

SleepWatching India

Indian Society for Sleep Research (ISSR) Newsletter Issue 6

1/12/2017

From Editor's desk Pg-2	Books by ISSR Pg-14	Sleep News in Media Pg:24
ISSR Activities Pg-3	Books by ISSR Members Pg-15	Board Review Corner- Sleep Medicine Pg:25-27
ISSR-WSF Certified Physicians and Technologists Pg-4	ISSR Members in NEWS Pg-16	Sleep and Digital App's Pg: 28
Events in Region and World Pg-5	Sleep labs in India Pg: 17-18	PSG Secrets Pg: 29-30
Sleep Events in India Pg: 6-13	Sleep labs in ASEAN Region Pg: 19-20	Personal Opinions of SleepWatcher P: 31
	Board Review Corner- Sleep Technology Pg: 21-23	

Message from President ISSR



Dear Friends,

The ISSR newsletter 'SleepWatching India' issue no 6 is ready for release. This issue is unique as it is coming after our Silver Jubilee Congress". We had a great and memorable meeting in Goa last September. Those who could not attend, we missed your company. You will find brief reports of the Congress in this issue. The regular features of the Newsletter have been updated.

The issue also highlights the publications brought out by ISSR on the eve of its 25th anniversary. We also make it a point to bring out the activities of other sleep societies in India besides ISSR to our viewers.

Another significant event last month was merger of WSF and WASM in Prague during the World Sleep Congress. ISSR will be organizing an additional event i.e a Sleep Technology Advanced Course' from 2018. The first advanced course titled. 'Establishing a Sleep Laboratory' will be held on April 7, 2018 at AIIMS, New Delhi. The Newsletter also lists our other academic activities for the year 2018. Please mark your calendar.

Public slowly recognizes the importance of sleep in health. On the eve of 25 years of ISSR we have launched a slogan 'Sleep Well, Sleep on Time' to spread the message to the public.

With every issue Dr. Tripat is adding new feature to the Newsletter. I am extremely happy with its increasing popularity. I congratulate Dr. Tripat for bringing out this wonderful issue on time.

Sleep Well. Sleep on Time.

Hrudananda Mallick



Executive Committee

President

Dr. H.N. Mallick

Vice President

Dr. Manvir Bhatia

General Secretary

Dr. Kamalesh K Gulia

Treasurer

Lt Col Dr. Karuna Datta

Executive Members

Dr. Deepak Shrivastava

Dr. Manjari Tripathi

Dr. Bindu M Kutty

Dr. Ravi Gupta

Dr. Apar Jindal

Newsletter Editor

Dr. Tripat Deep Singh



ISSR celebrated the completion of 25yrs with grand celebrations in Goa by holding NSMC, NSTC and GoaSleep 2017 conference. During these events, ISSR released 3 books, which are highlighted in the section **“Books by ISSR”**.

4 Books published by ISSR members are highlighted in the section **“Books by ISSR Members”**.

In the last issue I started a new section on **“Law and Sleep Science”**. Due to excellent case submissions for this section, I decided to start a new publication titled **“Sleep Forensics”** to give due justice to this topic. The section “Law and Sleep Science” will not appear in future issues of this newsletter but as a separate publication.

One Sleep lab details are provided in the section **“Sleep Labs in India”**. The sleep lab is located in PSG Institute of Pulmonary Medicine Coimbatore under the able leadership of Dr. N. Ramakrishnan.

Sleep lab from Ramathibodi Hospital Bangkok is featured in the section **“Sleep Labs in ASEAN Region”**. Dr. Visasiri Tantrakul heads this lab.

Sleep Technologist Mr. Anees CS shares his personal experiences and opinions on Sleep Technology as a profession in the section **“Personal Opinions of SleepWatcher”**.

Dr. Deepak Srivastava has contributed 10 questions with answers for **“Board Review- Sleep Technology”** and 10 questions with answers for **“Board Review- Sleep Medicine”**. This section will be useful for those who plan to take the Board exams for Sleep Medicine and Sleep Technology.

Mr. Yuvraj Singh discusses the must know concepts about **“Recommendations for cleaning equipment in SLEEP lab”** in the section of **“PSG Secrets”**.

In this issue, the **“Sleep and Digital App’s”** section highlight about useful app for estimating Sleep Onset Latency. The highlighted app is **“Sleep Cue”**.

I hope the readers will find the information in this issue useful and interesting and I look forward for your valuable feedback to further improve/enhance the future issues.

Wishing you all a Happy and Prosperous New Year!!!

Sleep Well. Sleep on Time.

Dr. Tripat Deep Singh.

ISSR Activities

2015	2016	2017	2018
WSF Exam 26 July 2015 Online Exam No. Of Applicants=5	WSF Exam 17- July 2016, Online Exam No. Of Applicants= 6	WSF Exam 11 June 2017 AIIMS Delhi, Online Exam	WSF Exam June 2018 (Tentative) AIIMS Delhi
National Sleep Medicine Course (NSMC) 5-6 Dec 2015 Guwahati, Assam India	National Sleep Medicine Course (NSMC) 2-4 Dec 2016 Dehradun, Uttarakhand India	National Sleep Medicine Course (NSMC) 21 Sep 2017, Goa	National Sleep Medicine Course (NSMC) 22-23Sep 2018, Goa
4 th National Sleep Technology Course (NSTC) 9-10 Dec 2015 AIIMS Delhi, India	5th National Sleep Technology Course (NSTC) 29-30 Nov 2016 AIIMS Delhi, India	6th National Sleep Technology Course (NSTC) 20 Sep 2017, Goa	National Sleep Technology Course (NSTC) 21 Sep 2018, Goa
Importance of Sleep in School Children' Program	'IBSM exam for Sleep Technologist 31 July 2016 AIIMS Delhi No. Of Applicants= 3	IBSM exam for Sleep Technologist 11 June 2017 AIIMS Delhi	IBSM exam for Sleep Technologist 6 April 2018 AIIMS Delhi
Started Newsletter "SleepWatching India" and Literature Updates "Sleep Update India"		Silver Jubilee Congress of Indian Society for Sleep Research 22-23 Sep 2017, Goa Started publication "Sleep Forensics"	Advanced Sleep Technology Workshop 7 April 2018, AIIMS Delhi

For more details on each activity please visit www.issr.in

In 2011, the Indian Society for Sleep Research (ISSR) constituted a ten member Indian Board of Sleep Medicine (IBSM) headed by a Chair. World Sleep Federation (WSF) conducts "International Sleep Specialist" exam and certifying exam for Sleep Technologists through IBSM. WSF has conducted the exam for Sleep Medicine doctor's 5 times since 2012 and 2 times for sleep technologists starting in 2015. Below is the list of Doctor's and Sleep technologists from India who have qualified the WSF exam.

