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AASM American Academy of SLEEP MEDICINE™

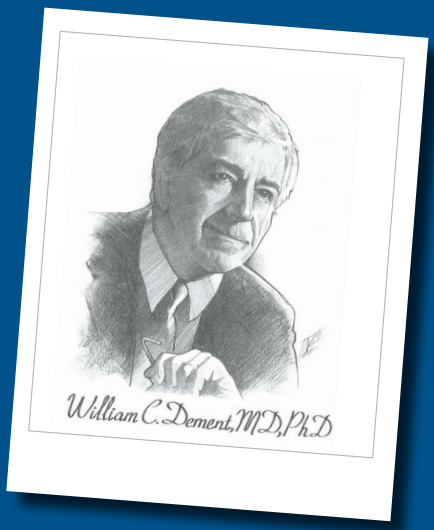
MONTAGE

A quarterly magazine published by the American Academy of Sleep Medicine

A Sleep Legacy: honoring William C. Dement, the father of sleep medicine. *pg. 10-11*

Coronavirus: the sleep team answers the calls to action. *pg. 12-13*

Computers analyze data so you can spend more time with patients. *pg. 9*



Photos: Courtesy of Stanford University

Do your adult patients with **narcolepsy** feel boxed in?

Indications and Usage

- WAKIX is indicated for the treatment of excessive daytime sleepiness (EDS) in adult patients with narcolepsy.

Important Safety Information

Contraindications

- WAKIX is contraindicated in patients with severe hepatic impairment.

Warnings and Precautions

- WAKIX prolongs the QT interval; avoid use of WAKIX in patients with known QT prolongation or in combination with other drugs known to prolong the QT interval. Avoid use in patients with a history of cardiac arrhythmias, as well as other circumstances that may increase the risk of the occurrence of torsade de pointes or sudden death, including symptomatic bradycardia, hypokalemia or hypomagnesemia, and the presence of congenital prolongation of the QT interval.
- The risk of QT prolongation may be greater in patients with hepatic or renal impairment due to higher concentrations of pitolisant; monitor these patients for increased QTc. Dosage modification is recommended in patients with moderate hepatic impairment and moderate or severe renal impairment (see full prescribing information). WAKIX is not recommended in patients with end-stage renal disease (ESRD).

Adverse Reactions

- In the placebo-controlled clinical trials conducted in patients with narcolepsy with or without cataplexy, the most common adverse reactions (≥5% and twice placebo) for WAKIX were insomnia (6%), nausea (6%), and anxiety (5%). Other adverse reactions that occurred at ≥2% and more frequently than in patients treated with placebo included headache, upper respiratory infection, musculoskeletal pain, heart rate increased, hallucinations, irritability, abdominal pain, sleep disturbance, decreased appetite, cataplexy, dry mouth, and rash.

Drug Interactions

- Concomitant administration of WAKIX with strong CYP2D6 inhibitors increases pitolisant exposure by 2.2-fold. Reduce the dose of WAKIX by half.
- Concomitant use of WAKIX with strong CYP3A4 inducers decreases exposure of pitolisant by 50%. Dosage adjustments may be required (see full prescribing information).

WAKIX® (pitolisant) Is a First-in-Class Molecule With a Novel Mechanism of Action

First and only histaminergic treatment for patients with excessive daytime sleepiness (EDS) in narcolepsy

- First and only FDA-approved non-scheduled treatment for patients with narcolepsy
- WAKIX is not a stimulant
- No clinically important pharmacokinetic interactions with modafinil or sodium oxybate
- Convenient once-daily morning dosing

BREAK THROUGH with

Wakix®
pitolisant tablets

- H_1 receptor antagonists that cross the blood-brain barrier may reduce the effectiveness of WAKIX. Patients should avoid centrally acting H_1 receptor antagonists.
- WAKIX is a borderline/weak inducer of CYP3A4. Therefore, reduced effectiveness of sensitive CYP3A4 substrates may occur when used concomitantly with WAKIX. The effectiveness of hormonal contraceptives may be reduced when used with WAKIX and effectiveness may be reduced for 21 days after discontinuation of therapy.

Use in Specific Populations

- WAKIX may reduce the effectiveness of hormonal contraceptives. Patients using hormonal contraception should be advised to use an alternative non-hormonal contraceptive method during treatment with WAKIX and for at least 21 days after discontinuing treatment.
- There is a pregnancy exposure registry that monitors pregnancy outcomes in women who are exposed to WAKIX during pregnancy. Patients should be encouraged to enroll in the WAKIX pregnancy registry if they become pregnant. To enroll or obtain information from the registry, patients can call 1-800-833-7460.
- The safety and effectiveness of WAKIX have not been established in patients less than 18 years of age.
- WAKIX is extensively metabolized by the liver. WAKIX is contraindicated in patients with severe hepatic impairment. Dosage adjustment is required in patients with moderate hepatic impairment.
- WAKIX is not recommended in patients with end-stage renal disease. Dosage adjustment of WAKIX is recommended in patients with moderate or severe renal impairment.
- Dosage reduction is recommended in patients known to be poor CYP2D6 metabolizers; these patients have higher concentrations of WAKIX than normal CYP2D6 metabolizers.

To report suspected adverse reactions, contact Harmony Biosciences, LLC at 1-800-833-7460 or FDA at 1-800-FDA-1088 or www.fda.gov/medwatch.

Please see Brief Summary on the following pages and Full Prescribing Information at WAKIXHCP.com.

HARMONY BIOSCIENCES LLC

US-WAK-1900328/Dec 2019

Learn more at **WAKIXHCP.com/today**

WAKIX® (pitolisant) tablets, for oral use

BRIEF SUMMARY – See full Prescribing Information available at WAKIXHCP.com.

Initial U.S. Approval: 2019

1 INDICATIONS AND USAGE

WAKIX is indicated for the treatment of excessive daytime sleepiness (EDS) in adult patients with narcolepsy *[see Clinical Studies (14)]*.

4 CONTRAINDICATIONS

WAKIX is contraindicated in patients with severe hepatic impairment. WAKIX is extensively metabolized by the liver and there is a significant increase in WAKIX exposure in patients with moderate hepatic impairment *[see Use in Specific Populations (8.6)]*.

5 WARNINGS AND PRECAUTIONS

5.1 QT Interval Prolongation

WAKIX prolongs the QT interval. The use of WAKIX should be avoided in patients with known QT prolongation or in combination with other drugs known to prolong the QT interval *[see Drug Interactions (7.1)]*. WAKIX should also be avoided in patients with a history of cardiac arrhythmias, as well as other circumstances that may increase the risk of the occurrence of torsade de pointes or sudden death, including symptomatic bradycardia, hypokalemia or hypomagnesemia, and the presence of congenital prolongation of the QT interval *[see Clinical Pharmacology (12.2)]*. The risk of QT prolongation may be greater in patients with hepatic or renal impairment due to higher concentrations of pitolisant. Monitor patients with hepatic or renal impairment for increased QTc. Dosage modification is recommended in patients with moderate hepatic impairment and moderate or severe renal impairment *[see Dosage and Administration (2.2, 2.3)]*. WAKIX is contraindicated in patients with severe hepatic impairment *[see Contraindications (4)]*. WAKIX is not recommended in patients with end-stage renal disease (ESRD) *[see Dosage and Administration (2.3), Use in Specific Populations (8.7), Clinical Pharmacology (12.3)]*.

6 ADVERSE REACTIONS

The following adverse reactions are discussed in more detail in other sections of the labeling:

- QT Interval Prolongation *[see Warnings and Precautions (5.1)]*

6.1 Clinical Trials Experience

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice.

In the clinical trials for narcolepsy, 172 patients were treated with WAKIX in placebo-controlled trials for up to 8 weeks and in open-label extension trials for up to 5 years. In trials in which WAKIX was directly compared to placebo, 6 of the 152 patients (3.9%) who received WAKIX and 4 of the 114 patients (3.5%) who received placebo discontinued because of an adverse event.

Most Common Adverse Reactions

In the placebo-controlled clinical trials conducted in patients with narcolepsy with or without cataplexy, the most common adverse reactions (occurring in ≥5% of patients and at twice the rate of placebo) with the use of WAKIX were insomnia (6%), nausea (6%), and anxiety (5%).

Table 1 presents the adverse reactions that occurred at a rate of ≥2% in patients treated with WAKIX and more frequently than in patients treated with placebo in the placebo-controlled clinical trials in narcolepsy.

