Mantzoros, M.D. of the Beth Israel Deaconess Medical Center and Harvard Medical School, we found the amplitude of leptin, a hormone produced by adipocytes that signals satiety to the brain, drop progressively over 3 days of sustained wakefulness (1). In another paper, we showed that C-reactive protein increases during both acute total sleep deprivation and chronic sleep restriction, and that indices of cardiovascular output, heart rate and blood pressure, were increased (2). In a study just completed at the General Clinical Research Center at the Beth Israel Deaconess Medical Center, we have found that blood pressure is elevated over control conditions, as a consequence of chronic sleep restriction (3). Currently we are involved in a collaborative study at our institution, with Goeff Gilmartin, M.D. and J Woodrow Weiss, M.D., to investigate the effects of altitude induced hypoxia (using an altitude tent) on inflammatory markers. We have also recently completed two studies of the diurnal rhythms of several cytokines and adhesion molecules (4,5).

In addition to studying the effects of sleep loss on regulatory systems, we also test the functioning of the early immune system with a challenge model. We are interested in the role of sleep in human host response and have recently finished a large placebo controlled study on the effects of chronic sleep restriction on host response to endotoxin. Endotoxin is a component of the outer membrane wall of gram negative bacteria. There is a preparation which is virtually free of protein, FDA approved for use in human subjects. In a between-subjects design, we studied the response to an endotoxin challenge to the immune system when individuals have slept normally and compared this to when participants were permitted to sleep only 4 hours per night. Analysis of these data is currently underway.

A special focus on the theme of inflammation and sleep loss being developed by Monika Haack, Ph.D., is an investigation of the relationship between inflammatory mediators and subjective indices of pain (6). Dr. Haack is also working on protocols to test pain thresholds and sensitivity under conditions of sleep loss and sleep fragmentation.

In addition to characterizing physiological effects of sleep loss, we have been conducting a very careful examination of the changes in patterns of subjective estimations...
of well being and mood across days of sleep restriction to 4 hours per night (50% of habitual sleep amount). We are finding that, in addition to the expected increase in tiredness-fatigue during sleep loss, items loading on an optimism-sociability factor drop across days of sleep restriction, and that subjective perception of bodily discomfort and feelings of anger-aggression increase as a consequence of sleep loss.

Together with our colleagues in Behavioral Neurology and the Transcranial Magnetic Stimulation lab (Dan Press, M.D., Edwin Robertson, M.D., and Alvero Pasqualeone, M.D., Ph.D.) we have been examining the effects of sleep loss on learning and memory, and in addition continue to use the psychomotor vigilance test (PVT) developed in the Dinges lab, to track the neurobehavioral consequences of sleep loss.

Inspired by findings that C-reactive protein is elevated during acute and chronic partial sleep deprivation (2), and that blood pressure also increases during sleep deprivation, we have been investigating the relationship between C-reactive protein and cardiovascular function in a couple of studies. In a study which will involve approximately 60 subjects, we are currently investigating the effects of clamping blood pressure on inflammatory markers. We hypothesize that if shear stresses produced by increased autonomic activation and elevated blood pressure during sleep loss is the mechanism by which inflammatory mediators are increased across 88 hours of sleep deprivation, the clamping blood pressure with a titratable beta-1 selective (cardioselective) beta blocker (esmolol) would prevent the rise in inflammatory mediators. Jorge Serrador, Ph.D. is a cardiovascular physiologist collaborating on this project.

Guibenson Hyppolite, a HMS medical student working in our lab, and Aliza Liebman, a premed student at Brandeis University, have been working on this study with collaborative input from Ernest Gervino, Sc.D., Director of the BIDMC Exercise Stress Test Lab, and Hans Meier-Ewert, M.D., a cardiologist collaborator at Dartmouth-Hitchcock Medical Center. We are also collaborating with Robert Thomas, M.D. and Ary Goldberger, M.D., of our institution, in a modeling analysis of cyclic alternating pattern in sleep EEG and cardio-respiratory indices, with clinical polysomnographic recordings of our healthy sleepers.

### Technical Capabilities of Laboratory

**Wet Lab with Enzyme-Linked Immunosorbent Assay (ELISA)**
- Access to Performance Liquid Chromatography (HPLC), radioimmunoassay (RIA).
- PortaPress and Beat Scope Software
  - Ambulatory beat to beat blood pressure measurement, with 24h capability. The beatscope uses a mathematical model to calculate stroke volume, cardiac output and total peripheral resistance based on the blood pressure waveform.
- Continuous rectal temperature measurement
- Minimitter Series 2000, and Embla + YSI
- Embla Ambulatory monitoring polysomnographic system
- Spectral Analysis of EEG
- Heart Rate Variability
- Actigraphy

### Training Opportunities in the Laboratory

Dr. Mullington is an associate preceptor in the Program for Training in Sleep, Circadian and Respiratory Neurobiology in the Division of Sleep Medicine at Harvard Medical School and Brigham & Women's Hospital. This program provides training support to doctoral students and post-doctoral fellows, and in addition, has a summer internship program for minority Medical Students. Further information about this program can be obtained by going to the home-page (http://www.hms.harvard.edu/sleep/) and clicking on education and training to find funding programs. Dr. Weiss, one of their collaborators is also a preceptor in this program.