Sleep Medicine Doctors

2012

Dr. Tripat Deep Singh
Dr. Vikas Mittal
Dr. Teresa MPC Ferreira
Lt Col Dr. Karuna Datta
Dr. Nitika Dang

2013

Dr. Pragati Agarwal
Dr. Pramod Krishnan
Dr. Haseeb Hasan
Dr. Kripesh Sarmah
Dr. Ravi Gupta

2014

Dr. Apar Jindal
Dr. Sujit Jagtap
Dr. Ghulam Hussain

2015

Dr. Sourav Das
Dr. Deepak Menon
Dr. Rajanish Sharma
Dr. Vivekananda Lahan
Dr. Hardeep Kumar

2016

Dr. Alkesh Kumar Khurana
Dr. Abdul Muneim
Dr. Sapna Erat Sreedharan
Dr. Kandraju Satish

2017

Dr. Suresh Babu P
Dr. Ajay Asranna
Dr. Manu Chopra

Sleep Technologists

2015 (Conducted by ISSR-WSF)

Mr. John Mohd Nengroo
Ms. Anubha Sharma
Mr. Utsah Mahamallick
Mr. Basharat Ahmad
Mr. Rahul Rawat
Mr. Adil Ahmad
Mr. Bharat Shah
Mr. Utsav Bansal
Mr. Yuvraj Kumar

2016 (Conducted by IBSM)

Dr. Saumy Johnson
Mr. Awnish Kunwar Singh
Mr. Jaibeer Kumar

2017

Mr. Anees C.A.
Mr. Santosh J.
Jaguste
Mr. Chand B.
Dudekula
Ms. Divya Coni
Kumar
Mr. Thaheer Shaik

To verify the names of Doctors who have passed the WSF Exam, please visit World Sleep Society website:

<http://worldsleepsociety.org/programs/examination/recipients-of-sleep-specialist-certification>

3 rd Clinical Update Sleep International Conference London, UK	23 Feb 2018
Sleep Medicine Trends, Austin, Texas US www.aasmnet.org	23 Feb 2018
2 nd Congress of ASIAN Society of Sleep Medicine Seoul, Korea https://www.assm2018.com	22-25 March 2018
9 th International Surgical Sleep Society Meeting Munich, Germany https://www.issm-munich.com	5-7 April 2018
Advanced Workshop in Sleep Technology AIIMS Delhi India www.issr.in	7 April 2018
5 th International Pediatric Sleep Association Congress Paris, France http://www.pedsleep.org/	27-29 April 2018
ATS San Diego, California http://conference.thoracic.org/	18-23 May 2018
APSS Sleep Baltimore, Maryland US http://www.sleepresearchsociety.org/sleepmeeting.aspx	2-6 June 2018
2nd Edmund Tay Mai Hiong Distinguished Speaker Programme - Sleep Bruxism and Apnea: An Association? Evening Lecture Singapore http://www.dentistry.nus.edu.sg/Events/cde.html	8-9 July 2018
9 th ASRS Congress Sapporo, Japan	11-12 July 2018
Singapore Sleep Symposium, SGH Hospital Singapore	1-3 Aug 2018
National Sleep Technology Course Goa, India www.issr.in	21 Sep 2018
National Sleep Medicine Course Goa, India www.issr.in	22-23 Sep 2018
ERS International Congress Paris, France https://www.ersnet.org/congress-and-events/ers-international-congress	15-19 Sep 2018
ESRS Basel, Switzerland http://www.esrs.eu/conferences-events/esrs-congresses-events.html	25-28 Sep 2018
Chest 2018 San Antonio, Texas http://www.chestnet.org/Education/CHEST-Meetings/CHEST-Meetings	6-10 Oct 2018
Sleep Downunder Brisbane, Australia https://www.sleep.org.au/conferences/future-events	18-20 Oct 2018
23 rd Congress of APSR Taipei, Taiwan http://www.apsresp.org/congress/2018.html	29 Nov-2 nd Dec 2018



A note of thanks to all those who have given so much to our country

Dear National Sleep Medicine Course Faculty:

Our customary note of gratitude shows up soon after my return home. This year it happened exactly four weeks later only due to my long passage through Europe. While I received many emails from faculty members, I was unable to acknowledge receipt due to daily travels in remote areas. Time has not faded away my gratitude nonetheless.

NSMC2017 was unique as it was conducted by Association of American Physicians of Indian Origin-Sleep (AAPIOS) faculty. Secondly, NSMC2017 was held coincidental with 25th Anniversary of Indian Society of Sleep Research underscoring the continued importance of basic science education in the field of sleep medicine.

At the outset, I would like to gratefully acknowledge the assistance offered by AAPIOS President Umakanth Khatwa, MD and immediate past-president Anuj Chandra, MD in the success of NSMC2017.

Dr. V. Mohan Kumar while discussing the sleep physiology simplified the intricate principles of sleep basic science in easy to understand material followed by Dr. H N Mallick's excellent coverage of Insight into neural substrate for sleep. These two discourses set the stage for the academic tones of subsequent speakers. I am personally very obliged to both AAPIOS lifetime achievement award winner, thought-leaders and guiding lights of ISSR.

The special session on Yoga Nidra rendered by Dr. Stephen Parker was a treat to our audience as it weaves the scientific threads in to the spiritual dimensions of sleep. Of note is the fact that Dr. Parker has a practice in Minnesota, USA yet he has been spending substantial time every year, in a Rishikesh ashram teaching and researching Yoga Nidra. The ISSR and NSMC course directors along with NSMC organizers are thankful to Dr. Parker's participation and involvement in NSMC2017.

We are indebted to Dr. Jean Jacques Askenasy, an astute scientist of highest order not only for speaking at the NSMC on genetics of insomnia but attending the entire program of GoaSleep2017; the 25th anniversary of ISSR.

Dr. Manvir Bhatia, the 2017 recipient of AAPIOS lifetime achievement award spoke on Narcolepsy and its management. As we all know she is an authority of the subject and was able to do justice to the topic and audience needs. We thank Dr. Bhatia profusely for spending her invaluable time in promoting NSMC and sleep medicine in India.

Dr. Nanduri Prabhakar, University of Chicago professor and a renowned authority on the oxygen sensing mechanisms and physiological consequences of hypoxia was perhaps the best speaker on the corresponding subject of Sleep disordered breathing: Pathophysiology. The ISSR and NSMC directors are grateful for his presence in GoaSleep2017.



Dr. Robert Thomas, Harvard Medical School professor, delivered a very stimulating lecture on Multidimensional phenotypes of sleep apnea-Pathophysiology and treatment. Dr. Thomas is a dedicated supporter of sleep medicine in India. The ISSR and NSMC directors are thankful for his presence and active participation during the NSMC.

Dr. Kumar Budur, a pillar of the NSMC returned to deliver his lecture on Circadian rhythm disorders. Due to personal obligations he made the twenty thousand mile trip only for one day yet his appearance made all the difference. His numerous contributions are recognized gratefully by the ISSR and NSMC directors.

Dr. Preeti Devnani, a board certified sleep specialist from Chicago, USA has been a core faculty in NSMC. Her involvement in sleep medicine education in India is commendable. Dr. Devnani gave an excellent lecture on the management of OSA. We are very thankful for her continued support of NSMC and her leadership in the ISSR.

Dr. Ramadevi Gaurineni, Feinberg School of Medicine faculty deliberated on parasomnias. Dr. Gaurineni is a supporter of the NSMC and is continuing her work in promotion of sleep medicine in India. NSMC directors are thankful to her for her participation and continued presence.



Sleep Events in India

National Sleep Medicine Course 2017

Dr. Saraswathi Mupanna, an executive board member of AAPIOS, from Boston USA delivered an informative lecture on Obesity epidemic and sleep. We thank Dr. Mupanna for her presence despite a family emergency.

The NSMC directors truly appreciate and acknowledge the participation of Dr. Mythili Kalladka; DDS to add sleep dentistry to the NSMC curriculum. We must acknowledge the participation and exemplary teamwork in NSTC of Drs. Ravi Gupta, Kripesh Sarmah, Nasreen Akhtar, Ravindra, Arun, Rahul and Pankaj Arora. Thank you so much!

The formidable hard work and organization of NSTC 2017 and NSMC 2017 resulted in its success only due to keen efforts of Dr. Bindu Kutty, Dr. Karuna Dutta and Dr. Kamallesh Gulia.

We are also very grateful to the entire faculty and staff whose hard work in the background supported the seamless operations during NSTC, NSMC and ISSR 25th anniversary events. Amongst others, Drs Khatwa and Chandra could not make it to Goa due to unforeseen circumstances and were missed while Dr. Tripat Singh had major air-traffic delays leading to late arrival.

I would like to close this by offering our kindest homage to Dr. Mallick's father-in law, who passed away as Dr. Mallick was boarding the plane in Delhi for Goasleep2017. Dr. Mallick only announced the news of his demise on the last day of the conference! When one hears such stories of courage and call of duty, one knows that the future of the country is in secure hands!

