NHF InSights™ The Link Between Sleep Disorders and Migraine

Katy Oakley:
Welcome to NHF insights, the National Headache Foundation's podcast, where we host fireside chats developed with the support of our industry partners. This is where we talk about what's new in headache and migraine care, from the latest studies and research to real world experiences and treatment options. I'm your host, Katy Oakley, the CEO and executive director of the National Headache Foundation.

This is our second episode in a series on migraine and other comorbid conditions, created with support of Axsome. Today, we're going to talk about how sleep disorders like sleep apnea, excessive daytime sleepiness, and narcolepsy can interact with migraine and all the things that patients should know. I myself am a patient who lives with migraine and sleep apnea, so I am very excited to learn more. So let's introduce today's guests.

Dr. Lauren Natbony is a board-certified neurologist and headache specialist who is known for her integrative approach in treating complex headache disorders. Dr. Natbony is also the founder and medical director of Integrative Headache Medicine of New York. She is no stranger to the National Headache Foundation. In fact, she recently filmed an episode on sleep for our sister podcast at the National Headache Foundation, HeadWise with Dr. Weitzel. Now that episode is a wonderful introduction to sleep. They talk about sleep hygiene, melatonin, REM sleep. If you have not listened to it yet, I highly recommend you do. Today's episode we're going to focus more on comorbid sleep conditions with migraine.

We are also thrilled today to have Dr. Audrey Wells, who is triple board-certified in sleep medicine and has expertise in obstructive sleep apnea and sleep health. Dr. Wells is the chief medical officer at SLIIIP.com and is a director of the Alliance of Sleep Apnea Partners, and she's on their board, who is one of the National Headache Foundation's partners. Welcome, Dr. Natbony and Dr. Wells. We are so thrilled to have you both here today.

Lauren Natbony, MD:
Thank you.

Audrey Wells, MD:
It's a pleasure.

Katy Oakley:
I would love to start with just setting a foundation. Dr. Natbony, can you help to explain the connection between migraine and sleep and why it's just so important for patients to understand this relationship?

Lauren Natbony, MD:
Absolutely. This is one of the things I always harp on, is that sleep and migraine are bidirectional. We know poor sleep can be a migraine trigger and migraine itself can disrupt sleep and sleep quality. We also know that sleep issues are especially common in those with chronic migraine. So, I always like to address sleep before migraine becomes chronic, because it is one of the things that can propel episodic migraine into chronic migraine if you're having really poor sleep. We also know that the hypothalamus plays a key role in both migraine and sleep regulation, so there is a connection.

Katy Oakley:
That's incredibly helpful. Dr. Wells, from your perspective in sleep medicine, what are some of the most common sleep disorders that you typically see in patients who are also having migraine or a headache disorder?

Audrey Wells, MD:
I want to really just say thank you for elevating this question because I think sleep oftentimes is not recognized as something that is important for health in general. But where migraine is concerned specifically, we know that there are some certain sleep disorders that overlap with migraine. And as Dr. Natbony pointed out, they can interplay. So, it makes a lot of sense to have a low threshold for scanning for things. And in terms of, what sort of sleep disorders I commonly see, I'm going to give you the top three, that's obstructive sleep apnea, insomnia, whether it's initiation insomnia or middle of the night insomnia, and then restless leg syndrome is a distant third. Those are sleep medicine disorders that people with migraine should have on their radar to make sure that they're getting the best treatment possible.

Katy Oakley:
That makes a lot of sense. I'd love to start by digging into sleep apnea specifically, since it's something that many people may not realize is connected with migraine and so common. Dr. Wells can you explain what sleep apnea is and what people often misunderstand about it?

Audrey Wells, MD:
Yeah, this is one of my passion projects, and I hope that you can see this is an important question to me because there's so many myths and misconceptions out there. First off, I want to say obstructive sleep apnea, which is the garden variety sleep apnea, is a breathing disorder. So, hear me now. You are blocking your airway during sleep because you get that muscle relaxation that puts you at risk for collapsing the soft tissues in your upper throat. And when that happens, you are impairing the airflow down to your lungs, so you're not oxygenating as well as you could. And of course, your brain is going to be very sensitive to dips in blood oxygen level, so it will wake from sleep. Usually not to full consciousness, but enough to reengage the throat muscles and recover that breathing. Now I want you to notice I have said nothing about snoring, and this is a point that I want to drive home, especially for your listeners who are female. Sleep apnea in women can be a silent disorder, and so it's not necessary to have snoring as a prompt for a sleep evaluation, especially when sleep apnea is concerned.

