Disputes & Debates: Editors' Choice

Steven Galetta, MD, FAAN, Section Editor

Editors' note: Incorporating sleep medicine content into medical school through neuroscience core curricula

In this issue of Neurology, Dr. Salas and a team of sleep medicine and medical education experts representing 6 major academic centers report on the need for and value of a formal sleep medicine curriculum in medical school. Not only are sleep medicine disorders extraordinarily common—affecting 1 in 6 Americans, according to survey data—but they are strongly tied to a swath of other comorbid conditions, ranging from cardiovascular disease to synucleinopathies. The authors also acknowledge that a heightened awareness of sleep hygiene among medical trainees may improve their own wellness and attenuate physician burnout. Dr. Sethi expresses some reservation that additional curricula may only add to the burden imposed upon medical students during their neurology clerkship. Instead, Dr. Sethi writes, perhaps sleep medicine should be incorporated into trainee education at the residency level. In response, Dr. Strowd and colleagues acknowledge this barrier. They emphasize the importance of pre-clerkship and longitudinal exposure to sleep medicine in order to crystallize these clinical concepts. By enriching the medical school curriculum with dedicated sleep medicine training, the authors hope that evaluating patients with sleep disorders will no longer be a sudden awakening.

James E. Siegler III, MD, and Steven Galetta, MD
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Reader response: Incorporating sleep medicine content into medical school through neuroscience core curricula

Nitin K. Sethi (New York)
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I read with interest the suggested proposal of Salas et al.[1] to incorporate sleep medicine content into current medical school core curriculum. While I support the authors' recommendations, the medical school neuroscience core curriculum is already packed and students are burdened by a large number of specific learning objectives they are expected to meet by the end of their neurology clerkship. A better way to meet the growing need for sleep clinical care within the health care system would be to emphasize its education at the neurology residency level. The American Academy of Neurology Clinical Neurophysiology (CNP) Section Resident Core Curriculum[2] lists that the resident, "Be familiar with the basic principles of tests, including polysomnography, and multiple sleep latency tests, and evaluation of various sleep disorders." In my experience, most neurology residents—during their CNP rotation—often spend time on CNP procedures, such as EEG and EMG, at the expense of sleep medicine.

1. Salas RME, Strowd RE, Ali I, et al. Incorporating sleep medicine content into medical school through neuroscience core curricula. Neurology 2018;91:597–610.
2. Westmoreland B. American Academy of Neurology Clinical Neurophysiology (CNP) Section Resident Core Curriculum. In: American Academy of Neurology: AAN Core Curricula [online]. Available at: aan.com/siteassets/home-page/tools-and-resources/academic-neurologist–researchers/teaching-materials/aan-core-curricula-for-program-directorstor/clinical-neurophysiology-resident_tr.pdf. Accessed October 3, 2018.

Author disclosures are available upon request (journal@neurology.org).

Author response: Incorporating sleep medicine content into medical school through neuroscience core curricula

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We appreciate Dr. Sethi's feedback highlighting some obstacles we considered when formulating our suggestions for integrating sleep medicine training into medical school,[1] namely when and where to deliver sleep content.

We agree that more in-depth training should be provided to neurology residents, possibly as a component of their clinical neurophysiology rotations, as previously suggested.[2] We also see a need for moving sleep medicine exposure earlier for all students. We agree that medical school curricula are already packed. We advocate for using evidence-based approaches that integrate clinical patient contact into preclerkship training and basic neuroscience instruction into clerkships.[3,4] Preclerkship neuroscience courses should provide an entry point, teaching sleep fundamentals and providing exposure—which is currently the case of neuroscience curricula at some schools. Clerkship rotations then deepen students' application of sleep physiology to patients and focus on the clinical examination and management of sleep disorders.

Although we see neurology as an important leader in sleep medicine training, a strength of this field is the diversity of backgrounds that contribute to this area of medicine. Further integrating sleep training across these many fields during medical school and residency will likely reduce curricular burden, benefit training programs, and influence patients.

1. Salas RME, Strowd RE, Ali I, et al. Incorporating sleep medicine content into medical school through neuroscience core curricula. Neurology 2018;91:597–610.
2. Avidan AY, Vaughn BV, Silber MH. The current state of sleep medicine education in US neurology residency training programs: where do we go from here? J Clin Sleep Med 2013;9:281–286.
3. Wilkerson L, Stevens CM, Krasne S. No content without context: integrating basic, clinical, and social sciences in a pre-clerkship curriculum. Med Teach 2009;31:812–821.
4. Rajan SJ, Jacob TM, Sathyendra S. Vertical integration of basic science in final year of medical education. Int J Appl Basic Med Res 2016;6:182–185.

Editors' note: A sleep medicine medical school curriculum: Time for us to wake up

In Dr. Smith's editorial regarding the newly suggested sleep medicine curriculum by Salas et al., the author summarizes a call to arms in order to increase trainee exposure to sleep disorders. For conditions that affect 50–70 million Americans, with tens of billions of dollars in annual healthcare costs, sleep medicine training comprises a regrettable minority of medical education (0.06% of total classroom time). A heightened awareness of sleep disorders in medical school may also indirectly benefit medical students themselves as they reflect on their own sleep practices. With better sleep hygiene, Dr. Smith postulates, students may be at a lower risk of burnout. Dr. Spector, a sleep disorders specialist, worries that enforcement of additional coursework regarding sleep hygiene is hardly a solution to the burnout problem. Encouraging students to re-evaluate their own sleep practices by mandating additional coursework would be like "rubbing salt in a wound." Regardless of how or when formal instruction in sleep medicine is provided, everyone seems to agree that our deficiency of sleep medicine exposure should serve as a wake-up call for medical educators.