Dr. Mallick and I are looking forward to seeing you again in 2018.

Respectfully Submitted
Deepak Shrivastava, MD
AAPIOS Board of trustees

Feedback from NSMC 2017 Participants

Dear Hrudanandaji,

Let me add my voice to the harmonious chorus of congratulations on an excellent conference. The friendliness and interdisciplinary tone of the meeting persuaded me to take out a life membership. I hope that this can be a beginning for a fruitful and friendly collaboration between yoga and sleep science going forward.

Stephen Parker
Licensed Psychologist
Certified Yoga Therapist (C-IAYT)
Adjunct Assistant School Professor,
Saint Mary's University of Minnesota

We returned safe from India. Just want to express our sincere thanks for giving us the opportunity to participate in the wonderful meeting and for your splendid hospitality at Goa.

Prabhakar

Dear friends, Mohan and Hrudananda,

It was a great honor for me to participate to the Silver Jubilee of ISSR. I intend to present a report to our Dean at the Tel-Aviv University, and to send you his reaction, in order to strengthen the friendship established during 25 years, between the scientists of our two countries, for the wellbeing of the generations to come.

With my sincere sentiments,

Prof. Jean Askenasy

Dear All,

It was my pleasure and honor to be part of such an important event! Although I had to leave early, it sounds like the rest of the meeting was also phenomenal; and I'm not surprised given the proven track-record of the organizers and speakers. As Preeti, Kamlesh and others mentioned, can't wait to celebrate 50 years of ISSR!

Best regards,

Kumar.

I really enjoyed participating in the conference and feel privileged to have met all of you. It is nice to see so many wonderful individuals committed to advancing sleep medicine in India.

Thanks, Rama

Ramadevi Gourineni

Sleep Events in India

National Sleep Medicine Course 2017

Sleep Events in India

GOASleep 2017, ISSR Silver Jubilee Conference



Indian Society for Sleep Research (ISSR) is celebrating 25 eventful years of its existence in 2017. As part of the silver jubilee celebrations, a four day scientific feast was organized from 20th to 23rd September 2017 in Goa. The National Sleep Technology Course (NSTC) was held on 20th, the National Sleep Medicine Course (NSMC) on 21st and the International Conference on Sleep Medicine and Research was held Goa on 22nd and 23rd September 2017.

The events brought together leading scientists and clinicians in the area of sleep medicine and research from India and abroad and enthusiastic student participation as well. Goasleep2017 was rich in both the quality and quantity of scientific content. The courses were packed with over 25 presentations covering theory and practice and the conference featured six plenary lectures, 12 parallel symposia, one special silver jubilee symposium, poster sessions, sponsor stalls and even an MCQ quiz 'Sleepquest' on sleep medicine for the younger participants. The events were so much in demand that registrations had to be closed almost two months in advance allowing only for a few conditional spot registrations.

There was, of course, plenty of time set for celebrations too. There was a Goan cultural event and inaugural dinner and the much awaited silver jubilee functions and dinner. As a tribute to stalwarts who have contributed much to ISSR, two books were released honouring the contributions of Dr. V Mohan Kumar from India (the founder of ISSR) and Dr. Deepak Shrivastava from USA (who has shouldered significant responsibility for the growth and development of ISSR). The other dignitaries who were honoured were Dr. Ken-ichi Honma from Japan, and Dr. Jean Askenasy from Israel. Fittingly, their spouses were also honoured in recognition of their contributions.



Sleep Events in India

GOASleep 2017, ISSR Silver Jubilee Conference

There were many awards including the Budur Krishna Murthy Travel Awards for young life ISSR members, Budur Krishna Murthy Young Investigator Award for the best poster (including a cash prize of Rs 10,000), Budur Krishna Murthy Silver Jubilee Conference Award (cash prize of Rs 5000 each) for the top ten ranks in the Sleepquest MCQ exam and finally the NIMHANS Internship Award for the top two ranks in Sleepquest. Another milestone was the launch of the international journal 'Sleep and Vigilance'. The journal (from Springer Nature) published the symposium and accepted poster abstracts online on the first day of the conference.

Overall, Goasleep2017 was a memorable event, providing scientific insights, historical perspectives and clearly indicating that there is much to look forward in the years ahead for sleep medicine and research in India.



Sleep Events in India

National Symposium on Sleep, Lucknow



One day **“National Symposium cum Workshop”** on sleep was organized on **17th June 2017** by Department of Physiology & Department of Medicine, Integral Institute of Medical Sciences & Research, Integral University Lucknow. This was first of its kind scientific event on Sleep Medicine ever organized in Uttar Pradesh.

The Symposium was inaugurated by Chief Guest Prof. S W Akhtar, Vice Chancellor of the Integral University with guest of honor, Dr B P Singh a renowned chest physician & sleep specialist of Lucknow & special guest Dr Tripat Deep Singh, international sleep expert from Singapore. Prof. Seema Singh, the chairperson of the symposium delivered a welcome speech during inauguration. The symposium was focused on pathophysiology, newer diagnostic & therapeutic modalities related to the sleep disorders.

Our first speaker, Dr Tripat Deep Singh elaborately delivered a talk in a very vibrant manner on “Newer Diagnostic Modalities for the study of sleep”. Prof. Narsingh Verma from KGMU, Lucknow further clarified intricacies of chronobiology of Sleep. Both the lectures were followed by very interactive question answer session.

There were further two sessions by speakers Dr B P Singh, Dr Eshan Patel, Dr N R Gupta to cover the overview of sleep disorder with special emphasis on OSA & sleep & metabolic syndrome.

Finally, Prof. Jyoti Divedi & Dr Adarsh Tripathi delivered talk to cover non Pharmacological & Pharmacological therapy of sleep.

A hands on workshop covering various aspects of how to use CPAP, BIPAP & Polysomnography was beautifully conducted by Dr Prabhat Sahai & Dr Charu Singh. UG & PG students also participated in poster & essay competition with the coordination of Dr Arvind Kumar & Dr Hom Nath. Dr N R Gupta, organizing secretary of the symposium delivered vote of thanks.



Sleep Events in India

International Conference on Sleep Disorders, Jalandhar



SEAASM conducted its 3rd conference at Jalandhar on 27-28-29th Oct 2017

Workshops, conducted on 27th October, included Sleep technician training for polysomnography, allergy in respiratory diagnostics and dental sleep workshop. It was inaugurated by the respected “Dr Raj Bahadur”- Vice Chancellor, Baba Farid University of Health Sciences, Faridkot, Punjab.

The conference which was conducted on 28th & 29th September was inaugurated by the esteemed “Sh. V P Singh Badnore” – His Excellency, the Governor of Punjab. He took keen interest in burden of sleep disorders and advocated sleep specialists to search avenues of integration with traditional science (yoga, ayurveda) with medical treatment to manage sleep disorders in India.

This academic feast had witnessed highly qualified delegates, experts in the field of Sleep Medicine, as speakers from across the globe (Sri Lanka, U.K, U.S.A, Australia etc)

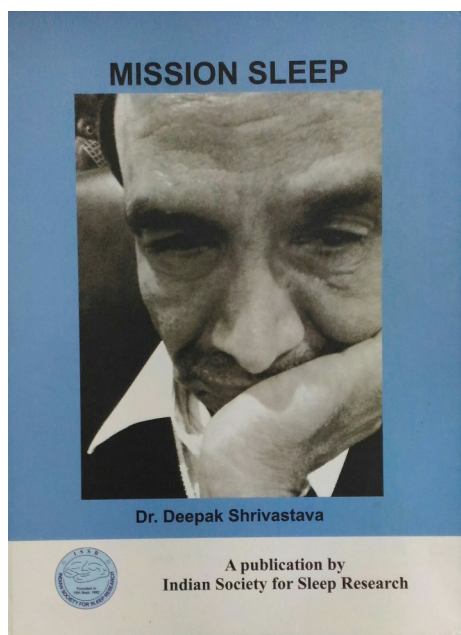
We were also honoured to have amongst us, the renowned sleep expert, Dr David Cunningham (Director, Melbourne Sleep Disorders Centre,) who presented an excellent talk on

“Translating circadian biology of Health & Disease – Role of Chronotherapy” and “Trends in sleep medicine”. He is a passionate advocate of sleep health and actively promotes education, research, and advocacy in sleep medicine.

