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Promoting Sleep: Not a Leap

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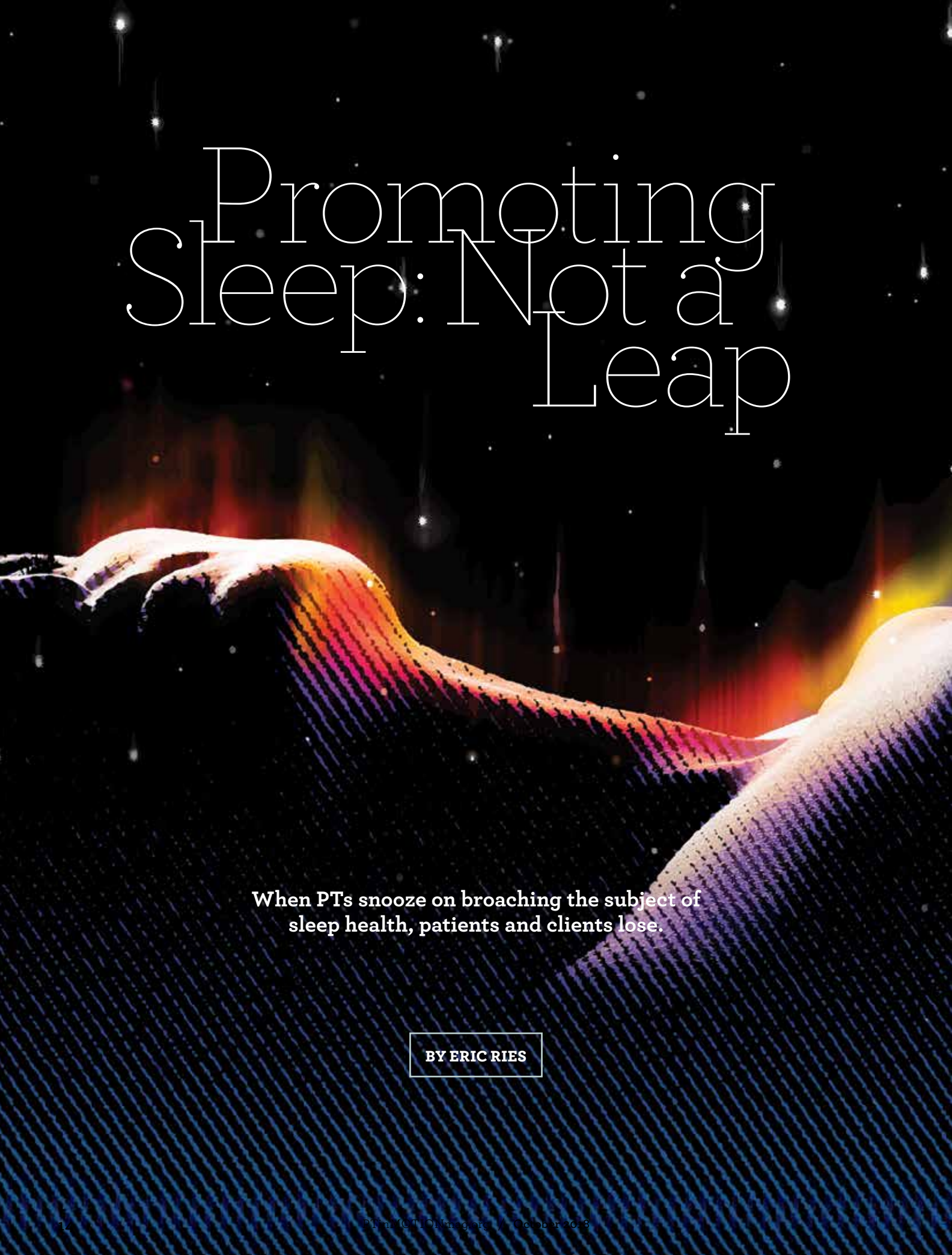
Promoting Sleep: Not a Leap



When PTs snooze on broaching the subject of sleep health, patients and clients lose.

BY ERIC RIES

"There may not be a single body system that can't be improved by getting sufficient sleep."