Table 1: Adverse Reactions that Occurred in ≥2% of WAKIX-Treated Patients and More Frequently than in Placebo-Treated Patients in Three Placebo-controlled Narcolepsy Studies

Adverse Reaction	WAKIX (n=152) %	Placebo (n=114) %
Headache*	18	15
Insomnia*	6	2
Nausea	6	3
Upper respiratory tract infection*	5	3
Musculoskeletal pain*	5	3
Anxiety*	5	1
Heart rate increased*	3	0
Hallucinations*	3	0
Irritability	3	2
Abdominal pain*	3	1
Sleep disturbance*	3	2
Decreased appetite	3	0
Cataplexy	2	1
Dry mouth	2	1
Rash*	2	1

* The following terms were combined:

Abdominal pain includes: abdominal discomfort; abdominal pain; abdominal pain upper

Anxiety includes: anxiety; nervousness; stress; stress at work

Hallucinations includes: hallucination; hallucination visual; hypnagogic hallucination

Headache includes: cluster headache; headache; migraine; premenstrual headache; tension headache

Heart rate increased includes: heart rate increased; sinus tachycardia; tachycardia

Insomnia includes: initial insomnia; insomnia; middle insomnia; poor quality sleep

Musculoskeletal pain includes: arthralgia; back pain; carpal tunnel syndrome; limb discomfort; musculoskeletal pain; myalgia; neck pain; osteoarthritis; pain in extremity; sciatica

Rash includes: eczema; erythema migrans; rash; urticaria

Sleep disturbance includes: dyssomnia; sleep disorder; sleep paralysis; sleep talking

Upper respiratory infection includes: pharyngitis; rhinitis; sinusitis; upper respiratory tract infection; upper respiratory tract inflammation; viral upper respiratory tract infection

6.2 Postmarketing Experience

The following adverse reactions have been identified during post-approval use of WAKIX outside of the United States. Because these reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure:

General disorders and administration site conditions: fatigue

Investigations: weight increased

Nervous system disorders: epilepsy

Psychiatric disorders: abnormal behavior, abnormal dreams, anhedonia, bipolar disorder, depression, depressed mood, nightmare, sleep disorder, suicide attempt, suicidal ideation

Skin and subcutaneous tissue disorders: pruritus

7 DRUG INTERACTIONS

7.1 Drugs Having Clinically Important Interactions with WAKIX

Table 2: Clinically Significant Drug Interactions with WAKIX

Effect of Other Drugs on WAKIX	
Strong CYP2D6 Inhibitors	
Clinical Implication:	Concomitant administration of WAKIX with strong CYP2D6 inhibitors increases pitolisant exposure by 2.2-fold.
Prevention or Management:	Reduce the dose of WAKIX by half *[see Dosage and Administration (2.4), Clinical Pharmacology (12.3)]*.
Examples:	paroxetine, fluoxetine, bupropion
Strong CYP3A4 Inducers	
Clinical Implication:	Concomitant use of WAKIX with strong CYP3A4 inducers decreases exposure of pitolisant by 50%.
Prevention or Management:	Assess for loss of efficacy after initiation of a strong CYP3A4 inducer. For patients stable on WAKIX 8.9 mg or 17.8 mg once daily, increase the dose of WAKIX to reach double the original daily dose (i.e., 17.8 mg or 35.6 mg, respectively) over 7 days. If concomitant dosing of a strong CYP3A4 inducer is discontinued, decrease WAKIX dosage by half *[see Dosage and Administration (2.4), Clinical Pharmacology (12.3)]*.
Examples:	rifampin, carbamazepine, phenytoin
Histamine-1 (H1) Receptor Antagonists	
Clinical Implication:	WAKIX increases the levels of histamine in the brain; therefore, H1 receptor antagonists that cross the blood-brain barrier may reduce the effectiveness of WAKIX.
Prevention or Management:	Avoid centrally acting H1 receptor antagonists.
Examples:	pheniramine maleate, diphenhydramine, promethazine (anti-histamines) imipramine, clomipramine, mirtazapine (tri or tetracyclic antidepressants)

QT Interval Prolongation	
Clinical Implication:	Concomitant use of drugs that prolong the QT interval may add to the QT effects of WAKIX and increase the risk of cardiac arrhythmia.
Prevention or Management:	Avoid the use of WAKIX in combination with other drugs known to prolong the QT interval *[see Warnings and Precautions (5.1)]*.
Examples:	Class 1A antiarrhythmics: quinidine, procainamide, disopyramide; Class 3 antiarrhythmics: amiodarone, sotalol; Antipsychotics: ziprasidone, chlorpromazine, thioridazine; Antibiotics: moxifloxacin
Effect of WAKIX on Other Drugs	
Sensitive CYP3A4 Substrates	
Clinical Implication:	WAKIX is a borderline/weak inducer of CYP3A4. Therefore, reduced effectiveness of sensitive CYP3A4 substrates may occur when used concomitantly with WAKIX *[see Clinical Pharmacology (12.3)]*. The effectiveness of hormonal contraceptives (e.g., ethinyl estradiol) may be reduced when used with WAKIX and effectiveness may be reduced for 21 days after discontinuation of therapy.
Prevention or Management:	Patients using hormonal contraception should be advised to use an alternative non-hormonal contraceptive method during treatment with WAKIX and for at least 21 days after discontinuation of treatment *[see Use in Specific Populations (8.3)]*.
Examples:	midazolam, hormonal contraceptives, cyclosporine

7.2 Drugs Having No Clinically Important Interactions with WAKIX

A clinical study was conducted to evaluate the concomitant use of WAKIX with modafinil or sodium oxybate. This study demonstrated no clinically relevant effect of modafinil or sodium oxybate on the pharmacokinetics of WAKIX and no effect of WAKIX on the pharmacokinetics of modafinil or sodium oxybate *[see Clinical Pharmacology (12.3)]*.

A clinical study showed that strong CYP3A4 inhibitors (e.g., ketoconazole, grapefruit juice) have no effect on the pharmacokinetics of WAKIX *[see Clinical Pharmacology (12.3)]*.

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Pregnancy Exposure Registry

There is a pregnancy exposure registry that monitors pregnancy outcomes in women who are exposed to WAKIX during pregnancy. Patients should be encouraged to enroll in the WAKIX pregnancy registry if they become pregnant. To enroll or obtain information from the registry, patients can call 1-800-833-7460.

Risk Summary

Available case reports from clinical trials and postmarketing reports with WAKIX use in pregnant women have not determined a drug-associated risk of major birth defects, miscarriage or adverse maternal or fetal outcomes. In animal reproductive studies, administration of pitolisant during organogenesis caused maternal and embryofetal toxicity in rats and rabbits at doses ≥13 and >4 times the maximum recommended human dose (MRHD) of 35.6 mg based on mg/m^2 body surface area, respectively. Oral administration of pitolisant to female rats during pregnancy and lactation adversely affected maternal and fetal health and produced developmental delay at doses ≥13 times the MRHD, based on mg/m^2 body surface area and increased the incidence of major malformations at 22 times the MRHD *(see Data in full Prescribing Information, available at WAKIXHCP.com).*

The estimated background risk of major birth defects and miscarriage for the indicated population is unknown. All pregnancies have a background risk of birth defect, loss, or other adverse outcomes. In the U.S. general population, the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2% to 4% and 15% to 20%, respectively.

8.2 Lactation

Risk Summary

There are no data on the presence of pitolisant in human milk, the effects on the breastfed infant, or the effect of this drug on milk production.

Pitolisant is present in the milk of lactating rats *(see Data in full Prescribing Information, available at WAKIXHCP.com).* When a drug is present in animal milk, it is likely that the drug will be present in human milk. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for WAKIX and any potential adverse effects on the breastfed child from WAKIX or from the underlying maternal condition.

8.3 Females and Males of Reproductive Potential

Contraception

WAKIX may reduce the effectiveness of hormonal contraceptives. Patients using hormonal contraception should be advised to use an alternative non-hormonal contraceptive method during treatment with WAKIX and for at least 21 days after discontinuing treatment *[see Drug Interactions (7.1), Clinical Pharmacology (12.3)]*.

8.4 Pediatric Use

The safety and effectiveness of WAKIX in pediatric patients have not been established.

Limited pharmacokinetic data from 24 pediatric patients with narcolepsy (ages 7 to <18 years) receiving a single dose of WAKIX suggest that pediatric patients have higher exposure to pitolisant than adults. The exposure (C_{max} and AUC) of pitolisant was 2-fold higher in pediatric patients 12 to <18 years and 3-fold higher in pediatric patients 7 to <12 years compared to adults.

8.5 Geriatric Use

Limited pharmacokinetic data are available in healthy elderly subjects. A pharmacokinetic study that compared 12 elderly subjects (age 68 to 82 years) to 12 healthy adults (age 18 to 45 years) did not reveal any significant differences in drug exposure *[see Clinical Pharmacology (12.3)]*.

Of the total number of patients with narcolepsy in clinical studies of WAKIX, 14 patients (5%) were ≥65 years old. No overall differences in safety or effectiveness were observed between these patients and younger patients in these clinical trials, but greater sensitivity of some older individuals cannot be ruled out. In general, dose selection for an elderly patient should be cautious, usually starting at the low end of the dosing range, reflecting the greater frequency of decreased hepatic, renal, and cardiac function, concomitant diseases, and other drug therapy.

8.6 Hepatic Impairment

WAKIX is contraindicated in patients with severe hepatic impairment (Child-Pugh C) as it has not been studied in this population. WAKIX is extensively metabolized by the liver and there is a significant increase in WAKIX exposure in patients with moderate hepatic impairment *[see Contraindications (4), Clinical Pharmacology (12.3)]*.

Monitor patients with moderate hepatic impairment (Child-Pugh B) and adjust the dosage of WAKIX *[see Dosage and Administration (2.2)]*.

Monitor patients with mild hepatic impairment (Child-Pugh A). No dosage adjustment of WAKIX is recommended in patients with mild hepatic impairment.