Katy Oakley:
Gosh, that's so important. There are so many people out there who may not know that they're at risk, because they may think that it's one symptom and it actually appears differently in different people, which makes sense. Dr. Natbony, now I'm curious on your end, how does sleep apnea impact migraine? I imagine that could really influence someone who maybe has a history of it or could be having attacks because of sleep apnea.

Lauren Natbony, MD:
Absolutely. I love your passion for sleep apnea, because I feel like sleep apnea is something in my practice that I always look for and screen for, especially in patients who aren't getting better on their migraine treatment. There's something else going on. So, I love that we're bringing attention to sleep apnea. So yes, sleep apnea can trigger headache. Think about the repeated pauses in breathing and how oxygen isn't getting to the brain. It causes sleep fragmentation. And we know that disrupted sleep, sleep fragmentation, can increase the likelihood of getting a migraine attack. So, if someone is saying that they're waking up a lot during the night, like Dr. Wells said, it's not only snoring. There can be a lot of other factors or symptoms that patients come in and present with. But morning headache, morning headache is one that I will always screen for and think about sleep apnea if somebody is having morning headache. But a hundred percent, sleep apnea can trigger migraine. It’s not the cause, but the disruptions in oxygen flow can definitely be a trigger.

Audrey Wells, MD:
I want to elevate something that you said because I think this is really important to emphasize, which is if you're not getting better, look at sleep as a potential root cause of what's holding you back. And historically a sleep test was done in a lab, and it was very inconvenient and very expensive. And tides have turned. So now we can do home sleep testing. It's much less expensive, much more comfortable, especially, if you're worried about a condition like sleep apnea. And I would love to see a sleep evaluation go the preventative route, like mammogram, colonoscopy, bone density scan, because the testing and the evaluation is so accessible now.

Lauren Natbony, MD:
I love that point. I actually recommend, if there's any thought about it, I get home sleep study for my patients. It's low risk, noninvasive. Like why not.

Katy Oakley:
I'd also love to talk about excessive daytime sleepiness. Now obviously this makes sense that it's a common symptom for sleep disorders, so obstructive sleep apnea, narcolepsy. Dr. Wells can you explain what is excessive daytime sleepiness and how this can impact a person who is living with migraine?

Audrey Wells, MD:
I want to say that excessive daytime sleepiness all by itself is frustrating and usually multifactorial. Anything from carrying extra weight to mouth breathing to an underlying sleep diagnosis that's untreated or undertreated can produce excessive daytime sleepiness, which is the abnormal propensity

to sleep and sleep at inappropriate times, such as during the day. And if the audience wants to take a look and actually quantify this, they can Google something called the Epworth Sleepiness Scale, which is a 24-point scale. And if you score, above 10 on this scale, despite efforts at sleeping better and having a regular sleep routine, then the diagnosis of excessive daytime sleepiness may apply.

Where migraine is concerned, it's interesting because sleepiness can be a prodrome to migraine and it can be an effect of migraine. And when you have an overlapping sleep disorder, then it can be especially pronounced and worth treating, or at least evaluating to see if there's a diagnosis there. But in my work, this is one of the most common symptoms that people present with because it's impacting their daytime functioning, their mood, and their productivity.

Lauren Natbony, MD:
Absolutely. I think this is pretty much my every patient, not necessarily excessive daytime sleepiness per se, but constant reports of fatigue. And I'd love for you to go through the difference between sleepiness and fatigue, because I think that that's a really important differential to make. I'd love to hear your take on how you explain that to patients.

Audrey Wells, MD:
Yeah. Thank you, because this is another situation where there are gender differences in reporting. So, for example, women tend to report more fatigue, not sleepiness. Women, I think a lot of times have an internal drive that is sort of responsive to their work life, their home life, and even their social conditioning. And that manifests more commonly as I don't feel like myself, I can't get through the day. At night, I'm unmotivated. I can't finish all the things I wanted to do. And it's more often described as fatigue, not sleepiness, which I was careful to say, the propensity to sleep. And so, I meet a lot of women who actually couldn't nap if they lay down to sleep. But fatigue is a different symptom, a different presentation of an underlying sleep disorder. Whereas, people who have sleepiness describe, I fall asleep in a meeting that's boring, or I can't get through the TV show that my spouse wants to watch at night, or I nod off at a traffic light. Big red flag there, but not necessarily universal as a symptom that would prompt a sleep evaluation.