— Keith Poorbaugh

Poorbaugh

Keith Poorbaugh, PT, ScD, gets poetic when he talks about the power of shuteye.

"Sleep," he says, "is one of your own personal riches. It's yours to invest in or give away."

He invokes philosophy. In a blog post last fall titled "Sleep: The Body Mechanic's Workplace," Poorbaugh wrote, "My favorite quote is from Plato: 'The cure of the part should not be attempted without treatment of the whole.' Whether it's recovery from surgery or healing from a chronic injury," he continued, "sleep is a necessary element of the healing process. Once we have emerged alive and awake from the tissue trauma, the long journey ahead is far less difficult if we develop good sleep behaviors."

Poorbaugh owns aptly named Northern Edge Physical Therapy in Wasilla, Alaska. Ask him about the effects of the Last Frontier's boom-and-bust daylight cycles on his fellow Alaskans' sleep habits, and he sounds equally concerned and frustrated.

During the "midnight sun" months, Poorbaugh says, "There's so much available daylight that people stay up until all hours doing 'Alaskan things.' It's a badge of honor." He continues, "'How much can I get done by going to work early and staying up late working on projects?' It's a challenge to me as a physical therapist, trying to get patients and clients to understand the value of a good night's sleep. They don't think there's any penalty."

But there's a toll, all right, Poorbaugh wants those both-ends candle-burners to know.

"There may not be a single body system that can't be improved by getting sufficient sleep," he says—or that, conversely, can't be compromised by insufficient sleep. He cites a wide body of evidence that was laid out last year in an article published in *Physical Therapy* (*PTJ*), APTA's scientific journal.[1] The authors of the perspective piece, titled "Sleep Health Promotion: Practical Information for Physical Therapists," emphasized sleep's relevance to physical therapist practice.

"Sleep is critical for immune function, tissue healing, pain modulation, cardiovascular health, cognitive function, and learning and memory," the authors wrote. Insufficient sleep, they added, can result in "increased pain perception, loss of function and reduced quality of life, depression, increased anxiety, attention deficits, information processing disruption, impaired memory, and reduced ability to learn new motor skills," as well as "increased risk for accidents, injuries, and falls."

Poorbaugh opened his clinic 5 years ago, after a dozen years in the orthopedic realm, because he felt the need to "bridge" that area of physical therapist practice with wellness approaches to health and healing. His integrative efforts include asking every patient or client a few basic questions about their sleep quality and habits. He proceeds to screening and referral if sleep issues such as chronic insomnia, obstructive sleep apnea (OSA), or restless legs syndrome (RLS) are suggested, and he shares strategies for optimizing sleep.

Poorbaugh acknowledges the "1 more thing" argument—the concern that physical therapists (PTs) have more than enough on their plates already without also plumbing such arguably peripheral concerns as people's sleep habits. He counters, however, that it takes little time and effort to gain sleep insights that may yield highly significant results for both patient and PT.

That's an equation that other PTs interviewed for this article endorse, as well. And they have the patient stories to back it.

NUMBERS AND NEED

APTA recognizes sleep's importance to physical therapist practice in the House of Delegates' position "Health Priorities for Populations and Individuals."[2] Sleep health, the position notes, has been designated as a "health priority" in the National Prevention Council's National Prevention Strategy.[3] To support sleep health, the position further states that PTs should "provide education, behavioral strategies, patient advocacy, referral opportunities, and identification of supportive resources after screening."

Look at the statistics, and it's not difficult to see the impetus to action.

According to the National Institutes of Health (NIH), an estimated 50 million to 70 million Americans "chronically suffer from a disorder of sleep and wakefulness, hindering daily functioning and adversely affecting health and longevity."[4] The "deleterious consequences," NIH continues, include "increased risk of hypertension, diabetes, obesity, depression, heart attack, and stroke."