8.7 Renal Impairment

The pharmacokinetics of WAKIX in patients with end-stage renal disease (ESRD) (eGFR of <15 mL/minute/1.73 m^2) is unknown *[see Clinical Pharmacology (12.3)]*. Therefore, WAKIX is not recommended in patients with ESRD *[see Dosage and Administration (2.3), Warnings and Precautions (5.1)]*.

Dosage adjustment of WAKIX is recommended in patients with moderate (eGFR 30 to 59 mL/minute/1.73 m^2) and severe (eGFR 15 to 29 mL/minute/1.73 m^2) renal impairment *[see Dosage and Administration (2.3)]*.

8.8 CYP2D6 Poor Metabolizers

Dosage reduction is recommended in patients known to be poor CYP2D6 metabolizers because these patients have higher pitolisant concentrations than normal CYP2D6 metabolizers *[see Dosage and Administration (2.5), Clinical Pharmacology (12.3, 12.5)]*.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

The mechanism of action of pitolisant in excessive daytime sleepiness (EDS) in adult patients with narcolepsy is unclear. However, its efficacy could be mediated through its activity as an antagonist/inverse agonist at histamine-3 (H3) receptors.

12.2 Pharmacodynamics

Pitolisant binds to H3 receptors with a high affinity (K_i = 1 nM) and has no appreciable binding to other histamine receptors (H1, H2, or H4 receptors; K_i ≥10 μM).

Cardiac Electrophysiology

WAKIX at the highest recommended dosage (i.e., 35.6 mg daily) led to a QTc increase of 4.2 msec. Exposures 3.8-fold higher than achieved at the highest recommended dose increase QTc 16 msec (mean) *[see Warnings and Precautions (5.1)]*.

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See Full Prescribing Information available at WAKIXHCP.com.

Introduction

It is with heavy hearts that the AASM pays tribute to our founding president, William C. Dement, MD, PhD. Dr. Dement was a tireless advocate for better sleep, and his work as a researcher, educator and outspoken proponent of the importance of sleep has saved countless lives. In this issue of Montage, we hear from just a few of the sleep medicine professionals he impacted. Regardless of your path in sleep medicine, all roads lead back to Dr. Dement.

Also in this issue, Carlos Schenck, MD, looks back on decades of collaboration with his colleague and friend, Mark Mahowald, MD, who passed away in March. He shares memories of the years in which they identified REM sleep behavior disorder and their management of patients with parasomnias.

As America struggles with crises of health and equality, we explore how the sleep profession and the AASM can contribute to a safer and more just world. We have a thought-provoking discussion with Past President Kelly Carden, MD, MBA, and Diversity, Equity and Inclusion Committee Chair Andrew Spector, MD, about the organization's position on racism and actions that the academy and its members can take to make concrete progress toward equality for Black Americans.

We also highlight the actions of several members who stepped up in different ways to aid their communities and colleagues in response to the coronavirus pandemic. From research to innovation to a focus on sleep health, their contributions are impacting the pandemic response worldwide.

David Kent, MD, shares his thoughts on the impact artificial intelligence will have on sleep medicine, and two assembly members talk about their experiences in the sleep field as sleep technologists.

Finally, meet the 2020-2021 AASM Board of Directors and read a preview of the Virtual SLEEP 2020 meeting. Registration is still open and includes live and recorded events to enjoy at your leisure.

The Montage Team

AASM American Academy of SLEEP MEDICINE™

Montage is a quarterly magazine published by the American Academy of Sleep Medicine. It offers a unique opportunity to recognize our membership and highlight changes in the field by featuring member profiles, exclusive interviews, research advances, and the latest developments impacting patient care.

Contributors

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The Associated Professional Sleep Societies is transitioning SLEEP 2020 to a virtual meeting, to be held August 27-30. For the first time in the meeting's 34-year history, the APSS will bring the SLEEP meeting to your living room, office and anywhere else you are in the world.

Registration is now open for Virtual SLEEP 2020, and the APSS is offering a variety of options that will enable you to continue your education long after the meeting ends. With new networking opportunities, unprecedented access to speakers, and a convenient online platform, SLEEP 2020 will be the year's premier event in the sleep field.

The virtual SLEEP meeting includes preconference events, an online poster hall with presentations on the latest sleep and circadian research, an online exhibit hall, prerecorded postgraduate courses, and on-demand recordings to view at your convenience after the SLEEP meeting. See yourself at SLEEP.

Learn more and register at sleepmeeting.org.

We want to hear from you! Yes, you.

Share your experience in sleep medicine with your fellow members. Submit content to **montage@aasm.org** for it to be considered for publication in an upcoming issue of Montage!

Meet the 2020 – 2021 AASM Board of Directors

The 2020-2021 Board of Directors officially began its term at the annual membership meeting, which was held virtually in June.

President Kannan Ramar, MD, FAASM, is a sleep medicine physician at the Center for Sleep Medicine and a professor of medicine in the division of pulmonary and critical care medicine at the Mayo Clinic in Rochester, Minnesota, where he also serves as the safety officer and the assistant dean of clinical learning environment optimization through the Mayo Clinic School of Graduate Medical Education. He served on the AASM Education Committee and was a member and chair of multiple clinical practice guideline and practice parameters task forces. He also has co-chaired the Sleep Medicine Trends course. Dr. Ramar has been an AASM member since 2006.

Raman Malhotra, MD, FAASM, is president-elect. Dr. Malhotra is associate professor in the sleep medicine section of the department of neurology at Washington University School of Medicine in St. Louis. A member of the board since 2015, Dr. Malhotra also served as chair of the Sleep Medicine Board Review Course, Sleep Medicine In Training Exam and Maintenance of Certification Committee.

Jennifer Martin, PhD, FAASM, was elected secretary/treasurer. She is professor of medicine at the David Geffen School of Medicine at UCLA and associate director for clinical and health services research in the VA Greater Los Angeles Healthcare System's Geriatric Research, Education, and Clinical Center. Dr. Martin's scientific research program focuses on improving sleep as a key component of maintaining and improving physical and mental health, particularly among women and older adults with sleep disorders.

Newly elected at-large directors are Vishesh Kapur, MD, MPH, FAASM, and Lynn Marie Trotti, MD, MSc. Dr. Kapur is professor of medicine at the University of Washington, director of the sleep medicine program, program director for the sleep medicine fellowship program, and founder of the UW Medicine Sleep Center. He previously served as an associate editor for the Journal of Clinical Sleep Medicine and the journal SLEEP and currently is on the editorial boards of JCSM and the American Journal of Respiratory and Critical Care Medicine. Dr. Kapur chaired the AASM's Fellowship Training Committee and Insurance Policy Review Committee and served on numerous additional committees and task forces.

Dr. Trotti is associate professor of neurology at Emory University and assistant program director for the sleep medicine fellowship. She served as chair of the RLS Workgroup for Quality Measures and the Young Investigators' Research Forum, was a co-chair of Sleep Medicine Trends, and served on many other committees.

R. Nisha Aurora, MD, MHS, FAASM, Fariha Abbasi-Feinberg, MD, FAASM, Carol Rosen, MD, FAASM, and James Rowley, MD, FAASM, were re-elected to serve another term as directors-at-large. Eric Olson, MD, FAASM, and Anita Shelgikar, MD, MHPE, FAASM, returned as directors-at-large along with Kelly Carden, MD, MBA, FAASM, who transitioned to the position of immediate past president.

Q&A: AASM Condemns Racism and Discrimination

On June 3, the AASM issued a statement on behalf of the board of directors condemning racism and discrimination. We reached out to Immediate Past President Dr. Kelly Carden and Diversity, Equity and Inclusion (DEI) Committee Chair Dr. Andrew Spector for more context and insight. Read the full Q&A on the AASM website.

Kelly Carden, MD, MBA
AASM Immediate Past President

Andrew Spector, MD
AASM Diversity, Equity and Inclusion Committee Chair

Why did the AASM choose to make this public statement?

Dr. Carden: Recently, the AASM Board of Directors recognized "diverse and inclusive" as one of the AASM's six core values and appointed a DEI committee to help us improve diversity, equity, and inclusion within the AASM. By making the public statement about racism and discrimination, the AASM reinforced its core value and its commitment to become more diverse, equitable and inclusive. It also was important to the Board of Directors to communicate our support to Black members, staff, colleagues, and patients during this difficult time.

Dr. Spector: Racism is a human rights violation and a health crisis. As an organization dedicated to improving health, we will never succeed as long as racism is killing people. If we aren't fighting racism, we are supporting it, and we want our members and the public to know that we are dedicated to anti-racism.

Why did the AASM decide to issue a statement now?

KC: It was only recently that the AASM Board of Directors formed the DEI Committee, and we are still learning as we assess when and how it is most appropriate to respond to issues relating to diversity, equity, and inclusion. Having seen the horrific killing of George Floyd and the tremendous hurt it caused, the AASM could not remain silent. We needed to stand with, and express our support for, the Black community.

AS: The reason we urgently released a statement was to let our members know that we support them at a time when many were deeply suffering. This moment was an exacerbation of chronic pain that we needed to address directly. Racism has been an intractable problem for centuries. If this moment in time is going to be different, it's because we will bind together as individuals of all races and as organizations of all types to further the battle that so many have already given so much to advance.