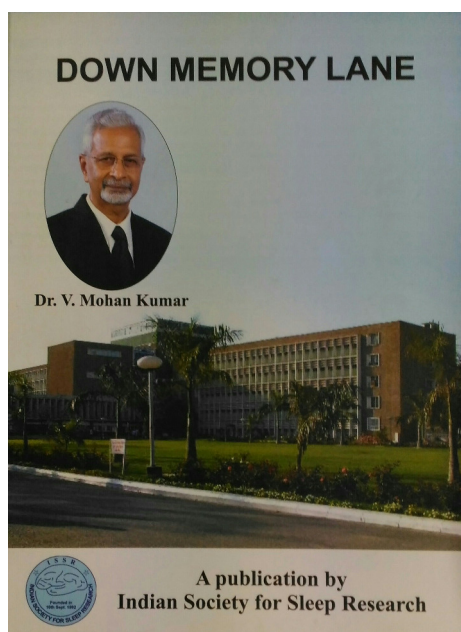
SEAASM 2017 was a platform for excellent poster presentations on sleep medicine. Many budding Post-graduate students and doctors presented their posters and best research award was presented to the highly deserving, Dr Oommen Nainan, who conducted a study in “PREDICTION OF SLEEP DISORDERED BREATHING USING DENTAL ARCH MORPHOLOGY AS A GUIDE” from Mumbai, India.

SEAASM had the privilege to host “Sardar Navjot Singh Siddhu (renowned former Cricket player, Minister of Local Government, Tourism, Cultural Affairs, Archives and Museums of the State of Punjab). Moved by the content of the conference, he generously contributed monetary support to our venture towards promoting the awareness of Sleep disorders in India. He was also declared as the brand ambassador for SEAASM.

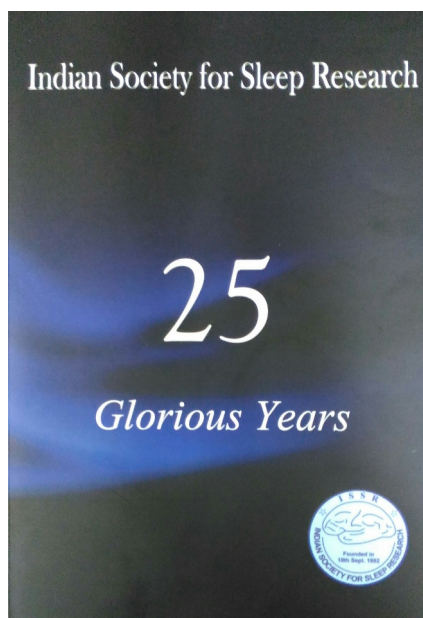
The conference gathered huge media coverage, which helped us in creating awareness about sleep disorders amongst the local population.



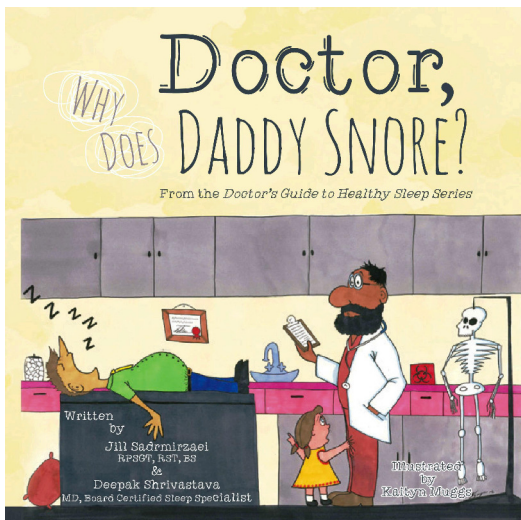
The book is ISSR tribute to Dr. Deepak Shrivastava's contributions to the field of Sleep Medicine and his active role in the development of Sleep Medicine in India. The book was released during the ISSR 25yr celebration Conference in Goa in SEP 2017.



The book is ISSR tribute to DR. V. Mohan Kumar for his contributions to the field of Sleep Science and its development in India. The book was released during the ISSR 25yr celebration Conference in Goa in Sep 2017.

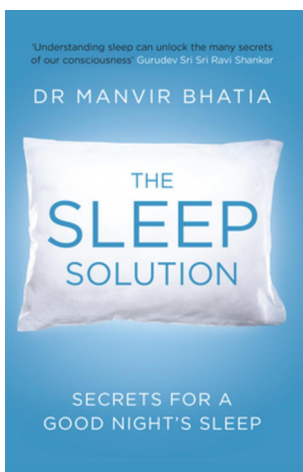


This book is a compilation of the ISSR achievements in 25yrs since its inception. The book was released during the ISSR 25yr celebration Conference in Goa in Sep 2017.



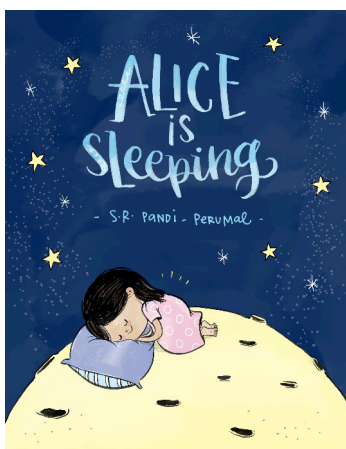
Author: Dr. Deepak Shrivastava

The Book offers fun, interactive education about snoring and its health consequences for children and their parents.



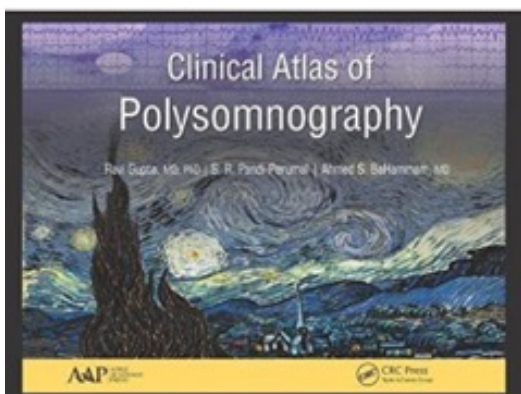
Author: Dr. Manvir Bhatia

This book is for general public to understand about healthy Sleep habits and Sleep Disorders.



Author: S. R. Pandi-Perumal

This is a children story book for age group 4-8yrs. This book tries to increase the awareness of how Sleep and health are closely related in a simple pictogram way which children can readily understand.



Authors: Dr. Ravi Gupta, S. R. Pandi-Perumal, Ahmed S Bahammam

Written for sleep technologists, Clinical Atlas of Polysomnography provides basic information regarding normal sleep, sleep disorders, and electrophysiology that is outside of the scope of the AASM manual

Extraordinary Contribution to Sleep Medicine in India Award-2017 by Association of American Physicians of Indian Origin-Sleep

Association of American Physicians of Indian Origin-Sleep every year gives award for “Extraordinary Contribution to Sleep Medicine in India”. This year Dr. Manvir Bhatia was the recipient of this award. In the past Dr. H.N.Mallick, Dr. V. Mohan Kumar and Dr. Bindu M Kutty received this award.



ISSR Members in News



When was the Sleep lab started?

The Sleep lab was started in PSG Institute of Pulmonary Medicine Coimbatore in the year of 2004.

How many beds does the Sleep lab have for level 1 sleep studies?

The lab have three beds for Level 1 Sleep study.

What types of diagnostic studies are done in your Sleep center?

We do Diagnostic PSG, Titration PSG, MSLT, MWT and Nocturnal hypoventilation studies.