Further dissecting the numbers, an estimated 10% of American adults have chronic insomnia (difficulty falling or staying asleep at least 3 times per week for at least 3 months),[4] 34% of American men ages 30 to 70 and 17% of American women in that age group have OSA,[5] and at least 5% have RLS.[4] "Hundreds of billions of dollars are spent and/or

lost annually as a result of poor or limited sleep" that contributes to everything from workplace injuries to automotive accidents, NIH states.[4]

The American Academy of Sleep Medicine and the Sleep Research Society recommend that adults get 7 or more hours of sleep per 24-hour period, with the minimum number increasing as age brackets get younger.[6,7] Youth ages 13 to 18, for example, are urged to get 8 to 10 hours of sleep, and 6- to 12-year-olds are advised to sleep for 9 to 12 hours per 24-hour period.

The National Sleep Foundation's 2018 Sleep in America Poll[8] found, however, that while a majority of American adults (65%) believe that sleep contributes to next-day effectiveness, only 10% prioritize it over other aspects of daily living—it lags behind such activities as work (27%) and hobbies and interests (17%), and is essentially on a par with social life (9%) among daily-living priorities.


Siengsukon

Katie Siengsukon, PT, PhD, has long seen insufficient sleep among Americans as a serious health issue. As a new graduate working in an outpatient clinic in 2002, she says, "I saw people with all sorts of different diagnoses, and I was surprised by how many of them simply brought up the fact that they were having difficulty sleeping—I didn't even have to ask them." Beyond advising those patients on positioning to minimize pain they were experiencing, "I didn't know what to do with them," she says—adding, "I got zero information about sleep in PT school."

Those experiences started her on a quest for answers. She focused her PhD a few years later on the role of sleep in motor learning in individuals who'd had a stroke. Now an associate professor in the University of Kansas's (KU) Department of Physical Therapy and Rehab Science, Siengsukon directs the school's Sleep, Health, and Wellness (SleepWell) Lab and conducts research on how sleep affects physical and cognitive function, learning, and overall health in adults both with and without neurologic injury or disease. She was the lead author of the aforementioned *PTJ* piece.

Siengsukon describes her interest in sleep health and its promotion by PTs as a "crusade." PTs, she says, "should be talking about ways to promote sleep health in our clients—every single one of them—and referring those individuals if a sleep disorder is suspected."

Kara Schuft, PT, DPT, heartily agrees. She always asks her patients and clients if they've been having any trouble sleeping. Like Poorbaugh, she has posted a list of "healthy sleep habits" on her clinic's blog—it starts with "Go to bed at the same time every night" and includes such tips as cutting off caffeine after 3:00 pm, nixing electronic device screens at least a half-hour before bed, establishing a relaxing bedroom routine that might include taking a warm shower or reading a book, using the bed for sleep and sex only, and creating a sleep-conducive room environment in terms of temperature, darkness, and noise.


Schuft

"Sleep is vital," says Schuft, an owner of Whole Body Health Physical Therapy in Portland, Oregon. "It's such an important time, not only for physical healing but also for mental well-being. I've seen the difference in my clients when their sleep issues have been identified and addressed," she adds. "Everything comes together. Their movement patterns are better. They're paying closer attention and remembering to do their exercises. All of these things that were barriers—that I might have documented simply as 'poor home exercise adherence' if I hadn't delved into what was really going on—fall away."

"I often find sleep deficit to be significant factor in what's happening with an individual who comes to see me for physical therapy," Schuft says. "That's why I feel so strongly that we, as PTs, need to take the time to start that sleep conversation." The discussion can be spaced over several visits, she adds, if the individual is lukewarm to making behavioral changes or dubious that Schuft's suggestions will yield benefits.

"Sometimes people tell me, 'I tried that before, and it didn't work,'" Schuft says. "I don't want them to feel unheard or not validated, so I try to keep the conversation open-ended and ask if there's anything else they might be interested in trying—such as a 'night shift mode' on their phone to reduce blue light exposure—or if they might consider revisiting an approach they've explored."

That subsequent sleep conversation may turn out to be the driver, Schuft says, of a "cascading effect in which all of these changes occur that help you achieve better outcomes with that patient."

Every PT is busy, Siengsukon acknowledges, referencing the "1 more thing" concern. "We have so much to cover already. But if we're not addressing sleep," she believes, "we're doing our patients a huge disservice. We're potentially limiting their ability to heal and recover, and perhaps compromising their quality of life."