Racism and discrimination affect many groups in the U.S. Why did the AASM statement focus on the Black community?

KC: We certainly recognize that racism and discrimination also affect other people groups. However, in the context of current events, we believed that it was incredibly important for us to issue a strong statement of support for the Black community.

AS: Black Americans occupy a unique position in America beginning with slavery and carrying through to Jim Crow laws, housing and wage discrimination, selective law enforcement and mass incarceration, and so many other racist laws and policies that very specifically target Black people. Racism and discrimination based on identity are wrong whenever they occur, and the AASM opposes and will continue to fight racism and discrimination. But in this moment, we chose to highlight the racism that affects Black people in America because both history and present events demanded that of us.

Is this a political statement?

KC: In this politically charged climate, everything seems to be interpreted (or misinterpreted) as a political statement. However, this was not a statement about politics; it was a statement about who we are and what we value. As a membership society, we represent members with varying political views. We try our best to avoid making politically motivated decisions on behalf of the AASM. We strive to remain "party neutral" when we respond – or decline to respond – to current issues.

Is there a connection between racial health disparities and the field of sleep medicine?

AS: We've long understood that sleep is affected by the environment, so it should not be surprising that when the environment is corrupted by racism, sleep will be affected. For example, studies have shown that those who are treated unfairly report poorer sleep quality and more daytime sleepiness, and they have shorter sleep durations. Higher scores on the Everyday Discrimination Scale were correlated with worse subjective sleep and higher wake after sleep onset times on polysomnography in middle-aged women. Using the Scale of Ethnic Experience, those reporting a higher discrimination score have less Stage N3 sleep even after controlling for age, BMI, socioeconomic status, and smoking. Impaired sleep is just one of the many negative health effects of racism leading to the ultimate finding that racism shortens lives.

Computers Analyze Data So You Can Spend More Time With Patients

David Kent, MD
Assistant professor and director of sleep surgery, department of otolaryngology, Vanderbilt University Medical Center

Artificial intelligence has the potential to significantly impact the diagnosis and treatment of sleep disorders. To understand, evaluate and monitor developments in AI and explore how related technologies could impact the practice of sleep medicine, the AASM formed the Artificial Intelligence in Sleep Medicine Committee. It recently developed a position statement on AI in sleep medicine and a companion paper, "Artificial Intelligence in Sleep Medicine: Background and Implications for Clinicians," which serves as a primer for those who are not familiar with AI or machine learning.

In this interview, Dr. Cathy Goldstein, chair of the Artificial Intelligence in Sleep Medicine Committee and associate professor of neurology at the University of Michigan Sleep Disorders Center, speaks with committee member Dr. David Kent, assistant professor and director of sleep surgery in the department of otolaryngology at Vanderbilt University Medical Center, about his interest in AI and the possibilities for this transformative technology in sleep medicine.

Dr. Goldstein: How did you get interested in AI applications in sleep medicine?

Dr. Kent: I've had a longstanding interest in new technologies and how they impact our interactions with the world. My undergraduate degree is in computer science, and part of my initial interest in otolaryngology grew from the exciting opportunities for using computers to interact with the human body, such as the relatively new field of hypoglossal nerve stimulation. Sleep medicine is a very data-driven field, and the combination of my passion for quality sleep and interest in technology seemed like a natural fit.

My academic interests are in developing new technologies to help us better diagnose and treat sleep disorders, including obstructive sleep apnea. On the diagnostic side, one focus is in finding ways to better evaluate the massive volume of data collected from polysomnography. The current standard of care requires a technologist to manually score hours of complex physiologic data and compress it into summary statistics, including the apnea-hypopnea index. We already know that significant inter-rater variability exists in PSG scoring, and that the apnea-hypopnea index is a poor prognosticator of many diseases associated with OSA. Modern machine learning techniques have the potential to free practitioners from the repetitive task of PSG scoring by automating the process and doing it the same way every time. They also might be able to find new biologic signal patterns within PSG data that better predict the risk of diseases we know to be associated with OSA and other sleep disorders.

What are the biggest misconceptions about the use of AI in health care?

Many heath care professionals are concerned about being displaced from their roles by AI systems, but I like to think that AI will help to free up more time from rote tasks for more rewarding parts of the job. AI systems won't be able to empathize with a patient struggling to make it through the day awake or help a claustrophobic patient through a night of polysomnography. They won't be able to translate test results into a management plan that respects a patient's own personal values and preferences or understand why that particular CPAP mask just doesn't work. What they will hopefully do is help us spend less time in front of a computer screen, and more time in front of the patient. But that all depends on how we as a sleep medicine community decide to embrace and apply it!

In 10 years, how do you think AI will be integrated into clinical sleep medicine on a day-to-day basis?

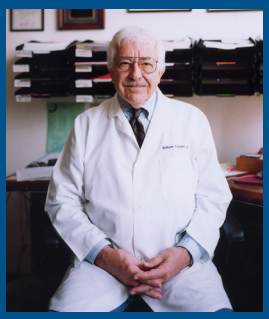
My hope is that such systems serve in significant support roles. I suspect the first place we'll see AI deployed in sleep medicine is in automated PSG scoring. This won't replace the judgment of the sleep technologist or practitioner, and it doesn't prevent anybody from referring to the raw data. But it does have the potential to help increase lab throughput and allow technologists and sleep providers to spend less time scoring and more time with patients. There is already a desperate need for more sleep providers. The U.S. population is growing and aging, and the importance of healthy sleep continues to gain visibility with the lay public. AI systems may help us bridge the growing access gap.

How do you think AI could revolutionize sleep medicine?

It's well-recognized at this point that a disease like OSA is probably a collection of different pathologies with different underlying pathophysiologic mechanisms. I think just over the horizon are analytic methods that will help us better parse these different phenotypes. Improved disease phenotyping will help to improve risk stratification and patient management. The huge volume of data generated from PSG and consumer wearables positions sleep medicine to be a leader in applying these new techniques.

What is your favorite AI tool in your life outside of sleep physician and researcher?

Does Netflix count? People imagine AI systems are big monolithic units like the HAL 9000, but they're already in use all around us!

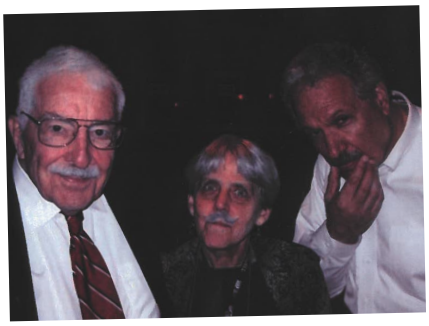


A Sleep Legacy: Remembering the Father of Sleep Medicine, William C. Dement, MD, PhD

Educator. Researcher. Clinician. Advocate. Colleague. Friend. Dr. William C. Dement was all of these and more, and the AASM mourns his passing on June 17, 2020, at the age of 91. Tributes and memories of this remarkable man have come from Washington to Chicago, from New York to Stanford, and from around the world. This compilation presents some of those reflections on the life and legacy of our first president, whose contributions to sleep medicine, sleep research and our organization were vast. Read more about Dr. Dement's impact on our website.

A contemporary of Dr. Dement, Thomas Roth, PhD, succeeded him as the AASM's second president. A leader in the development of the sleep medicine field, Dr. Roth retired in 2014 from the Sleep Disorders Center and Department of Psychiatry and Behavioral Neurosciences at Henry Ford Hospital in Detroit.

"Bill flew out to Michigan when I was being recruited to Henry Ford Hospital to support my recruitment. He flew back to Michigan on the occasion of my 'retirement.' I mention this not because it attests to any special relationship we had, but because it exemplifies Bill's generosity. Dr. Dement is survived by Catherine Dement Roos, Elizabeth Ann Dement, John Nicholas Dement and their families, along with the thousands of sleep researchers and clinicians and millions of sleep disorders patients who have better and more productive lives because of his passion for research, concern for patients, generosity with students and trainees, and his Herculean efforts to elevate and push forward the banner of sleep on so many fronts."



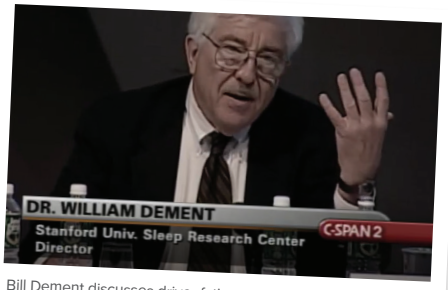
Mary Carskadon "grows" a moustache to better fit in with Bill Dement (l) and Mark Rosekind at the SLEEP meeting in Minneapolis in 2011.

Mary Carskadon, PhD, first met Dr. Dement as a young girl, when he married her cousin, Pat. An early participant in his sleep experiments, Dr. Carskadon joined Dr. Dement after graduating from college to set up the first sleep clinic at Stanford. Together, they developed the MSLT. Dr. Carskadon went on to Brown University, where she's a professor of psychiatry and human behavior and director of chronobiology and sleep research.