What is the average waiting time of your sleep lab?

Our sleep lab average waiting time is 1 week.

What are the educational/training opportunities available for doctors and technicians at your sleep center?

We provide opportunities for doing observership and 6 months certificate course for Sleep technicians.

How many sleep techs are employed at the sleep center? What are their daytime and night time duties?

We have employed 2 Sleep techs. 1 sleep tech is working during night and the 2nd sleep tech in daytime doing scoring.

How many level 1, level 3 studies, PAP titration studies, MSLT and MWT are done in one year?

We do around 150 level 1 studies, 55 level 3 studies, 200 PAP Titration studies, 5 MSLT and 2 MWT studies per year.

What are the contact details of the sleep center?

SLEEP DISORDERS CENTRE
PSG Institute of Pulmonary Medicine
PSG Hospitals
Avinashi Road, Peelamedu
Coimbatore – 641 004.

Tel: 0422-4345260 / 4345264

Mob: 98947 59917

E-mail ID:

pulmonaryinstitute@psgimsr.ac.in

Website:

http://www.psghospitals.com/dept_pulmonology.html



Sleep Labs in India

Sleep Lab in Ramathibodi Hospital Bangkok Thailand



When was the sleep lab started?

Our sleep lab was established in 1994 starting with one patient examination per night. It was later moved to Sirikiti building in 2002 and then to Somdech Phra Debbharatana medical center in 2011.

What is the waiting time in your sleep lab?

It takes approximately 3-10 months to the scheduled date. However, we have a cancellation list for some urgent patients whom we can call early on if someone canceled their schedule.

Are you doing any home sleep tests? If yes, how many per year?

Yes, we do. We have type 3, 4 PSG and WatchPAT done for home sleep testing in some patients.

Furthermore, because of long waiting time, we perform type 3 study in order to help diagnose more patients at home setting.

How many beds does the sleep lab have for level 1 sleep study?

There are 8 beds for 6 adults and 2 children in the lab.

What type of diagnostic studies are done in the sleep center?

Our sleep lab have done all types of full night PSG (1-4), split night PSG, full night titration studies, MSLT and MWT. We also have WatchPAT (as a peripheral arterial tonometry) and Actigraphy.

Sleep Labs in ASEAN

What are the educational/training opportunities available for doctors and technicians at your sleep center, especially for candidates from other countries?

We have one year certificate fellowship program for training physicians to be sleep specialists. For technicians, we run a short course one month basic teaching program for sleep technologist candidates. Moreover, there is a 2 years master degree of science program in sleep medicine opened for international students.

How many sleep techs are employed at the sleep center? What are daytime and nighttime duties?

There are 7 full-time and 3 part-time sleep technicians in our sleep lab. Full-time technician's duty during the day includes taking care of outpatient clinic (educating, trouble shooting), reading sleep studies, and doing database tasks. All of them performed sleep study during the night.

How many level 1, level 3 studies, PAP titration studies, MSLT and MWT are done in one year?

Approximately 1,800 studies were performed in one year. Most of them were split night studies.

What are the contact details of your sleep center-address, phone number, email and website?

You can contact us at Sleep Disorder Center, 7th floor Somdech Phra Debbharatana Medical Center, Ramathibodi hospital, Rama 6 road, Thungphayathai, Rajathewi, Bangkok 10400. Tel: +66(0)2200-3768, FAX +66(0)2200-3761. Our email address is sleepcente.rama@gmail.com.

For website and facebook
www.med.mahidol.ac.th/sleep_disorders
www.facebook.com/sleepcenter.com



Dr. Deepak Shrivastava MD, FAASM, FACP,
FCCP, RPSGT
UC Davis School of Medicine, California,
USA

Contact Details:

Deepak Shrivastava, MD
500 West Hospital Road
French Camp, CA 95231
209-468-6624 (Office)
209-986-3663 (Cellular), Email: dshrivastava@comcast.net

1. At what age the K complex appears on human electroencephalogram?

- a. Two months
- b. Five months
- c. Ten months
- d. Two years

2. Which of the following statement defines the major difference between AC and DC amplifiers?

- a. DC amplifiers have a greater sensitivity range than an AC amplifier
- b. AC amplifiers have a low frequency filter, while DC amplifiers do not
- c. AC amplifiers have a high frequency filter, while a DC amplifier does not
- d. DC amplifiers have a polarity switch, while AC amplifiers do not

3. The technician observes muscle artifact in a single EEG channel that shares a common reference with other channels. The appropriate response is:

- a. Re-reference the channel showing the artifact to a back-up reference electrode
- b. Re-reference the channel showing artifact by changing the input signal derivation to a back-up exploring electrode
- c. Eliminate the artifact by double-referencing the input signal derivation
- d. Eliminate the artifact by reducing the high frequency filter to 15Hz

4. What factors come into play when deciding to enter the patient room to correct artifacts?

- a. Importance of electrode channel in scoring
- b. Ease at which patient falls asleep
- c. Skill at fixing problem without waking patient
- d. All of the above

5. What is the recommended high frequency filter (HFF) for Oronasal Thermal Flow?

- a. 0 Hz
- b. 15 Hz
- c. 35 Hz
- d. 100 Hz

6. What is the minimum voltage increase to score a Limb Movement?

- a. 8 μ V
- b. 50 - 60 μ V
- c. 1 μ V
- d. 100 μ V

Board Review Corner- Sleep Technology

7. Which of the following is characteristic of sleep during the second trimester of pregnancy?

- a.Total sleep time (TST) decreases to pre-pregnancy levels
- b.Slow-wave sleep (SWS) decreases
- c.REM sleep decreases
- d.Shortness of breath decreases

8. Twitching movements of the fingers, toes, and mouth that may occur during stage W, non-REM, and REM sleep are known as-

- a. Bruxism
- b. Excessive fragmentary myoclonus(EFM)
- c. REM sleep behavior disorder (RBD)
- d. Rhythmic movement disorder(RMD)

9. Which of the following is a reason to start a CPAP study higher than 4 cm?

- a.The patient is returning to lab for re-titration.
- b.The patient had a high apnea-hypopnea index during the diagnostic study.
- c.The patient has an elevated body mass index.
- d.Both A and C are correct.

10.What causes EKG artifacts in the EEG and EOG channels?

- a.Improper EKG patch placement
- b.M1 and M2 being placed directly on the auricular branch of the posterior auricular artery
- c.Incorrect filter settings on the EEG and EOG channels
- d.None of the above

1. b

Rationale: K complex appears at 5 month of age while sleep spindles occur at two months of age.

Fisch and Spehlmann's EEG Primer, 3rd ed Amsterdam: Elsevier; 1999, Atlas of Pediatric Electroencephalography. 2nd ed. Philadelphia: Lippincott-Raven;1999

2. b

Rationale: Clinical Neurophysiology of Sleep Disorders, Elsevier, 2005

3.b

Rationale: Essentials of Polysomnography: a training guide and reference for sleep technicians. 2nd ed. Jones & Bartlett Learning LLC 2015

4. d

Rationale:
www.carolinasleepsociety.org/documents/presentations/2014_may/2014_may_ruth_psg_artifact_review.pdf

5. b

Rationale:
https://go.aastweb.org/Resources/FocusGroups/Primer_ProTech.pdf

6. a

Rationale:
https://go.aastweb.org/Resources/PDF/A2Zzz18_2/TechnicalCorner.pdf

7. a

Total sleep time (TST) decreases to pre-pregnancy levels. Slow-wave sleep (SWS) is normal during the second trimester of pregnancy. REM sleep decreases during the third, not the second, trimester of pregnancy. Shortness of breath increases, not decreases, during the second trimester of pregnancy.

8. b

9. d

Rationale:
<http://www.aasmnet.org/Resources/clinicalguidelines/040210.pdf>

10. b

Rationale:
https://go.aastweb.org/Resources/PDF/A2Zzz17_4/Artifact.pdf

Sleep News in Media

Study planned on sleep patterns of Indian urban poor

<http://www.thehindu.com/news/national/tamil-nadu/study-planned-on-sleep-patterns-of-urban-poor/article19984243.ece>

Bad Sleep may be evolutionary survival tool!!