KEY QUERIES

The *PTJ* article stated that sleep disturbances "are likely present in many individuals receiving physical therapist services, which may exacerbate or perpetuate their condition, slow recovery, and impact their outcomes." Authors Siengsukon, Mayis Al-dughmi, PT, PhD, and Suzanne Stevens, MD, also noted that sleep is "frequently altered" in the presence

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>
> — Katie Siengsukon

of neurologic conditions such as stroke, Parkinson disease, Alzheimer's disease, multiple sclerosis (MS), and spinal cord injury—with implications for both ability to learn and recovery. Sleep disturbances also are common, the authors wrote, in people with neck and back pain.

All of this warrants "a focus by PTs on integrating sleep health in[to] wellness and health promotion interventions," Siengsukon and her colleagues wrote. They outlined a 6 step-process that begins with assessing overall sleep health—asking sleep-related questions—and screening for risk of sleep disorders.

The authors recommended that PTs ask the following questions during the patient interview portion of their examination. The final 3 are designed to determine if screening for chronic insomnia, OSA, and RLS may be indicated:

1. How much sleep do you typically get?
2. Do you feel well-rested when you wake up?
3. Is the condition that brought you to physical therapy affecting your sleep? If so, how?
4. How would you rate your sleep quality?
5. Does being sleepy during the day interfere with your daily functioning?
6. Do you have difficulty falling asleep, returning to sleep if you should wake up during the night, or waking up too early?
7. Do you snore loudly or frequently? Has anyone observed you stop breathing while you sleep?
8. Do you have a strong urge to continually move your legs while you are trying to sleep?

Speaking with *PT in Motion*, Siengsukon suggests the list is adaptable to the individual PT's treatment style, reading of the patient, and time concerns. "At very least," she advises, "ask generally, 'How are you sleeping?' If the person says 'Great,' it may be that no further exploration is necessary," she says. "But if the person answers negatively, that can open up a conversation."

Siegsukon suggests 2 basic sleep questions that should be on a standard intake questionnaire: "How many hours of sleep

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— Perry Brubaker

Resources

American Academy of Sleep Medicine

https://aasm.org/

American Sleep Association

www.sleepassociation.org/

Centers for Disease Control and Prevention: Sleep and Sleep Disorders Data and Statistics

www.cdc.gov/sleep/data_statistics.html

National Sleep Foundation

https://sleepfoundation.org/

do you get each night?" and "How would you rate your overall sleep quality?"

Brubaker

Perry Brubaker, PT, DPT, owner of Brubaker Prevention & Health Promotion in Peachtree City, Georgia, asks what she believes is a "safe" question to get at possible sleep issues with her patients and clients, who she visits and treats in their workplaces and homes: "Tell me about the tempo of your day."

"People don't really know what you're driving at," he says, "so they'll take you through their daily schedule and tell you about all the things they need to do in the course of the day. It gives me a good sense of how busy they are. From there, it's easy to ask, 'What time do you find yourself getting to bed?' Their answer to that question, then, informs where I go from there."

Also, rather than having her patients and clients complete a standard medical history, Brubaker distributes a "health behaviors assessment" that asks medical questions but also includes lifestyle-related queries. The form she uses is designed by the Academy of Prevention and Health Promotion Therapies, of which she is a member, but any PT can get basically the same feedback, she advises, by adding to the standard intake form such questions as "How much sleep are you getting?", "How many fruits and vegetables are you eating?", and "How much water are you drinking on a daily basis?"

Tatta

Joe Tatta, PT, DPT, covers the insomnia, OSA, and RLS bases with his patients and clients through 3 questions that appear on his intake form: "Do you regularly have difficulty falling or staying asleep?", "Do you snore or make choking noises at night?", and "Do you have tingling or a sensation like ants crawling on your legs that affects your sleep?" Should the individual answer "Yes" to any of those questions, he gives that person a 30-question sleep questionnaire that he designed. It takes only about 3 minutes to complete, he says, and covers such areas as sleep hygiene (behaviors that promote good sleep), exercise, stress, medications and sleep aids, and nutrition. Tata, a board-certified clinical specialist in orthopaedic physical therapy and a board-certified nutrition specialist, maintains a private practice in New York City.