"In 2001, Bill received the National Sleep Foundation's Lifetime Achievement award. I took advantage of that occasion to present Bill with a much less ornate certificate that named my summer research apprenticeship in his honor. Every year since then, my summer students are known as Dement Fellows. I cannot overstate the wonderful engagement Bill had with these fellows. We have now had generations of trainees, and nearly all of them have had the opportunity to meet Bill and experience his enthusiasm in person. Bill would meet the trainees at our receptions at APSS, always trying to learn their names and always succeeding in engaging them in lively conversations. Bill would come to our retreat at the end of the summers when he could, and he would give a talk; sometimes his talk was virtual. Either way, great back and forth conversations occurred. Bill loved listening to my trainees' presentations, too. He was always so enthusiastic in responding to their talks, taking copious notes and always asking them thoughtful questions. He was so demonstrably interested in what they had to say. Bill would also show his fun side at the retreat. One year, he sent ahead of his arrival about a dozen enormous super soaker water guns; we had the best water battle that year, with Bill in full engagement having as much fun and getting as soaked as everyone."

Admiration, praise and thoughtful memories are being shared by friends and colleagues in the sleep world and elsewhere. Dr. Dement was remembered with obituaries in major newspapers such as the New York Times, Washington Post, Wall Street Journal and The Economist. California Congresswoman Anna Eshoo offered a tribute to Dr. Dement in the House of Representatives:

"Dr. Dement was an ardent supporter of insurance coverage for sleep analysis and treatment, and advocated widely and effectively about the dangers of sleep deprivation and need for sufficient sleep for students, drivers and others, and he had a deep impact on the lives of the Stanford University students who enrolled in his iconic Sleep and Dreams course… He was often seen on Capitol Hill in his role as Chairman of the National Commission on Sleep Disorders Research. The cornerstone recommendation of the National Commission was the establishment of the National Center on Sleep Disorders Research, and in 1993, during the reauthorization bill for the National Institutes of Health, Congress followed through with the statutory establishment of the National Center on Sleep Disorders Research at NIH's National Heart, Lung, and Blood Institute."



Bill Dement discusses driver fatigue and highway safety during a conference at the National Academy of Sciences in 2002

Friends and colleagues joined the California Sleep Society in a socially distant memorial on Zoom and spent two hours reflecting on Dr. Dement's warmth, kindness and generosity.

Sonia Ancoli-Israel, PhD, professor emeritus of psychiatry and professor of research at the University of California San Diego School of Medicine, was the 2019 recipient of the AASM William C. Dement Academic Achievement Award.

Sleep leaders pile around Bill Dement on Sonia Ancoli-Israel's bed after a board meeting in San Diego during the 1988 SLEEP meeting.

"There's nothing like reading and studying someone's work and then getting to meet them… Bill had so many different careers, all of which moved our field forward. That was Bill, always thinking about others and how sleep could make their life better. Imagine how honored I was just last year to receive an award named after Bill and have him there with me."

Colin Sullivan, MBBS, PhD, FRACP, inventor of CPAP

"It is a great loss to lose Bill, but it's incredible to think about his contributions to sleep medicine internationally, all around the world. I think I'm just one of many, many research and clinician scientists who have really been fed by Bill's intellect and enthusiasm. I can say the world is a lesser place for his passing."

H. Craig Heller, PhD, Sleep Research Society President

"He was always supportive. I never saw Bill dismissive or negative about someone's work. He was always encouraging. His positiveness and his good humor motivated us. I hope that those of us who had the pleasure and privilege of knowing Bill will share our memories with our younger colleagues, and we will give to them the same enthusiastic support and encouragement that we always received from Bill."

Sharon Keenan, PhD, RPSGT, worked with Dr. Dement and others to establish the Stanford University Sleep Disorders Center Training and Education Program, where she was the director. First trained as a sleep technologist, Dr. Keenan served as president of what is now the American Association of Sleep Technologists for eight years.

Bill Dement, center, with some of the first presidents of the Association of Polysomnographic Technologists, now the AAST. From left, Sharon Keenan, Tod Eiken, Cameron Harris and Peter McGregor.

"We all cherished his support and encouragement. He recognized and respected the critical work done in the sleep laboratory. He was our hero. He knew us because he spent so many hours in his own laboratory. He knew the laboratory is where the excitement of discovery, evaluation and treatment happen. He was unique. He cannot be replaced. He will live on in our hearts, in our work, every day."

Emmanuel Mignot, MD, PhD, Professor of Psychiatry and Behavioral Sciences at Stanford University

"I still believe that if Bill had not been there, sleep medicine would not have developed as fast as it has today. I wouldn't be surprised if sleep medicine would be several years behind where we are now. I believe thousands and thousands of lives have been saved because he has been promoting the field all the time. As a result, there's been more clinics, more people trained, more people treated, less accidents, less cardiovascular accidents. There are few people who can say they have saved many lives, and I think he's one of the few that can say that."

Mark Rosekind, PhD, Chief Safety Innovation Officer, Zoox, former administrator, National Highway Traffic Safety Administration, former board member, National Transportation Safety Board

Bill Dement and Mary Carskadon administered the oath of office to Mark Rosekind when he joined the board of the NTSB as an expert on sleep and fatigue.

"We have a field of sleep medicine because of Bill Dement. As much as he focused on the field, simultaneously he focused on the rest of the world. He continually pushed us to think about how sleep affects the rest of the world, whether that was drowsy driving or sleepiness in the workplace, certainly how we can help patients. He really pushed public service. How do we take everything we do in sleep and make it valuable and meaningful for the rest of the world? I'm not sure there's ever truly been enough credit for Bill's emphasis on giving back, extending far beyond the sleep field to make sure all this work we do in the night is going to affect how people's waking lives are improved."

Accolades for Dr. Dement's work came from more unexpected places as well. The Truck Safety Coalition in a tweet recalled his efforts to address sleep deprivation and its risks to highway safety on a national level.

"TSC expresses deep gratitude to Dr. William Dement for his pioneering work on sleep deprivation, especially truck driver fatigue. His research was critical to advancing federal hours-of-service rules and made our highways safer for everyone."

Former students and colleagues also remembered Dr. Dement for his defining contributions to sleep medicine.

Bill Dement and Cheri Mah in their favorite t-shirts.

"My dear mentor Dr. William Dement, the Father of Sleep Medicine, leaves an unparalleled legacy & will be missed deeply. My best Stanford memories will always be tied to Dr. D. Thanks for your guidance, encouragement, & golfcart rides. #DrowsinessIsRedAlert" – Cheri Mah, MD, clinical and translational research fellow at the University of California San Francisco.

With extraordinary vision and leadership, Dr. Dement laid the foundation for the AASM while nurturing the development and growth of the sleep field. We are grateful to be a part of his legacy.

Sleep Community Responds to Coronavirus Pandemic

By Jennifer Gibson

In tough times, people rise to the challenge, and the coronavirus pandemic has tested each and every one of us. Whether we've lost a loved one, are sheltered in place, lost a job or find ourselves teaching our children, the last few months have brought new challenges — and with them, new opportunities. Here, we highlight just a few of the AASM members across the country who have shifted their day-to-day sleep medicine routine to one that supports frontline health care workers managing the pandemic.

Leading a rapid response for safe testing

Within a few days of the first COVID-19 case in his county, Christopher Hope, MD, medical director of sleep services for the East Alabama Medical Center Sleep Disorders Center, was launching the medical center's COVID-19 call center and drive-thru testing service.

"Having a background in health care quality and process improvement, I had some choice suggestions on how to maximize efficiency while reducing the risk to our health care workforce, and I've been in charge since," said Dr. Hope.

He's been leading a team of physicians, nurse practitioners and allied health professionals who implemented ambulatory testing for COVID-19 while also screening hundreds of callers daily for symptoms. The team also oversees the hospital's employee screening and testing, performs contact tracing, and liaises with local health care providers and industries about best practices in screening and testing their workforce.

Dr. Hope's staff also played a critical role in response efforts.

"Our sleep center staff is spread throughout our organization, including running the call center on both day and night shifts, collecting samples at our drive-thru testing sites, practicing respiratory care, and setting up a sleep telemedicine program so that we can continue to care for our established sleep patients' needs."

East Alabama Medical Center Sleep Disorders Center office staff Angie Perryman and Emily Freeman safely screen patients at a drive-thru testing site.

Keeping good sleep in our sights

"One thing that I realized very early on is that literally everybody's sleep is changing," said Michael Grandner, PhD. "I can't think of anybody whose sleep pattern hasn't been modified by this event."

As a sleep psychologist, Dr. Grandner has been taking his message to social and traditional media to increase awareness of the value of sleep and good mental health during stressful times. Health care and other frontline workers were top of mind when he put together tips that go beyond the standard good sleep hygiene recommendations to address sleep during a crisis, but he's concerned for all of us.

"I want to make sure sleep is part of the conversation when we're talking about health and wellness," Dr. Grandner explained. "Sleep can play an important role in our immunity and mental health."

The director of the sleep and health research program at the University of Arizona and the behavioral sleep medicine clinic at the Banner-University Medical Center, Dr. Grandner has seen an increase in insomnia among his patients and a jump in recollections of dreams, many troublesome. He advises everyone to turn off the screens.

"Give yourself permission to disconnect as an investment in the next day's productivity and effectiveness," he said. "By staying up later, you're killing tomorrow."