<https://www.theguardian.com/science/2017/jul/12/bad-sleep-evolution-survival>

New research identifies a group of neurons that can help us stay awake when it matters!

<https://www.sciencedaily.com/releases/2017/06/170608123641.htm>

According to a new study the secret of a good night's sleep is having something worth getting out of bed for the next day.

<http://www.telegraph.co.uk/science/2017/07/10/secret-good-nights-sleep-has-finally-found-scientists/>

FITBIT is developing devices for sleep apnea as dominance in fitness tracking wanes

<https://www.cnbc.com/2017/06/20/fitbit-is-going-after-sleep-apnea-to-expand-beyond-fitness-tracking.html>

The number of tests carried out by the NHS to diagnose people with sleep disorders across England has doubled in the past decade.

<http://www.bbc.com/news/uk-england-40122979>

Carrie Fischer's death is a grim reminder of the dangers of Sleep Apnea

<https://aasm.org/carrie-fishers-death-is-a-grim-reminder-of-the-dangers-of-sleep-apnea/>

Jawbone's demise a case of death by overfunding in Silicon valley

<http://www.thehindu.com/sci-tech/technology/jawbones-demise-a-case-of-death-by-overfunding-in-silicon-valley/article19249623.ece>

Evening screen time can sabotage sleep!

<https://www.sciencenewsforstudents.org/article/evening-screen-time-can-sabotage-sleep>

You don't need brain to sleep. Just ask Jellyfish!!

<http://www.sciencemag.org/news/2017/09/you-don-t-need-brain-sleep-just-ask-jellyfish>

1. A 15-year-old male is evaluated regarding staying up at night and working on computer or texting. He gets up at 7 AM to go to school. He sleeps in until 11 AM on the weekends. He reports tiredness and fatigue during the daytime. Which of the following is correct?

- a. Most teens do get enough sleep
- b. Extra sleep on the weekends makes up for the lack of sleep during the week
- c. Melatonin changes during puberty result in a phase delay
- d. Daytime sleepiness does not necessarily mean insufficient total sleep time

2. A 51-year-old obese African American man, with a BMI 34.11kg/m² and severe OSA developed sleep walking three to four nights per week. During the episodes, he eats unusual foods and makes bizarre concoctions. He is compliant with CPAP therapy. He has recently gained about 20lbs weight. He has history of anxiety for which he is on Xanax, and depression controlled with Quetiapine. In addition, he drinks alcohol nightly. What is his specific diagnosis?

- a. Malingering
- b. Obstructive sleep apnea
- c. Nocturnal sleep related eating disorder
- d. Somnambulism

3. A 40-year-old woman reports a few month history of “exploding” in her head while she falls asleep or shortly afterwards. There is a loud noise but no associated pain. There are occasional flashing lights. The episodes occur about once every week. She has a history of anxiety and depression. What is the treatment of choice?

- a. Topiramate
- b. Zolpidem
- c. Clomipramine
- d. Duloxetine

4. A 66-year-old man began to have “sleep attacks” for last 8 months. He falls asleep several times a day, even when engaged in activities. He is obese and has gained more weight in last two years. What is the most likely diagnosis?

- a. Narcolepsy
- b. Creutzfeldt-Jakob disease
- c. Obesity hypoventilation syndrome
- d. Complex partial seizures

5. Which of the following medication may cause nightmares?

- a. Methylphenidate
- b. Efavirenz
- c. AZT
- d. Tylenol

6. An 80-year-old man complains of insomnia. He wakes up a few times every night and is unable to return to sleep. He also wakes up earlier in the morning compared to two years ago. He suffers with nocturia. He feels rested in the morning and is not sleepy during the day. He denies snoring or involuntary leg movements. He has no other medical problems. What is the next appropriate step in his evaluation?

- a. Nocturnal polysomnography
- b. Zolpidem at bedtime
- c. Diphenhydramine
- d. Reassurance

7. Which of the following is the most important source of information when considering surgical treatment of obstructive sleep apnea?

- a. Nocturnal polysomnography
- b. History and physical examination
- c. Radiographic studies
- d. Comorbid conditions

8. Which of the following is not a characteristic of narcolepsy?

- a. Excessive daytime sleepiness, sleep paralysis, cataplexy, and hypnagogic hallucinations
- b. Hypnagogic hallucinations occur at the beginning of the sleep cycle
- c. Voluntary muscle paralysis often involves extraocular muscles
- d. Decreased levels of orexin associated with DR2 allele

9. Which of the following is correct about chronic insomnia in the elderly?

- a. It is normal in the elderly and does not affect well-being
- b. It is a risk factor for decline in cognitive function in elderly males
- c. It does not increase nursing home placement
- d. It does not increase the risk of falls

10. Fatal familial insomnia (FFI) may present with all characteristics, except which one of the following?

- a. Neuronal loss in the inferior olivary nuclei
- b. Spongiform pathology
- c. Immunostaining showing proteinase-K-resistant prion protein
- d. Anterior ventral and dorsal-medial thalamic nuclei neuronal loss and reactive gliosis

11. Which of the following disorders is most commonly found in the elderly?

- a. Nocturnal myoclonus
- b. Somnambulism
- c. Obstructive sleep apnea
- d. Narcolepsy

Answers:

1. d

Rationale: Teenagers need about 9 hours of sleep but usually get 7 hours. Extra sleep on weekend does not make up for lost sleep time during the week.

Melatonin changes during adolescence result in phase delay.

American Academy of Neurology 2017 (AAN) abstract S14.006

2. c

Rationale: Nocturnal sleep-related eating disorder is a type of Somnambulism. Patients can develop significant weight gain and diabetes type II. Patients are not aware of their behavior. In contrast, patients with nocturnal eating syndrome are aware of their behavior. Quetiapine, an atypical antipsychotic medication has been associated with induction of sleep related eating disorder like behavior.

J Med Case Reports. 2012;6(380), Sleep 2006, 29:876-877

3. c

Rationale: Exploding head syndrome is a rare parasomnia that presents with perception of loud explosion noise in the head without any associated pain. It is associated with stress and fatigue and is common in middle-aged women. There are no known serious consequences. Clomipramine at time may be of benefit.

Sleep Med. 2008; 9:589, Sleep. 1991;14:263-266

4. b

Rationale: This patient likely has OSA with resultant obesity hypoventilation syndrome. About 90% patients with OHS also have OSA. Smoking increases the risk. There is often associated pulmonary hypertension. Treatment includes weight loss and CPAP therapy.

Chest. 2007; 132(4):1322-36, Sleep Med Clin. 2014;9(3):341-347

5.b

Rationale: Efavirenz is one of the NNRTIs used to treat HIV that is known to cause bad dreams and night terrors. This side effect appears within first few days of taking the medication and disappears with continued use. In addition, amongst NNRTIs Efavirenz can also cause CNS effects like insomnia, vivid dreaming, dizziness, confusion and hallucinations.

Ann Intern Med. 2009;151(3):149-156, <https://aidsinfo.nih.gov/guidelines/html/1/adult-and-adolescent-treatment-guidelines/0>

6. d

Rationale: There is no evidence of serious organic disease. Sleep pattern changes with age including nocturnal awakening, decreased sleep time, and less efficient sleep. Ageing is associated with increased sleep latency, decreased deep sleep, and decreased rapid eye movement sleep.

Psychiatr Clin North Am. 2006. 29(4):1077-1093, Curr Med Res Opin. 2006. 22(9):1633-1642

7.b

Rationale: A history of symptoms consistent with OSA, an inability to tolerate nasal continuous positive pressure (CPAP) and the identification of a surgically correctable anatomic abnormality are important aspects of the patient history and physical examination and are helpful in deciding if surgical intervention is the best treatment for a patient with OSA.