If an individual's responses to sleep-related questions suggest that screening is appropriate, Siengsukon and her colleagues suggested in *PTJ* that PTs use the following tools—while keeping in mind certain considerations or recommendations:

- For insomnia, administer the Insomnia Severity Index[9]—while considering whether the patient's current condition may be contributing to insomnia symptoms and if treatment of the underlying condition might resolve the insomnia.
- For OSA, use the STOP-Bang questionnaire,[10]—while being mindful when counseling about sleep position, as sleeping supine can exacerbate OSA.
- Rather than screen for RLS, refer patients to their physician if they answer "yes" to the question, "When you try to relax in the evening or sleep at night, do you ever have unpleasant restless feelings in your legs that can be relieved by walking or movement?" Consider the patient population, however. Individuals with MS, for example, may answer "yes" due to such non-RLS factors as spasticity, altered sensation, and lower extremity pain. In those cases, have the physician determine if RLS is present or if treatment of comorbid systems that are disrupting sleep is warranted.

The second of the authors' 6 steps to integrating sleep health into physical therapist practice is "Refer for additional assessment if individual is identified as at increased risk for a sleep disorder." That referral typically is to a physician, who may suggest the individual undergo a sleep study to confirm or rule out a sleep disorder. But Brubaker notes that many of her patients with sleep issues—typically women in their 40s and 50s—show signs of depression that merit a different referral destination.

"It sometimes can be difficult to decipher if depression and anxiety is the sleep problem or if the sleep problem was first and now that person is depressed and anxious," she observes. "But either way, when sleep is an issue and the mitigating interventions that I'm doing in physical therapy—exercise, positioning, instilling healthy sleep habits—aren't helping, that's a red flag that this person needs to see a

behavioral specialist about a possible mood disorder."

HIGHLIGHTING HYGIENE

The third step to integrating sleep health into physical therapist practice is "Provide sleep hygiene education." Siegsukon defines sleep hygiene as "the behaviors and environment that promote good sleep quality." They mirror the advice Schuft shared in her blog post—involving such factors as bedtime routine, exercise, diet, and sleep environment. In her discussion with *PT in Motion*, Siengsukon elaborates on points PTs should discuss with patients and clients in conversation:

- "If you're having difficulty sleeping at night, the recommendation is not to sleep during the day," Siengsukon says. "Some of my research clients with MS have so much fatigue that a brief nap may be needed. But even there, I emphasize the word 'brief': it should last no more than 20-30 minutes and should happen in the early afternoon at the latest."
- "I encourage people to find a relaxing bedtime routine that works for them, such as reading a book," she advises. Siengsukon adds, "I'm interested in a technique called cognitive behavioral therapy for insomnia, or CBT-I. It's the gold-standard nonpharmacological intervention for that condition because it gets at the behaviors that perpetuate it, such as a having a variable sleep schedule and spending extra time in bed in hopes of getting additional sleep. CBT-I also addresses thought processes that perpetuate insomnia, such as having a 'racing mind' and worrying excessively. My CBT-I intervention for people with MS includes breathing techniques that promote relaxation, mindfulness instruction, and muscle relaxation—the goal being to get both the mind and the body ready for sleep."
- "The sleep environment is important," Siengsukon notes. "Make the bedroom conducive to sleep. Make sure it's as dark as it can be—put up curtains if you need to, or wear a sleep mask. Use earplugs or a white noise machine to block out sounds that aren't soothing. Make sure your mattress and pillow are comfortable."

- "Alcohol might help you get to sleep," she warns, "but it's antithetical to deep, sustained, restorative sleep. So, limit your alcohol intake to a drink or less per night. Limit your intake of all liquids before bedtime, in order to reduce overnight bathroom visits."
- "Medication is something that's worth discussing with people," Siengsukon advises. "If people are taking over-the-counter medications such as Tylenol PM or Benadryl to help them sleep, discuss with them why those apparent 'fixes' can cause problems."