Providing critical care at critical times

It was all hands on deck at Yale New Haven Hospital, and Christine Won, MD, was called into action. The medical director of the Yale Centers for Sleep Medicine is also trained in pulmonary disease and critical care medicine. She did a week-long rotation in the ICU in the early stages of the pandemic.

"We didn't know what the disease was about, the transmission rate…everyone was a little nervous and fearful because there were so many unknowns," Dr. Won recalled. "Things escalated at the same time. We were fearful we were going to run out of PPE, vents, resources, nurses. People were afraid, that's for sure."

Thankfully, the hospital took steps to ensure health care workers were protected and had the equipment they needed, although some gear was sterilized and reused. Dr. Won's other considerations were for the safety of her young daughters and her husband, a cardiologist at the same hospital, who would also be called to the frontlines.

"Fortunately, our hospital was understanding, so they made sure we weren't on shift at the same time and were spread out enough

to do some self-quarantining to reduce the risk of bringing anything home," she said.

Dr. Won believes the innovation and collaboration that's arisen from COVID-19 is this crisis's silver lining.

"It's really advanced health care delivery. What I'm really excited about is how this propels telehealth, and sleep medicine in particular is going to benefit," she said. "People are thinking about technology and health care delivery that's really going to advance our area as well."

Engineering solutions to shortages

An example of that innovation and collaboration grabbed headlines when a team from Mount Sinai hospital intervened to head off a potential shortage of ventilators. Before the surge in cases, the hospital expected it would need three to four times the number of available ventilators, and that was the lightbulb moment: There were plenty of bilevel PAP machines in the sleep lab. Could they be reconfigured to provide noninvasive breathing support while minimizing aerosolization and the risk to health care workers?

"We mobilized a group of sleep savvy respiratory therapists and sleep techs and sleep physicians who had experience with all this, and we tried to make it readily available," said David Rapoport, MD, director of the sleep medicine research program at Mount Sinai. "It illustrates something I've seen over and over again: The crisis brought forward all sorts of unexpected volunteers to help us survive the peak."

The team identified a series of risks and mitigation strategies, and the equipment and supplies needed to modify the machines, 200 of which were donated by Tesla CEO Elon Musk. To reduce aerosolization, a connection to an endotracheal tube replaced the mask; an alarm was added to alert hospital staff to problems with air flow; and modifications allowed clinicians to adjust machines remotely.

"One of the biggest strengths of our task force was the number of different approaches and backgrounds," said Drew Copeland, RPSGT, director of operations for the sleep program at Mount Sinai. "David and his wealth of knowledge on these machines; anesthesiology looking at monitoring and alarms; the sleep lab adding in the ability to remotely change pressure; critical care physicians and respiratory therapists talking through the logistics of doing this in a patient's room. What we ended up with, the strength is in its simplicity and also its flexibility."

Bilevel ventilators are more readily available than invasive vents, said Dr. Rapoport, and Mount Sinai's protocols are being used worldwide to address the surge in COVID-19 patients in new hotspots. Meanwhile, the team at Mount Sinai started using CPAP to treat patients who need therapy but not hospitalization. The hope, according to Dr. Rapaport, is that continuous use of CPAP for 72 hours could lessen the course of the disease and keep patients from requiring hospitalization.

Members of the Mount Sinai team that created the ventilator prototype include, from left, Drew Copeland, RPSGT; Thomas Tolbert, MD; Brian Mayrsohn, MD; and Hooman Poor, MD.

Conducting research in real-time

With little understood about the coronavirus, Atul Malhotra, MD, immersed himself in the critical care unit at the University of California San Diego Health. Among his many roles, Dr. Malhotra is research chief of pulmonary, critical care and sleep medicine at UCSD, so when sleep research was paused, he spent more time in the critical care unit, helping it run smoothly, while collecting vital information to understand how the disease behaved.

"Because there's no known treatment for COVID, people started giving therapies haphazardly," said Dr. Malhotra. "One thing we mandated early on was that we weren't going to do that. We would stick with proven critical care methods and enroll as many patients as possible in clinical trials."

UCSD is the site of several randomized clinical trials to study treatment options for COVID-19, including several that have shown promise such as remdesivir and tocilizumab. Dr. Malhotra is looking for treatments that can address the acute respiratory distress many COVID-19 patients experience.

He also wants to make sure people aren't neglecting their sleep during the pandemic. Not only can it help build immunity, Dr. Malhotra says sleep can also benefit us when a vaccine is available.

"There is data that shows the antibody response after a vaccine is diminished in people who are sleep deprived," he explained. "Treating sleep and sleep issues is a helpful strategy to help prevent viral infections and pneumonia, so we might benefit more people by treating sleep issues. What we're doing is important, and we should continue to do that."

Remembering Three Decades of Collaboration With Dr. Mark Mahowald

The field of sleep medicine lost an esteemed physician, researcher and educator when AASM Past President Mark Mahowald, MD, died at the age of 76 on March 18, 2020. Dr. Mahowald's longtime colleague Carlos Schenck, MD, shared these memories of his friend and collaborator.

To read more about Dr. Mahowald's legacy and additional tributes visit the AASM website.

Mark Mahowald and I were colleagues for 28 years at the Minnesota Regional Sleep Disorders Center (MRSDC) in Minneapolis from 1982-2010, until he retired as director. Even though our index patient with REM sleep behavior disorder (RBD) was evaluated in September 1982, it took us until 1984 to gather our initial series of five patients, and so we thought that RBD was quite rare, an interesting curiosity of nature. During this period, we learned that in 1965 Michel Jouvet, a noted neuroscientist in Lyon, France, had created the first experimental animal model of RBD in cats who had received pontine lesions in the brainstem. These cats demonstrated "oneiric behaviors" (presumed dream-enacting behaviors) while they were clearly in REM sleep (called paradoxical sleep in animals). This cat model encouraged us to pursue a neuropathological basis for RBD in our patients, which ultimately led to our discovery that RBD is often the first sign of future Parkinson's disease (PD) and related neurodegenerative conditions. So, a newly discovered sleep behavior disorder — RBD — became recognized as the frequent early sign of a classic neurological disorder — PD. This was a notable example of the strong relevance of sleep medicine and sleep research to another medical field.

Now enter William C. Dement, MD, the most influential and acclaimed figure in the history of clinical sleep medicine. Bill was tireless in promoting the development of sleep centers around the country, and in 1984 he was invited to give a lecture in Minneapolis sponsored by our MRSDC. At a separate seminar during Bill's visit, I presented a video on our first five RBD patients. Bill was excited to see the video and exclaimed, "For many years I have been looking for patients with the disorder that Michel Jouvet had created experimentally with his cats, and now you have found these patients!" Bill, as editor, urged us to submit these five cases to the journal SLEEP for publication, which came out in 1986. Bill also saluted Mark for what our sleep center had already accomplished in the short time of its existence.

Here is the backstory for how we named RBD. Initially, Mark, a neurologist, called it "REM movement disorder" (RMD) because his primary field of neurology was replete with "movement disorders," which is also a subspecialty in neurology. So, it was natural for Mark to call this new condition RMD. However, I came from a background of psychiatry, which was replete with "problematic behaviors," such as out-of-control manic patients. So, to me, hearing patient stories and seeing videos of men punching and kicking while dreaming were examples of harmful behaviors during sleep. Therefore, it was natural for me to call it RBD. Susan Phelps, our original sleep center receptionist and secretary, who typed out the agenda for our weekly Tuesday noon case conference, at some point had heard enough about RMD vs. RBD. She started typing "RBD" on the agenda of cases to be discussed, and that settled the issue: RBD became the official term.

Our initial patients with RBD were often featured on local TV stations and in newspaper articles, and later CNN and network television programs, and in national publications such as The New York Times and National Geographic magazine. These appearances raised public awareness about RBD but also opened the floodgates of referrals for many people around the country with other parasomnias, such as sleep eating, sleep terrors, complex and dangerous sleepwalking, and sexsomnia. These people and their families had reasoned that if our center could evaluate and manage RBD, then we hopefully could understand and manage their particular types of sleep behavior disorders. That is how we deepened our knowledge about the range of parasomnias in adults — and the forensic consequences. So, the power of the media was amply demonstrated.

In 1978, Mark was a staff neurologist when he founded the MRSDC with Milton Ettinger, MD, chief of neurology at the Hennepin County Medical Center. They had the vision to create a multi-disciplinary sleep disorders center, bringing together clinicians from all the medical specialties pertaining to sleep, including pediatrics. I became the psychiatrist on the team. Here is a funny anecdote that Mark shared with me: At the beginning, in 1978, he and Milt Ettinger were concerned about the long-term prospects for the MRSDC. Why? They reasoned that within a few years they would diagnose all the narcoleptics in Minnesota, along with those with sleep apnea, and a smattering of patients with other sleep problems (and back then the parasomnias were considered to be a generally benign problem in children). So how could the MRSDC continue to subsist after most of the Minnesotans with sleep problems had been identified and treated? Very funny.

Finally, it has become almost second nature for me to present Mark Mahowald's viewpoint, besides my own, during a case presentation or during discussions of clinical and scientific topics. His vast experience, unique perspectives, and illuminating spirit live on strongly, as we continue to miss his actual presence.