SLEEP. 2010;33(10):1408-1413, J Clin Sleep Med 2009;5(3):263-276

8.c

Rationale: Narcolepsy is characterized by excessive daytime sleepiness, cataplexy, and sleep paralysis and hypnologic hallucinations. It affects male and females equally, and is associated with DR2 allele. Narcolepsy usually presents between the ages of 15 and 30. Patients with Narcolepsy sleep more frequently but the total amount of sleep is the same in narcoleptic and healthy adults.

The International Classification of Sleep Disorders-Revised Diagnostic and coding Manual. 3rd ed. AASM 2014, Neurosci. 2012. 32(36):12305-11

9.b

Rationale: Chronic insomnia is a risk factor for the cognitive decline in patients 65 and older, falls, nursing home placement, dependency on sleep medications and chronic fatigue.

J Clin Sleep Med. 2008; 4(5):487-504, Am J Manag Care. 2006;12:S230-245

10. d

Rationale: Many prion diseases cause spongiform pathology but Fatal familial insomnia (FFI). The neuronal loss and gliosis is found in thalamus in these cases. It is an autosomal dominant disease with a course of 3 years. The onset occurs between ages of 30 to 40. Early symptoms are ataxia, autonomic dysfunction and panic attack with mental status changes may be seen

Fatal Familial Insomnia: Inherited Prion Disease, Sleep and Thalamus. New York, NY: Raven press;1994, Ann Neurol.

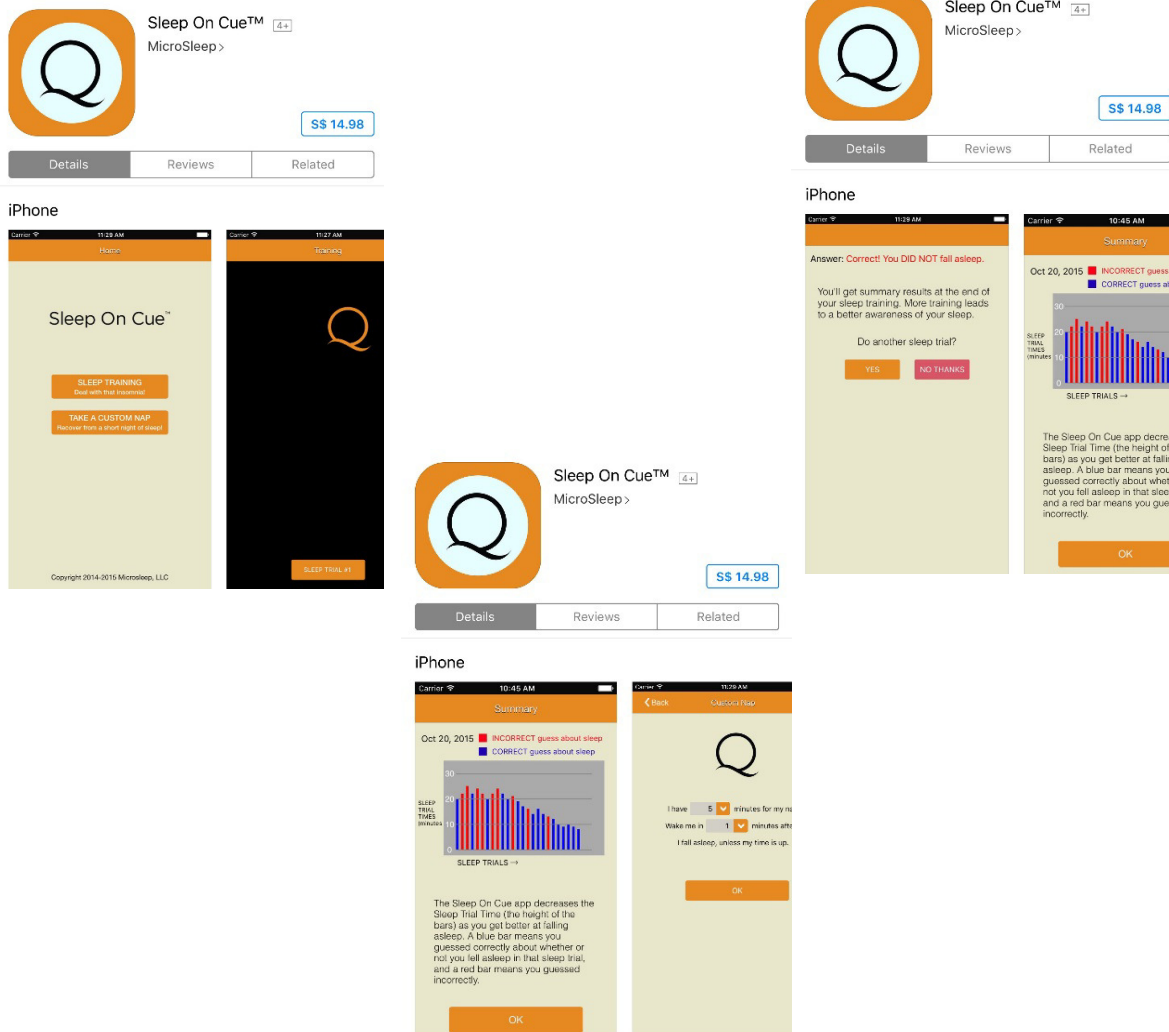
11.c

SLEEP. 1991; 14(6):486-95, SLEEP. 2000; 23(2):165-70

“Sleep on Cue” app for iPhone

Sleep On Cue is a viable option for estimating sleep onset and may be used to administer Intensive Sleep Retraining or facilitate power naps in the home environment. Twelve young adults underwent polysomnography recording while simultaneously using Sleep On Cue. Participants completed as many sleep-onset trials as possible within a 2-h period following their normal bedtime. On each trial, participants were awoken by the app following behavioural sleep onset. Then, after a short break of wakefulness, commenced the next trial. There was a high degree of correspondence between polysomnography-determined sleep onset and Sleep On Cue behavioural sleep onset, $r = 0.79$, $P < 0.001$. On average, Sleep On Cue overestimated sleep-onset latency by 3.17 min (SD = 3.04). When polysomnography sleep onset was defined as the beginning of N2 sleep, the discrepancy was reduced considerably (M = 0.81, SD = 1.96).

Scott, H., Lack, L. and Lovato, N. (2017), A pilot study of a novel smartphone application for the estimation of sleep onset. *J Sleep Res.* doi:10.1111/jsr.12575



Sleep and Digital App's

Recommendations for cleaning PSG equipment in Sleep Lab



Mr. Yuvraj Kunwar is a Certified Sleep & EEG technician (Dept. of Pulmonology & Neurology) in Max healthcare Institute Ltd. He has done Bachelor in Lab Technology & Master in Microbiolog. He started his carrier in Sleep field in 2011 under direct supervision of Dr. Manjari Tripathi (Professor of Neurology) AIIMS New Delhi and then HCL Healthcare (affiliated with John Hopkins International medicine).

He has done various type of sleep studies (Diagnostic, Titration, split night, MSLT, Video EEG). He is a Certified Sleep Technician by ISSR (World Sleep Federation Program). He has attended Sleep Seminars, Confrences, workshops, and training & health camps.

He is very happy to be working in this field because this field is new in India. His strengths are self-motivation & dedication towards his work & a good learner.

What is the recommendation to clean EEG cup electrodes?

1. Clean using mild soap and water. Distilled water is recommended to avoid damage to the surface of the electrode.
2. Scrub lightly using soft bristled brush.
3. Disinfect with a sterilization chemical such as Control III for 10-15 minutes per manufacturer's recommendations.
4. Rinse and air-dry.

What is the recommendation to clean Snap electrodes?

1. Wipe with a cleaning agent that is non-corrosive to plastic.
2. Allow assembly to completely air dry before using on a patient.
3. Gas sterilization is permitted as needed.