Additional support possibilities exist though the many collaborative efforts we are involved in. For example, Dr. Serrador is involved in a training program for gerontology studies, and collaborative projects would be possible through that program. Dr. Mantzoros is a mentor with the Scholars Program, and possibilities for 2 years of support exist for physician scientists through that program. More information can be found at http://www.hms.harvard.edu/gradprograms/scsp/ and the website for Dr. Mantzoros’ lab is: http://www.monzetepunzalan.com/Endocrine/research/labs/mantzoros/index.asp.

Projects are also possible in collaboration with Dr. Ary Goldberger and the Margaret H.A. Rey Institute for Nonlinear Dynamics in Medicine (http://reylab.bidmc.harvard.edu).

### Representative Publications

3. Josiane Broussard, Monika Haack, Jorge Serrador, Janet M. Mullington Diastolic blood pressure (DBP) and mean arterial pressure (MAP) are elevated in healthy sleep-restricted individuals. ESRS meeting in Prague, 2004.

Our research is made possible by support from NIH grants MH60641 and HL75501 (JMM) and in part by RR 01032 to the BIDMC GCRC from the National Institutes of Health.
National Sleep Foundation poll shows children aren’t getting enough sleep, & parents are paying a price

Jodi A. Mindell, Ph.D.

“I’m lucky if I get six hours of sleep at night,” writes a single mother of 2-year-old twins. “One of the twins is always waking up at night. If it’s not one, it’s the other.”

“I’ve ended up having my youngest child sleep in bed with us,” adds Sharon, a mother of three children. “He sometimes seems to stop breathing and this way we can keep an eye on him.”

These are problems that are experienced by many children and their families. But how common are sleep problems in children? Do most children get the sleep they need? And what about the sleep of their parents or caregivers?

To answer these questions, the National Sleep Foundation (NSF) commissioned the first nationwide poll on the sleep habits of children (ages 0 to 10) and their parents or other primary caregivers. Among the conclusions of NSF’s 2004 Sleep in America poll:

- Many children (newborns through school aged) aren’t getting enough sleep.
- Two-thirds of children experience a sleep problem at least a few nights a week.
- Parents/caregivers pay a price for their child’s poor sleep habits.
- Doctors aren’t asking about sleep.

The poll results indicate that children in every age group, on average, do not meet the low end of the range of sleep recommended by experts during a 24-hour period. For example:

- Infants (3-11 months) sleep 12.7 hours according to the poll data; experts recommend 14-15 hours.
- Toddlers (1-3 years) sleep 11.7 hours, though 12-14 hours are recommended.
- Preschoolers (3-5 years) sleep 10.4 hours; 11-13 hours are recommended.
- School-aged children (1st through 5th grades) get 9.5 hours of sleep in a 24-hour period, but experts recommend 10-11 hours.

(Note: All sleep times are averages.)

The 2004 Sleep in America poll shows that many parents aren’t aware of whether their child is getting enough sleep. A majority of parents/caregivers says their child gets the “right amount” of sleep; however, comparing the number of hours they think their child should sleep with the number of hours they say their child actually sleeps, it is clear that many children are not getting enough sleep.

The poll finds that almost 70 percent of children ages 10 and under have sleep problems, according to their parents/caregivers. These include waking up at night, difficulties falling asleep, snoring, breathing problems, and resisting going to bed. And sleep problems are seen across the ages, from infants through school-aged. Clearly sleep is a universal problem for children of all ages.

Despite the indications of many sleep problems reported by parents/caregivers, the poll finds that pediatric healthcare practitioners do not always ask about a child’s sleep habits. More than one-half of those polled (52%) say their child’s doctor did not ask about their child’s sleep; even fewer practitioners ask about snoring, although they are more likely to ask as the child gets older.

According to the Sleep in America poll, an overwhelming majority (76%) of parents/caregivers would change something about their
child’s sleep if they could. While most would change their child’s bedtime, one out of five parents/caregivers of infants say they would change the length of time their child sleeps.

The poll finds that a television in the bedroom and caffeine are associated with poorer sleep. While school-aged children are the most likely to have a television set in their bedroom (43%), parents/caregivers report that a TV set can be found in bedrooms of 30 percent of preschoolers and 20 percent of infants. The poll finds that children with a television in the bedroom go to sleep almost 20 minutes later and sleep less than those without a television in the bedroom (9.2 vs. 9.6 hours/night), a loss of more than two hours of sleep a week.

Twenty-six percent of children three years of age and older drink at least one caffeinated beverage per day. Children who drink a caffeinated beverage sleep less than those who do not (9.1 vs. 9.7 hrs/night), a loss of about 3.5 hours of sleep a week.

Other important findings from the 2004 Sleep in America poll:

- Most parents/caregivers say they get less sleep than they need. A majority say they need between eight and nine hours each night, however, parents/caregivers average about 6.8 hours of sleep a night.