Sleep Technologists Share Their Passion for Improving Sleep

Sleep technologists are vital members of the sleep team. At the forefront of technology and testing, sleep technologists provide comprehensive patient care and education at sleep centers around the world. AASM Sleep Technologist and Respiratory Therapist Assembly Chair Todd Burchard, RPSGT, and Vice Chair Matthew Balog, MPH, CCSH, RPSGT, asked sleep technologists Melissa Sanchez, CPSGT, and Tj Woffinden, RPSGT, some questions about their careers and the field of sleep medicine.

Read the online version of this article for their complete interview.

Melissa Sanchez, CPSGT
Nemours/Alfred I. duPont Hospital for Children, Wilmington, Del.

Tj Woffinden, RPSGT
Uintah Basin Healthcare Sleep Center, Roosevelt, Utah

What sparked your interest to become a sleep technologist?

Melissa Sanchez: As a person interested in working in a care-giving capacity, I always knew the field of sleep medicine intrigued me. With that said, my spouse has sleep apnea and is currently receiving treatment with CPAP therapy. It's been my passion to expand my knowledge to better understand his medical condition and be able to help others in the process.

Tj Woffinden: I had an aunt who worked in sleep and would occasionally speak about her experiences. I had a general interest in all things science, and after college I became aware of an opening in the sleep department at the University of Utah. Curiosity first drew me to sleep, but I did not expect it to become my career. I became passionate about the science of sleep as I learned more and participated with the sleep community.

How has the field changed over your career?

MS: I am new to the field; however, I appreciate the continuing education credits that are required to stay compliant to advance within the field and to expand on any new developments in sleep medicine or my job as a sleep technologist.

TW: Dr. Jones at the University of Utah sleep lab often spoke about the newness of sleep medicine. I'm happy to report the continued evolution of sleep. Masks are becoming more comfortable and diversified, and the technology of PAP therapy is becoming more complex to treat more difficult conditions. Understanding and therapies for a wide variety of sleep conditions have evolved.

Where do you see the sleep field going in the next decade? What can we do to start preparing?

MS: In the next decade, I expect the sleep field to explode. I think sleep medicine is still in its infancy in a sense, and that people need to continuously be made aware of the importance of healthy sleep, and the impact it has on health. More individuals should be trained in sleep so that we have adequate staff to support the growing field.

TW: I think sleep is going to change in big ways, perhaps more so than since its founding. Masks are going to get more comfortable and user-friendly, CPAP machines more intelligent, techs more educated, and patients will have better outcomes and better adherence. Keep current if you want to know what you will be dealing with. Sleep conferences, sleep media, and other passionate sleep workers can help keep you informed.

What do you like the most about the field?

MS: What I like most about the field of sleep is the opportunity to help individuals on a personal level. I enjoy sharing my knowledge with my patients and interacting with people of all ages. It is truly a unique opportunity in which I get to make a difference and help people each time I go to work.

TW: I love that we change lives so quickly. Diet, exercise, and other activities are all important, but it all starts with sleep. Most productive changes take time and hard work. However, in sleep medicine we see patients' lives improve in dramatic ways in just a couple weeks, and occasionally overnight. Sleep is a multifaceted good. We help patients sleep better, which helps them stay awake better and often improves their mood and quality of life. Better sleep helps them stay more active, make better food choices, and enjoy their life more. This is why I'm a sleep tech.

Describe your greatest accomplishment in sleep medicine.

MS: My greatest accomplishment so far has been to complete an associate degree in polysomnography. That training has been beneficial in preparing me for the role of a sleep technologist.

TW: Hands down, my greatest accomplishments in sleep medicine are the improvement of the patients' quality of life.

What have you learned while on the job that you think would be helpful to other sleep technologists?

MS: I have learned that it is crucial to ask questions. If there is one piece of advice that I could give to other technologists, it would be to continuously be receptive — to realize that there is always more to learn. An open mind is key, and it will benefit both the technologist and the patient.

TW: Being a tech is hard but rewarding. Sleep medicine can prevent illness, accidents and nuclear meltdowns. It saves lives and money. People often struggle to know if they are doing any good in the world or if what they do has value, but as a sleep tech, you know.

Sleep Psychologists Make Sleep Teams Stronger

Emerson M. Wickwire
PhD, FAASM
AASM Sleep Psychologist Assembly Chair

Deirdre Conroy
PhD, FAASM
AASM Sleep Psychologist Assembly Vice Chair

The field of sleep medicine would not be where it is today without the seminal contributions of sleep psychologists in the areas of research, teaching, clinical care, and leadership. Sleep psychologists have played important roles at every phase of growth of the field as well as the AASM and its predecessor societies. Despite this breadth of contribution, sleep psychologists are underutilized within sleep medicine centers. As a result, millions of Americans fail to benefit from comprehensive sleep medicine care, including all that sleep psychology has to offer.

Sleep Psychologists, the Sleep Team, and AASM 2.0

To increase access to comprehensive sleep medicine care, the AASM is committed to the sleep team as a model for team-based care delivery. The sleep team includes doctoral-level clinicians (physicians, psychologists, and dentists), as well as advanced practice providers (nurse practitioners and physician assistants) and sleep technologists and respiratory therapists. In support of this team-based approach, the AASM has launched AASM Sleep Team Assemblies for non-physician members.

These Assemblies "are designed to bring our non-physician partners together and provide an environment where they can learn from and network with other members from similar professional backgrounds. Each Assembly will have access to an online community group in which participants will be able to find other Assembly members to network with, participate in open dialogue, receive periodic digests of discussions, send private messages to other members and help shape content within the AASM for the constituents of the Assembly."

Based on highly positive discussions with AASM leadership about "AASM 2.0," we are confident that the best days are ahead for sleep psychology and comprehensive sleep medicine care. Now, more than ever, we have an opportunity to leverage the diversity in skills of our members, virtual technology, and platforms for delivering care. Thus, the purpose of this article is to share several updates regarding the Sleep Psychologist Assembly and to generate interest in upcoming activities.

Clarifying and Codifying a Vision for The Future

Although the sleep team concept is not a clinical guideline per se, members of the sleep medicine community would benefit from a "vision statement," position paper, or similar document, which would allow Sleep Team Assemblies to work together to codify what is meant by comprehensive sleep medicine care, and to provide practical suggestions to make this happen in diverse sleep medicine settings. To this end, the AASM Board of Directors has assigned each Sleep Team Assembly a new goal for 2020-2021: "Develop content for a new resource outlining practice models that incorporate sleep team members in expanding services and facilitating better patient care." This is an exciting opportunity to increase access to sleep psychology services in AASM member centers.

Creating a meaningful, highly visible document is a wonderful opportunity to clarify and refine a vision for the kind of comprehensive care to which many of us have committed our professional lives. Such a road map is needed to encourage dialogue within and among assemblies as well as to highlight optimal approaches for AASM-accredited sleep disorders centers, which can then be rewarded. For example, it has long been encouraged that AASM sleep centers with a psychologist on staff receive special recognition; perhaps the concept of centers of excellence can be revisited, with Sleep Team Assemblies in mind. Volunteers will be needed – stay tuned for opportunities to contribute.

Upcoming Assembly Webinar

The Sleep Psychologist Assembly will host an upcoming webinar on a topic to be decided by sleep psychologist members. Please log into the Discussion Forum and vote on one of the below topics, or suggest another topic of interest:

- How to incorporate a sleep psychologist into your sleep center
- Billing and coding for sleep psychology services
- Telehealth approaches to sleep psychology
- Including sleep psychology in ACGME sleep medicine fellowships
- Basic and advanced sleep psychology treatments
- Sleep psychology research
- Careers in sleep psychology
- And more!

Welcome New Vice Chair, Deirdre Conroy, PhD

In January 2020, the AASM Executive Committee approved Deirdre Conroy, PhD, as the vice chair of the Sleep Psychologist Assembly. An AASM member for over 20 years, Dr. Conroy is well-known to many members. She is a clinical professor of psychiatry at the University of Michigan and clinical director of the behavioral sleep medicine program at UM Health Systems. Dr. Conroy is board-certified in sleep disorders medicine, cognitive and behavioral psychology, and behavioral sleep medicine. She is also a past chair of the AASM Insomnia Section and a recognized leader in the field. So, Dr. Conroy brings a wealth of experience and a thoughtful approach to her leadership role within the Sleep Psychologist Assembly.

The Society of Anesthesia and Sleep Medicine: A Call for Collaboration

By Dennis Auckley, MD

The Society of Anesthesia and Sleep Medicine (SASM) was formed more than 10 years ago to promote interdisciplinary communication, education and research into matters common to anesthesia and sleep. Since that time, the society has grown to more than 1,000 members and has become a resource for all things related to perioperative sleep medicine. However, in order to reach its full potential, SASM needs more robust participation from the sleep medicine community. SASM has much to offer, and I hope my colleagues in sleep medicine will explore engagement with SASM.

SASM's inaugural meeting, "OSA, Anesthesia and Sleep: The Common Ground," was held in Chicago in 2011. Subsequently, SASM has successfully held an additional eight annual conferences, published two perioperative OSA guidelines, delivered numerous newsletters, established an interactive website (sasmhq.org) and developed into an organization capable of addressing the numerous and varied aspects of this interdisciplinary field.