What is the recommendation to clean snore sensor?

1. Wipe with a cleaning agent that is non-corrosive to plastic.
2. Allow assembly to completely air dry before using on a patient.
3. Gas sterilization is permitted as needed.

What is the recommendation to clean PAP Devices?

1. Unplug device from the wall outlet to avoid electrical shock.
2. Wipe the outer chassis with a cloth dampened with mild detergent.
3. Allow device to dry completely before plugging into electrical wall outlet.
4. Do not immerse in water.
5. Inspect all parts and replace broken or damaged pieces before putting into service.

What is the recommendation to clean Mask interfaces?

1. For each individual mask, see package insert for specific cleaning requirements, which vary by mask and manufacturer.
2. Pasteurization or other high-level disinfecting processes may be used.
3. Some mask discoloring may occur.
4. Consider using a ding timer as a reminder to remove the mask from disinfectant to prolong its life.

What is the recommendation to clean Mask Head strap?

1. Wash the head strap daily with warm, soapy water such as Ivory® or baby shampoo.
2. Rinse thoroughly.
3. Air dry.

NOTE: Avoid vinegar, bleach, chlorine or alcohol solutions. Also avoid solutions containing moisturizers, antibacterial agents or scented oils. These products may reduce the life of the head strap.

What is the recommendation to clean PAP Tubing?

1. Clean tubing with a soft bristle brush while soaking in detergent.
2. Rinse thoroughly.
3. Soak in an ortho-phthalaldehyde solution such as Cidex® OPA.
4. Rinse thoroughly.
5. Air dry.
6. Store in a dry, dust-free environment

What is the recommendation to clean pressure airflow sensor?

1. Cannula is disposable. Discard after single use.
2. Wipe wire set with a cleaning agent that is non-corrosive to plastic.
3. Gas sterilization is permitted as needed.

What is the recommendation to clean thermal airflow sensor?

1. Wipe with a cleaning agent that is non-corrosive to plastic.
2. Allow assembly to completely air dry before using on a patient.
3. Gas sterilization is permitted as needed.

What is the recommendation to clean body position sensor?

1. Wipe with a cleaning agent that is non-corrosive to plastic.
2. Allow assembly to completely air dry before using on a patient.

3. Gas sterilization is permitted as needed.

What is the recommendation to clean piezo/RIP belts?

1. Wipe buckle and wire set with alcohol or a cleaning agent that is non-corrosive to plastic.
 2. Belt strap may be wiped with alcohol, machine washed on a gentle cycle, or soaked in disinfecting solution.
- NOTE: Do not wring out RIP belts, which have a coiled wire sewn into them.

What is the recommendation to clean PAP Humidification chamber?

1. Disassemble humidifier chamber per manufacturer's instructions.
2. Rinse chamber and brush thoroughly with a soft brush.
3. Place humidifier components on the automatic washer/disinfector rack in a manner that allows each part to drain.
4. Add detergent and begin the automatic washer cleaning cycle.
5. Visually inspect the humidifier chamber. Discard the chamber if cracking, tears or other deterioration is apparent.
6. Air dry.
7. Store in a dry, dust-free environment.

If **manually** cleaning:

1. Disassemble humidifier chamber per manufacturer's instructions.
2. Rinse chamber and brush thoroughly with a soft brush using warm water.
3. Soak humidifier components in an ortho-phthalaldehyde solution such as Cidex® OPA.
4. Rinse thoroughly.
5. Visually inspect the humidifier chamber. Discard the chamber if cracking, tears or other deterioration is apparent.
6. Air dry.
7. Store in a dry, dust-free environment.



Anees CA.

BSc, MCA, DNT, ISSR-WSF Certified Sleep Technologist.
Neuro Electrophysiologist & Sleep Technologist
Comprehensive Sleep Disorder Center
Dept of Neurology,

Sree Chitra Tirunal Institute for Medical Science and
Technology Trivandrum.

Why did you decide to become Sleep Technologist?

I am a Neuro Electro physiologist by profession. As part of our training program, we got some training on sleep studies and sleep disorders. Since the sleep medicine and sleep labs were very few and newly establishing at the time, the trained sleep technologists were highly demanded and got good career. Hence I choose the hospitals having sleep medicine and neurophysiology labs. The initial experience in sleep lab and some training from national and international experts during sleep conferences made it an exciting profession. The current institute, that I am working and I trained from earlier, is a national level research institute, where various Sleep research programs are ongoing which helps to make this profession more interesting.

What is the most challenging aspect of your profession?

Most of the patients coming for sleep studies are not educated about the sleep disorders and treatment. Majority of the people are not aware that most of the sleep disorders, especially OSA related disorders are life threatening disease or disorder. Educating the patient about these is a challenge, especially about CPAP therapy.

Cost of the CPAP machine is a main factor for non-acceptance of the therapy for common people in India

What are the career opportunities for sleep technologists in India?

Trained sleep technologists have wide opportunities in India, since there is a large no of sleep patient compared to the good sleep labs in the country.

What is required to improve the quality of sleep technologists in India?

- Training programs are required
- Frequent CME and workshop can improve the quality of currently working technologists
- A quality monitoring body under the supervision of Indian Society for Sleep Research is essential to maintain the quality of sleep labs and technologists

Do you think starting a 1yr diploma program in sleep technology in an institute of national importance will benefit the sleep technologists in India?

- Sure, a diploma like program in sleep technology are mandatory to become a qualified sleep technologist
- In addition to the course, establishing a law for license of work in sleep labs like ISSR-WSF cetified sleep technologist(CST) examination will ensure the quality of sleep technologists

ISSR Membership

The Indian Society of Sleep Research (ISSR) works to protect sleep health and promote high quality patient care. These goals are dependent on the support of the professionals working in the field. Membership with the ISSR funds the activities executed for the benefit of all who practice sleep medicine or conduct sleep research.

The ISSR works to improve sleep health through advocacy, education, and strategic research and practice standards.

The Society will have Life members, Regular members and Corresponding members. In addition to membership the Life time members will receive subscription to-

1. Journal of Sleep and Biological Rhythm
2. "Sleep and Vigilance" Journal
3. Sleep Medicine Journal
4. ISSR News letter
5. ISSR Literature Updates

We encourage you to become member of ISSR and members to renew their membership so that we have your support in continuation of the field of Sleep Medicine.

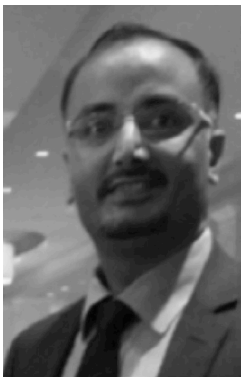
For more details on membership please visit www.issr.in

Professional Sleep Societies and Web links

American Academy of Sleep Medicine (AASM)
American Association of Sleep Technologist (AAST)
American Board of Sleep Medicine (ABSM)
World Association of Sleep Medicine (WASM)
World Sleep Federation (WSF)
European Sleep Research Society (ESRS)
Australasian Sleep Association
Asian Sleep Research Society (ASRS)
Indian Sleep Disorder Association (ISDA)
Indian Society of Sleep Research (ISSR)
Board of Registered Polysomnography Technologists (BRPT)
World Sleep Society
American Association of Physicians of Indian Origin-Sleep (AAPIOS)

www.aasmnet.org
www.aastweb.org
www.absm.org
www.wasmonline.org
www.worldsleepfederation.org
www.esrs.eu
www.sleep.org.au
www.asrsonline.org
www.isda.co.in
www.issr.in
www.brpt.org

www.worldsleepsociety.org
www.weartweb.com/aapios/



Letter to the Editor:
Dr. Tripat Deep Singh
MBBS, MD (Physiology), RPSGT, RST
International Sleep Specialist
(World Sleep Federation Program)

Our readers are invited to write to the editor regarding their views on the published material and also to contribute interesting content or updates in the field.

Email us on sleepwatching@yahoo.com.sg