- The sleep habits of children have a direct impact on the adults caring for them. Parents/caregivers whose children get the least amount of sleep are twice as likely to say they sleep less than six hours a night. On average, parents/caregivers lose slightly more than one half hour of sleep each night because their child awakens them during the night. Parents of infants lose the most sleep; they are awakened an average of four nights a week, losing close to an hour of sleep each night - that’s more than 200 hours of lost sleep in the child’s first year!

Sleep issues are often difficult to deal with by parents. At night, everyone is exhausted; patience has decreased and being consistent as a parent is difficult. In addition, a child’s sleep problem affects not only the parents, but also siblings, so it becomes an entire family issue.

Overall, we continue to be a nation of sleep-deprived individuals. Past NSF polls have shown that adults are not getting enough sleep. This year’s poll indicates that children are not getting enough sleep, too. As a nation, we need to make a change. For our kids’ sake, we need to start focusing as much attention on the sleeping half of children’s lives as we do on the waking half.

The 2004 Sleep in America poll was conducted by WB&A Market Research between September 15 and October 17, 2003, using telephone interviews with a random sample of 1,473 adults who were a primary caregiver or share equally in the care of a child 10 years of age or younger living in the household. The margin of error is plus or minus 2.6 percent.

For the complete Summary of Findings, go to www.sleepfoundation.org and click on the Sleep in America poll graphic.

Jodi A. Mindell, Ph.D. chaired NSF's 2004 Poll Task Force. Dr. Mindell is Associate Director of the Sleep Disorders Center at The Children's Hospital of Philadelphia, and Professor of Psychology at Saint Joseph's University.

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<table>
<thead>
<tr>
<th>AGE GROUP</th>
<th>SLEEP RECOMMEND</th>
<th>SLEEP RECEIVED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infants 3-11 months</td>
<td>14-15 hours</td>
<td>12.7 hours</td>
</tr>
<tr>
<td>Toddlers 1-3 years</td>
<td>12-14 hours</td>
<td>11.7 hours</td>
</tr>
<tr>
<td>Preschoolers 3-5 years</td>
<td>11-13 hours</td>
<td>10.4 hours</td>
</tr>
<tr>
<td>School-aged children 1st-5th grades</td>
<td>10-11 hours</td>
<td>09.5 hours</td>
</tr>
</tbody>
</table>
New Members

Metro Health Medical Center
Adrienne Tucker
Arlene J. Dadley

Brigham and Women’s Hospital
Atul Malhotra, MD

Pro Tech Services, Inc.
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THE SLEEP RESEARCH SOCIETY PRESENTS

A PRIMER OF SLEEP RESEARCH

FONTAINEBLEAU HILTON RESORT

FEBRUARY 4TH THRU 6TH 2005

MIAMI FLORIDIA

REGISTER TODAY!
Sleep Research Society Course: "A Primer Of Sleep Research" - February 4-6, 2005

Registration Information - Please type or print clearly

Last Name __________________________________ First Name __________________________________ Degree __________________________

Address __________________________________________________________

City ___________________________ State _______ Zip ___________ Country __________________

Phone: __________________________ Fax: __________________________

E-mail: ________________________________________________________ (E-mail address is required to receive confirmation)

Primary Specialty (please check one)

☐ Internal Medicine ☐ Otolaryngology ☐ Psychology
☐ Pulmonology ☐ Pediatrics ☐ Neurology
☐ Neurophysiology ☐ Psychiatry ☐ Other

☐ Please check here if you require special accommodations to fully participate.

Attach a written description of your needs.

Registration Category & Payment Information (please check one)

☐ SRS Member.................$400

☐ Non-member.................$550

The registration fee includes meals and breaks for the attendee.

Check ☐ Please make checks payable to SRS (U.S. funds drawn on a U.S. bank)

Credit Card ☐ Visa ☐ Master Card ☐ American Express

Card #: __________________________________________________________

Exp. Date: ________/_______/_______ Validation Code*____________

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__________________________________________________________________

Signature: ______________________________________________________ Date: ______________________

Cancellations after January 7, 2005 are subject to a 50% administrative fee. Notification must be received in writing.

*For a Visa or Master Card, the validation code is the last 3 numbers in the signature box. For an American Express, the validation code is the 4 numbers above the credit card number.

Registration is limited to 60 people. Please register early. Confirmation letters will be sent within two weeks of receipt of this registration form and payment. All participants must pre-register for the Sleep Research Society Course - A Primer Of Sleep Research; on-site registrations will not be accepted. The SRS will not be held liable if an individual purchases an airline ticket before receiving confirmation of registration for this course.

3 WAYS TO REGISTER

Use Only One Method:

Online (credit card only) at www.sleepresearchsociety.org

Fax this form (credit card payments ONLY) to: 708-492-0943

Mail this form (checks or credit card payments) to:

Meeting Department
One Westbrook Corporate Center, Suite 920
Westchester, IL 60154

Cancellations postmarked prior to January 7, 2005 are subject to a $50 administrative fee.