Karegeannes

Mike Karegeannes, PT, LAT, MHSc, urges his patients and clients to disengage from all lighted screens at least 1 hour before bedtime—or, failing that, to deploy features available on newer smartphones and other electronic devices that dim the glow. Another tip: Have an old-school pen and piece of paper handy at bedside. "Write down whatever's rattling around in your brain, so you can put it to rest and not have to worry about remembering it tomorrow."

Karegeannes owns Freedom Physical Therapy Services, with 4 clinics in the Milwaukee area. He's not sure how accurate the growing array of wearable and mobile sleep-tracking devices are, but he observes that if they prompt users to value their sleep health more highly, that's a good thing.

That observation jibes with the findings of the *PTJ* authors. On one hand, they wrote that "there is insufficient evidence to recommend [that] wearable devices or sleep apps be used to provide valid or reliable information regarding sleep." On the other, they cited studies indicating that such devices "may provide the benefit of increasing public awareness of the important health benefits of sleep"[11] and may "encourage personal empowerment."[12]

THE EXERCISE ELEMENT

Providing an "appropriate" exercise program is the fourth aspect cited in the *PTJ* piece on sleep health promotion by PTs. A meta-analysis, the authors wrote, "indicates that acute and chronic exercise has a moderate positive benefit on sleep characteristics by increasing slow-wave [deep] sleep and total sleep time, and decreasing sleep onset latency."[13,14] The time of day the exercise takes place may not matter, the authors added, citing the experiences of respondents to the 2013 Sleep in America poll.[15]

Where "appropriateness" comes in lies in tailoring the exercise program specifically to the condition that brought the individual to physical therapy, and how it is affecting that person's sleep.

"For example," Karegeannes says, "if you feel that weakness of the gluteus medius is contributing to back pain that is affecting sleep, don't focus your exercise program only on knees-to-chest and pelvic-tilt exercises, but also on strengthening the glutes. Similarly, if neck pain is compromising sleep, consider exercise to address weakness in the deep cervical neck flexors or extensors that may have gone unnoticed."

POSITIONING FOR SUCCESS

Rounding out the list of sleep-promotion steps enumerated in the *PTJ* piece are 2 interrelated ones—"Consider positioning to promote sleep quality" and "Address bed mobility issues."

The authors offered this example in the *PTJ* article: "An individual with low back pain may benefit from instruction to sleep side-lying with a pillow between his knees, or to sleep supine with pillows under his knees to reduce lordosis of the back."

The authors continued, "If a patient has difficulty with transfers and bed mobility, the therapist should address the underlying impairments causing the functional deficits," because "adequate bed mobility is needed to change position while sleeping, and improved ease changing position during sleep may reduce sleep disruptions."

To the *PTJ* authors' first point, Karegeannes notes that "sleeping on one's stomach can put the low back into increased extension, narrow the spinal canal and intervertebral foramen, and increase low back or neck pain." So, he says, he may advise people to sew tennis balls into a T-shirt or to buy one of the various products in the marketplace that are designed to prevent sleepers from rolling onto their stomach.

"Often," Karegeannes adds, "I ask my clients to wear a lumbar or cervical roll around their low back or neck to help keep their spine in neutral and avoid irritating a compressed nerve." Because women tend to have a narrower waist but wider hips than do men, women who sleep on their side may wake with pain because their lumbar or cervical spine has shifted toward the mattress, compressing a nerve. "By getting them to wear a lumbar or neck roll, I can help them avoid that situation and sleep without interruption," he says.

"MIRACULOUS" RESULTS

Schuft happily recalls the experience of a man who had come to her with a diagnosis of chronic low back pain and radiculopathy (pain radiating into his legs). Beyond those issues, he'd been experiencing difficulty sleeping and had in fact already been urged by his physician to undergo an overnight study for suspected OSA. But Schuft's patient dreaded confirmation of OSA and the resulting prospect of being tethered to a continuous positive airway pressure (CPAP) machine every night to aid his sleep.

"There's a lot of stigma around CPAPs," Schuft notes. "My patient was worried that it would constrict his movement, feel strange, and look ugly to his partner. So, he didn't want any part of the sleep study."