Lauren Natbony, MD:
Thank you for going over that, because the Epworth Sleepiness Scale, for example, is a helpful tool. But I have a lot of patients who I ask the differences. They're like, no, I can't fall asleep. I wouldn't fall asleep just sitting there, but I just feel drained. And I think in migraine, everyone feels that being in pain is going to make you feel drained and fatigued. But definitely asking the right questions to assess for excessive daytime sleepiness, it is different. So, I just wanted to point that out because there is a difference.

Audrey Wells, MD:
Absolutely. And I think even though they can be described differently, in my eyes, they both should prompt further evaluation because they are interfering with someone's ability to be successful with their day.

Lauren Natbony, MD:
And from a migraine perspective, I also find that treating the fatigue, the sleepiness, actually helps the migraine process, because you can be more productive, you can have a more regular routine, and that feeds back and actually helps the pain process. Because if you're not able to do anything because you are so tired, fatigued, it's just a mechanism for migraine and pain to become more prominent and worsen. So, I'm a big proponent of treating the underlying sleep problem.

Katy Oakley:
I could not agree more. I'm also really curious. Dr. Wells, you mentioned that this could be a part of the prodrome phase of a migraine. Dr. Natbony, can you talk a little bit more about the symptoms in a migraine cycle and that prodrome and postdrome phase for people who are not familiar and how fatigue and sleepiness can be a part of it and how that could be maybe a little confusing for people to know if it is a sleep disorder or if it is the migraine itself.

Lauren Natbony, MD:
As a headache specialist, seeing fatigue and especially excessive yawning are part of that premonitory phase. So I was actually talking to a patient yesterday and I was like, do you yawn a lot. And she was like, oh my god, I'm always yawning before I get a migraine. And a lot of patients think that it's because they're tired when it actually is a prodromal symptom that can appear up to even three days before head pain. And actually, what's interesting, if it's recognized early, we can actually treat during this phase to prevent the pain phase from coming on. So, it's a good premonitory or warning sign. And also, that overwhelming fatigue, I always have patients pay attention to see if that's coming before.

The migraine hangover, and it is in every respect a hangover, I feel like is really rough on a lot of patients. And it affects about 80% of patients. And this hangover is that drained, I just can't really move, lethargic. It can be fatigue. It can also be sleepiness. But it could last for days. And even after the pain stops, a lot of time that is the most disruptive symptom to people's lives. The pain phase can be one day. This hangover phase can last days, and it really can cause even more functional impairment than the pain itself.

Katy Oakley:
That is so important for patients to understand, because I think a lot of people just assume a migraine is just the head pain, but there is so many things that can come prior to and right after if you're really looking at the full cycle of an attack and understanding that, so you can be able to really communicate with your doctor or provider to help them to understand the full impact it's having on your life and all of your symptoms.

Lauren Natbony, MD:
To that point, I feel like we always ask about pain. Pain is always the qualifying symptom. But I would say there's a majority, actually a majority of patients, who pain is not what's preventing them from functioning. It is these other bothersome symptoms that either come before, during, after. So, when we're talking about migraine, let's talk about it as the whole picture, the whole system, and not just focus on the pain part, because that's only one part of the whole equation.

Katy Oakley:
That is such an important point. This has been an incredible conversation. I'd love to shift to talking about what patients can actually do with this information. If someone suspects that they may have a sleep issue and it may be impacting their migraine, where do they start? Dr. Wells, I'd love to start with you and your thoughts on the first steps patients can take.

Audrey Wells, MD:
That's great. I want to say again, for anyone dealing with a chronic disease, especially where pain and quality of life are major factors of that condition, it really makes a lot of sense to pursue sleep optimization. And it's not just from a physiologic standpoint, but it's also from a mental health standpoint because there is a big psychological impact of living with a chronic condition or a chronic pain condition. And so, when you optimize your sleep, you're really helping your brain, which is your most important asset to have better thinking, better emotions, and better choices that are going to support the very best self that you can be.

So, for people who want to take the next step and get a sleep evaluation, I would offer that there's a couple of ways to do this. And I have one which I much prefer. Nowadays there are home sleep tests available on amazon.com and through other outlets where you get a test without the wraparound care. And my preference is always to have people go to a board-certified sleep medicine physician or sleep specialist who not only can take in information about your personal situation, your health, your medications, your social life, etc. and order the appropriate test for you, but also interpret that test in the context of your life and your health.