Like the AASM, education and dissemination of information are key missions of SASM. This fall, SASM plans on hosting its 10th anniversary conference Oct. 1-2. Due to the ongoing uncertainties over the coronavirus pandemic, the meeting will be virtual. The meeting has consistently had a roster of expert speakers from anesthesia, sleep medicine and other relevant fields covering topics pertinent to practitioners of sleep medicine, and this year will be no different. Please visit the SASM website for the latest details, schedule and registration information.

Sleep medicine providers are often asked to provide preoperative evaluation and perioperative recommendations for patients with OSA. Recognizing the need for guidance in this area, collaborative task forces within SASM developed and published evidence-based, expert consensus guidelines on the best practices for *preoperative* assessment and management and *intraoperative* management of patients with OSA. To complete this set of recommendations, guidelines for the postoperative care of patients with known or suspected OSA are being planned. Pediatric and obstetric perioperative OSA evaluation and management guidelines are also currently being developed by SASM task forces.

SASM recognizes that the overlapping fields of anesthesia and sleep medicine go well beyond that of OSA in the perioperative setting. Understanding the basic mechanisms determining unconsciousness in both anesthesia and sleep could lead to new insights into the nature of anesthesia itself. For example, it is yet to be explained why sleepiness appears to increase susceptibility to anesthesia, or why this susceptibility appears to have a circadian variation. While anesthesia may have some of the restorative powers of sleep, sleep loss due to pain and other factors is common postoperatively and may adversely impact recovery from surgery. Similarly, sleep loss may adversely affect outcomes in other hospital environments. Exploring the inter-relationships between sleep disturbance, sedation and their effects on clinical outcomes is likely to have implications outside of the perioperative arena and is a fertile area for future research. In addition, the sleep medicine community should have a vested interest in exploring the relationships between the perioperative environment and other sleep disorders (e.g., RLS, narcolepsy), and determining best practices for managing our patients during this time. SASM has been actively investigating these areas as well with further work being planned.

SASM is looking to work in concert with the sleep medicine community and enhancing collaborations. Both SASM and the AASM stand to gain from further interactions that could advance the field of perioperative sleep medicine and positively impact our practices and patient care. As a society built on engagement, SASM looks forward to working with you.

Sleep Fact Sloth:
Is your pandemic dream in color?

Before the introduction of the color television, only 15 percent of people dreamed in color. Today, the majority do, but a study from the University of Dundee found that 12 percent of us dream exclusively in black and white, mostly older people, who likely recall the days of black and white TV.

https://doi.org/10.1016/j.concog.2008.09.002

Update: AASM Foundation Strategic Goal 3

Increase the Engagement of Current and Potential Stakeholders

Key Objectives

- Increase engagement with an expanded network of stakeholders
- Increase network of financial supporters

The AASM Foundation's success is dependent on strong lines of communication with extended networks of stakeholders. We have been working to expand our reach and impact by increasing the interest, awareness and participation of a wide variety of stakeholders, including AASM individual members, AASM facility members, current and potential award recipients, donors, industry supporters and the general public.

Recently Launched Programs and Initiatives:

- The Community Sleep Health Award supports a wide range of projects spearheaded by community leaders and/or interprofessional individuals (educators, researchers, practitioners, students) who are dedicated to addressing sleep health needs in the community.
- The Sleep Champion Award celebrates successful community-based sleep health services and education provided by nonprofit organizations.
- The Disaster Relief Fund application process was modified to give previous recipients the option to apply for additional funds to expedite the recovery of sleep centers impacted by natural disasters.
- The AASM Foundation's annual fundraising campaign is now held in conjunction with the AASM's membership renewal season with a focus on educating members about how the AASM Foundation is supporting the future of sleep medicine by creating healthier lives through better sleep.
- We have expanded our presence on social media! Follow us on Facebook, Instagram, Twitter and LinkedIn.
- Enhanced presence at AASM conferences and special events to educate and interact with members, donors and volunteers.

Visit **foundation.aasm.org** and make a donation today!

Congratulations to the 2020 Sleep Champion Award Recipient!

Sweet Dreamzzz Inc.

The AASM Foundation is proud to announce that Sweet Dreamzzz is the recipient of the inaugural Sleep Champion Award. Sweet Dreamzzz is a pioneer in developing impactful, replicable and sustainable sleep health education programming for low-income children and families. The organization, based in Michigan, will receive $5,000 and a travel award for a representative to attend the SLEEP 2021 meeting.

Thank You to Our Corporate Supporters

The AASM Foundation accepts corporate contributions from companies that are interested in expanding their philanthropic support of clinical research and our programs. Thank you to the following companies for generously supporting the AASM Foundation's programs. For more information about our corporate support program, please contact **giving@aasm.org**.

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In patients with excessive daytime sleepiness...

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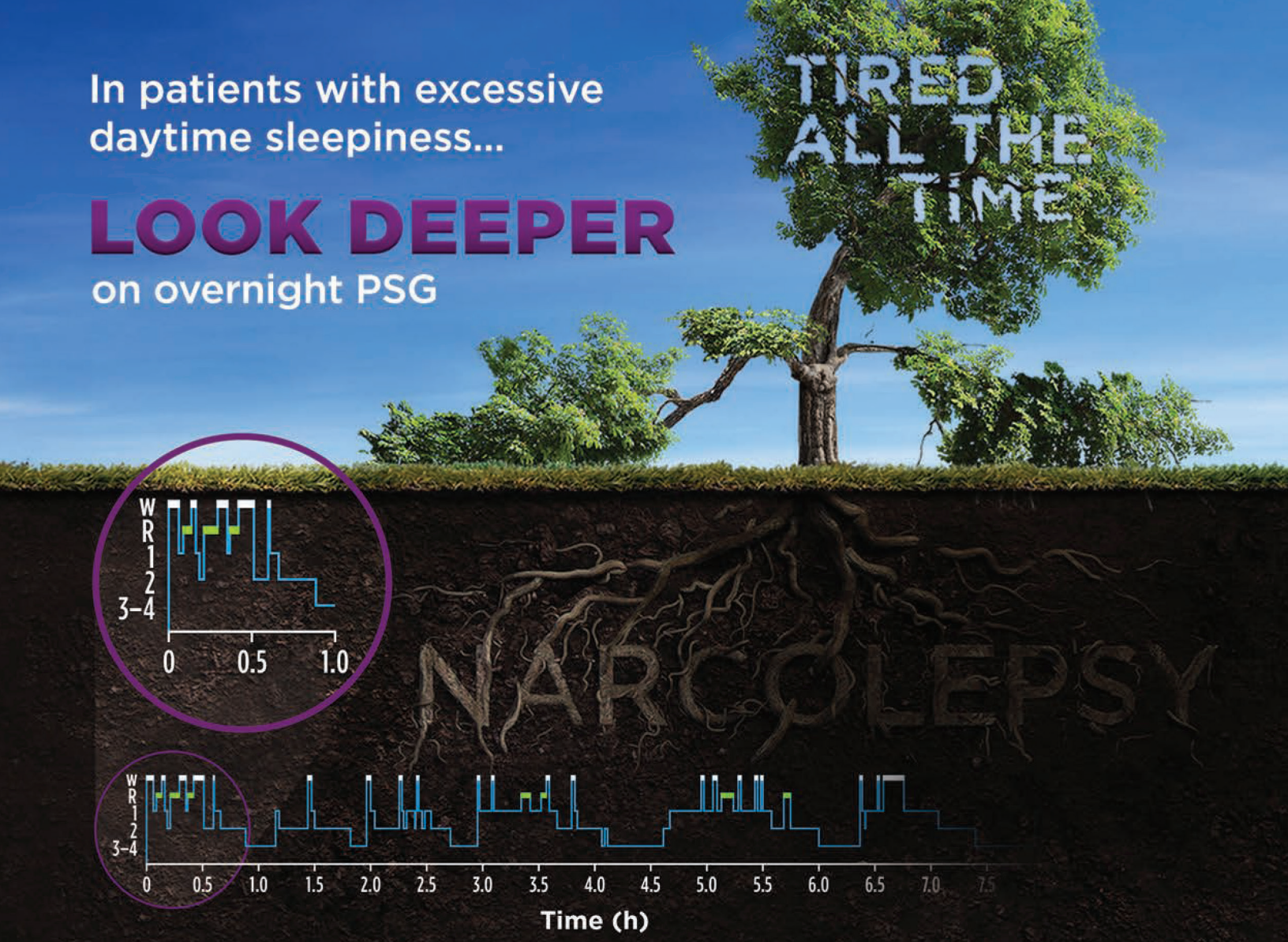

In patients with a nocturnal SOREMP,

have you considered narcolepsy?[1-3]

Learn more about diagnosing narcolepsy

Access educational resources and screening tools at **NarcolepsyLink.com**

PSG, polysomnography; SOREMP, sleep-onset REM (rapid eye movement) period.

REFERENCES

1. American Academy of Sleep Medicine. *The International Classification of Sleep Disorders*. 3rd ed. Darien, IL: American Academy of Sleep Medicine; 2014. **2.** American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. Washington, DC: American Psychiatric Association; 2013. **3.** Andlauer O et al. *JAMA Neurol*. 2013;70(7):891-902.

Hypnogram courtesy of Russell Rosenberg, PhD, Atlanta School of Sleep Medicine and Technology.

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