Knowing what she did about the machine's potential impact on his overall health and well-being, as well as his physical therapy outcomes, she encouraged him to go ahead with the study. "This really could change your life," she told him. Still skeptical but bolstered by Schuft's enthusiasm, he underwent the sleep study. His fears were confirmed—he had OSA and would need a CPAP machine. But Schuft's forecast also held true.

"The change was miraculous," she says. "His cognition and ability to pick up and retain new information improved immensely once he started sleeping with the CPAP. His mood was more upbeat. He was more engaged in his physical therapy. He had more energy in the clinic, which mirrored what he reported to me about his energy level in general. He was, in a way, a new man."

Sometimes, Siengsukon reports, simply taking the initiative to discuss sleep with a patient can have a profound impact. She recalls a woman with MS who was deeply moved by Siengsukon's interest in her sleep patterns, remarking that no member of her health care team had thought to broach the subject in the 10 years since her MS diagnosis.

"She told me, 'You're the first person in all that time to talk to me like I'm a whole person. The others talk about things like my medications or my balance, but you ask me about nutrition, exercise, and 1 of the things that's most important to me in my life—sleep."

The 2 women met once a week for 6 weeks as part of an ongoing research study Siengsukon is conducting. It is a CBT-I intervention that aims to control or eliminate negative thoughts that often keep a patient awake at night and to encourage behaviors that instill good sleep habits. Afterward, Siengsukon said, the woman "slept better, felt better, was more productive at work, and had the energy and improved mood to go out with friends more and engage with the world."

Tatta recently asked a patient with fibromyalgia about her sleep. She told him she sometimes sleeps just an hour a night. Stunned, he looked into her medical history. "I discovered that she was on a muscle relaxer, an opioid,

benzodiazepine, and an antidepressant," he says. "The opioid-benzodiazepine combination was potentially lethal, and the combination of all those drugs was having a devastating effect on her sleep."

Tatta apprised the woman's primary physician of the situation. She subsequently was weaned off the opioid and muscle relaxer and now is on the road to better sleep and energy. The PT improved the quality of her life—and may even have saved it. It's a role Tatta believes his colleagues should be increasingly prepared to play—particularly as the profession promotes #ChoosePT as a safe alternative to opioids for pain management.

"In the future," he says, "I believe we're going to play more of a role in helping people taper off medications they don't need, as they are introduced to physical therapy and other lifestyle interventions that work without the dangers that those narcotics pose."

GROWING AWARENESS

Like Siengsukon, Poorbaugh wasn't exposed to sleep's importance during his studies to become a PT. "I went to the Mayo Clinic, and I don't recall any areas of well-being such as sleep or nutrition being mentioned in the curriculum," he says.

But that's changing. "DPT programs are starting to incorporate courses dedicated to prevention and health promotion," Siengsukon observes, "with sleep often being a component of that instruction." As a result, she adds, new graduates tend to be more attuned to asking the kinds of questions and initiating the types of conversations that the PTs interviewed for this article say are needed.

That's certainly been Poorbaugh's experience.

"I've got 2 new grads working with me now—one's a year out of school, the other only a few months. They definitely are receptive to taking a broader wellness approach to patient and client interviews," he says. "I find that they're eager to expand their focus to all the different aspects of getting people better."

Brubaker acknowledges that discussing sleep and other lifestyle aspects with patients and clients tests the comfort zone of some PTs.

"It can feel scary to ask about things for which there might not be a 'fix' within our scope of practice as physical therapists," she says. "But 1 of the main things that PTs should understand about sleep issues is that they don't have to fix it. They just need to talk about it." Sleep education, appropriate exercise, and positioning are well within PTs' scope of practice, she notes, and referral is appropriate when sleep disorders are suspected.

The "beautiful" thing about sleep, Brubaker says, is that PTs can play important roles in bringing issues to the surfaces and ensuring that patients and clients get the help they need, but that, "Strictly speaking, we don't need to have the 'answer."

Rather, those interviewed for this article say, the key lies in asking the questions. ■

***Eric Ries** is the associate editor of* **PT in Motion.**

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