And in that way, you're going to get recommendations for treatment that are more personalized, probably layered, and you've developed a relationship for following up on that treatment that's going to make you more successful. So typically, with a sleep evaluation, I like to kind of make the analogy, it's kind of like you're looking at your nutrition or your physical exercise. Sleep is a long-term project in your life. So, you're going to want to have that professional relationship, not just for diagnosis, but for ongoing treatment and management.

Lauren Natbony, MD:
I really just want to highlight that. I find a lot of patients will come in saying, I got this sleep test done with XYZ person, and what do you do with that? Sometimes it shows mild sleep apnea, and they're like, oh, I don't have to do anything about it. I'm like, but in the context of you have chronic migraine and you have fragmented sleep, yes, I would do something about it. So, a test is only as good as the interpretation of the test and the application to each person's life circumstances. So, I just totally agree with Dr. Wells that getting a test itself isn't as helpful, and it doesn't really guide treatment and management long term, so consulting with a sleep specialist is always the recommendation.

Audrey Wells, MD:
I so appreciate you saying that. And I like to be really transparent about my own issue with sleep apnea. I am not the poster child for obstructive sleep apnea, but I have sleep apnea. I routinely test myself because I like to see what the home tests are about, and I routinely come up with quote unquote mild sleep apnea. But when I look deeper at the data collected, it turns out my sleep apnea and REM sleep,

which is very relevant to our conversation about migraine, my sleep apnea in REM is actually quite severe. And had I not been a sleep medicine doc, it would have been a delay to diagnosis. And I probably would have been brushed off, routed through an insomnia program or anxiety management or whatever. But I can tell you that treating my sleep apnea has made a huge difference. And this is the kind of information that I like to bring to the conversation because with a lot of humility, I'm a patient too.

Lauren Natbony, MD:
Can I just say, I was just going to talk about REM and sleep apnea, because that is one of the things that I see missed a lot of times on these general reports. And especially in women, as we get older, there is, correct me if I'm wrong, a higher incidence of REM related sleep apnea. And it really does impact migraine, so I will always push to treat if there is that that association. And a lot of times unless you know what to look for like you do, you're not going to pick up on that.

Audrey Wells, MD:
Yeah. Hand at your back because this is so often missed and I'll tell you why. REM sleep only makes up 20 to 25% of your total sleep time. So, if you're only having obstructive events in REM, it's diluted by all of the nonobstructive events, the normal breathing, you're having in non-REM sleep. And that makes a woman, especially, look mild if you just use that total number. And this is so important to me that I'm actually very happy to say at SLIIIP.com we have a woman centric sleep medicine evaluation for this reason. Women have too long been overlooked and mischaracterized as quote unquote mild or even having a false negative test because the test itself is a bit biased towards men.

Lauren Natbony, MD:
I love this. I'm really excited to see what you're doing, so I think that's really important.

Katy Oakley:
Dr. Natbony, I'd love to end on your side looking at what patients can do if they're going to a headache specialist, especially when it comes to coordinating care amongst providers and reviewing medications. Are there any tips or guidance that you can give to a patient who's living with migraine, and you suspect that they may have this, of where they can start?

Lauren Natbony, MD:
I always say to be your own advocate, and if you think that there is a sleep-related issue to bring it up to your doctor, not waiting for your doctor to ask you, because sometimes appointment time is limited. Saying that this fatigue, sleepiness, snoring, or feeling fragmented sleep, you feel is a big part of what's going on, it might be a trigger for migraine and ask for that referral. I feel like the best that you can do is ask, get a referral, and follow up on it. In our system, unfortunately, a lot of times it is on the patient to take it and to go and call and make the appointment for the next specialist, but just being on top of it is your best bet.

Katy Oakley:
That makes a lot of sense. I could talk to both of you for a lot longer. I'm so grateful for both of you. Thank you for being willing to participate in this discussion today. I definitely learned a lot. I think our viewers will as well, so thank you both for providing your insights and expertise to our patient community.

Lauren Natbony, MD:
It has been a pleasure. Loved this discussion. Thank you so much for having us.

Katy Oakley:
Yes, and thank you so much to all of our viewers out there for taking the time today. To learn more about your health, we hope that you're going to join us for our next episode of NHF InSights. Of this series on comorbidities, we're going to be discussing the connection between migraine and anxiety, depression, stress triggers, so a really important episode.

And if you're interested in learning more about the diseases that we discussed today, we encourage all of you to access our resources on headaches.org, the National Headache Foundation's website, and also our partner, Alliance of Sleep Apnea Partners (ASAP) and their website is apneapartners.org. Thank you all so much for listening, and until next time, take care.

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