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Reader response: A sleep medicine medical school curriculum: Time for us to wake up

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Dr. Smith is correct that there is an "urgent need to improve medical school sleep medicine education."[1] I wholeheartedly agree with the proposal by Salas et al.[2] Unfortunately, although there are many valid justifications for sleep medicine education, teaching about sleep will not improve burnout among medical students. The link between burnout and sleep is most likely due to sleep deprivation,[3,4] but medical students are not sleep deprived because they lack the knowledge that they ought to sleep. Telling medical students to sleep more while providing no mechanism for them to do so is "rubbing salt in a wound." This could paradoxically worsen burnout by adding to the anxiety that they should be able to "do it all"—good grades, regular exercise, research, social life, and 8 hours of sleep. Sleep education will only improve students' well-being if it is coupled with substantial structural changes to the medical school experience that promote the health of the students (e.g., eliminating overnight call). Otherwise, we should promote sleep medicine education because it is important to being a well-educated physician and not because of any personal benefit for the students.

1. Smith AG. A sleep medicine medical school curriculum: time for us to wake up. Neurology 2018;91:587–588.
2. Salas RME, Strowd RE, Ali I, et al. Incorporating sleep medicine content into medical school through neuroscience core curricula. Neurology 2018;91:597–610.
3. Jarral OA, Baig K, Shetty K, Athanasiou T. Sleep deprivation leads to burnout and cardiothoracic surgeons have to deal with its consequences. Int J Cardiol 2015;179:70–72.
4. Leonard C, Fanning N, Attwood J, Buckley M. The effect of fatigue, sleep deprivation and onerous working hours on the physical and mental wellbeing of pre-registration house officers. Ir J Med Sci 1998;167:22–25.

Author response: A sleep medicine medical school curriculum: Time for us to wake up

A. Gordon Smith (Richmond)
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Dr. Spector raises an important point regarding sleep health and medical student wellness in response to my editorial.[1] Addressing physician and medical student well-being will, indeed, require both structural and cultural changes in the practice of medicine. Neurology, as a specialty (largely through the efforts of the American Academy of Neurology), has established itself as a leader in addressing physician burnout. This level of professional advocacy is made possible by neurologists' recognition of this issue as a priority and their understanding of its drivers. Educating medical students about sleep health will not only prepare them to directly serve their patients' needs but will also equip them to care for themselves throughout their professional careers and to advocate for necessary reforms.

1. Smith AG. A sleep medicine medical school curriculum: time for us to wake up. Neurology 2018;91:587–588.

Author disclosures are available upon request (journal@neurology.org).

CORRECTIONS

Clinical phenotype, atrophy, and small vessel disease in *APOE*ε2 carriers with Alzheimer disease

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In the article "Clinical phenotype, atrophy, and small vessel disease in *APOE*ε2 carriers with Alzheimer disease" by Groot et al.,[1] published online ahead of print on October 19, 2018, there were errors in figure 1 and figure 5A. Figure 1 and figure 5A should each appear with axis labels. The corrected figures appear in the November 13 issue. The authors regret the error.

Reference

1. Groot C, Sudre CH, Barkhof F, et al. Clinical phenotype, atrophy, and small vessel disease in *APOE*ε2 carriers with Alzheimer disease. Neurology 2018;91:e1851–e1859.

Core curriculum guidelines for a required clinical neurology experience

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In the article "Core curriculum guidelines for a required clinical neurology experience" by Safdieh et al.,[1] first published online February 22, 2019, the American Academy of Neurology Undergraduate Education Subcommittee and Consortium of Neurology Clerkship Directors should have been listed as endorsing the paper in a footnote and not listed in the author byline. The corrected version appears in the March 26 issue. The editorial office regrets the error.

Reference

1. Safdieh JE, Govindarajan R, Gelb DJ, Odia Y, Soni M. Core curriculum guidelines for a required clinical neurology experience. Neurology 2019;92:619–626.

Practice guideline update recommendations summary: Disorders of consciousness

Report of the Guideline Development, Dissemination, and Implementation Subcommittee of the American Academy of Neurology; the American Congress of Rehabilitation Medicine; and the National Institute on Disability, Independent Living, and Rehabilitation Research

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In the print version of the AAN Practice Guideline "Practice guideline update recommendations summary: Disorders of consciousness" by Giacino et al.[1] published on September 4, 2018, the copyright line stating "Copyright © 2018 American Academy of Neurology" was included in error. The AAN does not claim copyright because the guideline was codeveloped by a US government agency. The corrected version was posted online on September 4, 2018. The publisher regrets the error.

Reference

1. Giacino JT, Katz DI, Schiff ND, et al. Practice guideline update recommendations summary: Disorders of consciousness: report of the Guideline Development, Dissemination, and Implementation Subcommittee of the American Academy of Neurology; the American Congress of Rehabilitation Medicine; and the National Institute on Disability, Independent Living, and Rehabilitation Research. Neurology 2018;91:450–460.

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Practice guideline update recommendations summary: Disorders of consciousness: Report of the Guideline Development, Dissemination, and Implementation Subcommittee of the American Academy of Neurology; the American Congress of Rehabilitation Medicine; and the National Institute on Disability, Independent Living, and Rehabilitation Research

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