ROBERT AUGER: Hi I'm Dr. Robert Auger. I am from the Mayo Clinic Department of Psychiatry and Psychology, and actually work primarily in the Mayo Center for Sleep Medicine, and I wanted to discuss the results of a study that I authored about a year ago-- or, it was published about a year ago. And this particular study looked at-- compared the data obtained by actigraphy-- and I'll explain what actigraphy is in a moment-- to the data obtained from sleep logs or sleep diaries. And of course, sleep logs or sleep diaries are logs or information sheets that patients fill out before appointments to give providers a sense of their sleep schedules over an extended period of time.

Actigraphy is a wristwatch-sized device, roughly the size of my own wristwatch. It's worn by the patient at all times except for, typically, during periods of water exposure or contact sports. We ask them to take it off. But for the most part, patients can wear it at all times. And we typically have them wear it for a period of at least two weeks before a sleep appointment, or it could be another type of appointment.

And the device functions as an accelerometer, so that when we are relatively more active during wakefulness, that can-- the signal generated by that motion can be contrasted with the relative lack of activity during sleepiness so that we can get a sense, over a long period of time, of what the individual's sleep/wake schedule looks like, which can be very helpful for determining why a patient might be sleepy, for looking at a patient's sleep habits, for example in a patient who complains of insomnia, or for assistance in diagnosing circadian rhythm sleep disorders.

What we looked at in the study was, first of all, whether or not sleep logs were completed as accurately as the data produced by actigraphy, and in all patients for whom we send out actigraphs-- and we very routinely do that before sleep appointments. We also send them sleep logs or sleep diaries to complete.

The first finding of the study was that, perhaps not surprisingly, sleep logs were completed much less reliably. So we almost always had reliable actigraphy data, but very commonly did not have accurate sleep log data. So right away, we have support for a heightened accuracy with actigraphy.

This is important because-- well, the other important finding of the study was that, when we looked at the comparison of the two measures, the sleep logs frequently overestimated sleep time as compared to actigraphy, and since actigraphy has been compared to the gold standard in sleep medicine, polysomnography, that is a very important finding. So that, for example, if you're seeing a patient who complains of sleepiness, and you are relying only on sleep logs, that patient may be significantly overestimating the amount of sleep that he or she obtains on a nightly basis, while the actigraphy might, in fact, demonstrate that the patient is obtaining insufficient sleep.

The other thing we looked at in the study was whether that longitudinal sleep information-- so primarily actigraphy information-- influenced clinicians' decisions to proceed with further testing, namely overnight polysomnography and/or multiple sleep latency testing. And we found that that data did significantly influence clinicians' decisions, and in fact, clinicians frequently canceled testing based on the information obtained from actigraphy. For example, actigraphy would show that the patient was clearly not obtaining enough sleep, therefore an evaluation for narcolepsy was not warranted.

This-- one of the main factors that influenced us doing this study was that actigraphy is-- the reimbursement for actigraphy is either invariable or nonexistent. We use it routinely here at the Mayo Center for Sleep Medicine. Other centers may not use it at all. And this study points to, really, I think the essential nature of using it when evaluating patients for sleep/wake disturbances, or perhaps for other disturbances for which patients present to the clinic.

I want to thank you very much for listening to me today, and again, my name is Dr. Robert Auger, and I'm from the Mayo Clinic Department of Psychiatry and Psychology and the Mayo Center for Sleep Medicine.