

How one patient's textured hair nearly kept her from a needed EEG

May 4 2023, by Tarena Lofton

Sadé Lewis of Queens, New York, has suffered migraines since she was a kid, and as she started college, they got worse. A recent change in her insurance left the 27-year-old looking for a new neurologist. That's when she found West 14 Street MedicalArts in New York.

MedicalArts recommended that she get an electroencephalogram (EEG) and an MRI to make sure her brain was functioning properly.

An EEG is a test to measure the electrical activity of the brain. It can find changes in brain activity that can help in diagnosing conditions including epilepsy, sleep disorders, and brain tumors. During the procedure, electrodes consisting of small metal disks with attached wires are pasted onto the scalp using adhesive, or attached to an electrode cap that you wear on your head.

A little over a week before her EEG, Lewis was given instructions that she didn't remember getting before a previous EEG appointment.

To Lewis' surprise, patients were told to remove all hair extensions, braids, cornrows, wigs, etc. Also, she was to wash her hair with a mild shampoo the night before the appointment and not use any conditioners, hair creams, sprays, oils, or styling gels.

"The first thing I literally did was text it to my [best friend](#), and I was, like, this is kind of anti-Black," Lewis said. "I just feel like it creates a bunch of confusion, and it alienates patients who obviously need these

procedures done."

The restrictions could discourage people with thick, curly, and textured hair from going forward with their care. People with more permanent styles like locs—a hairstyle in which hair strands are coiled, braided, twisted, or palm-rolled to create a rope-like appearance—might be barred from getting the test done.

Kinky or curly hair textures are typically more delicate and susceptible to damage. As a result, people with curlier hair textures often wear protective hairstyles, such as weaves, braids, and twists, which help maintain hair length and health by keeping the ends of the hair tucked away and minimizing manipulation.

After receiving the instructions, Lewis scoured the internet and social media channels to see if she could find more information on [best practices](#). But she noticed that for people with thick and textured hair, there were few tips on best hairstyles for an EEG.

Lewis has thick, curly hair and believed that explicitly following the instructions on the preparation worksheet would make it harder, not easier, for the technician to reach her scalp. Lewis decided that her mini-twists—a protective style in which the hair is parted into small sections and twisted—would be the best way for her to show up to the appointment with clean and product-free hair that still allowed for easy access to her scalp.

Lewis felt comfortable with her plan and did not think about it again until she received a reminder email the day before her EEG and MRI appointment that restated the restrictive instructions and added a warning: Failure to comply would result in the appointment being rescheduled and a \$50 same-day cancelation fee.

To avoid the penalty, Lewis emailed the facility with her concerns and attached photos.

"I got kind of worried, and I sent them pictures of my hair thinking that it would go well, and they would be, like, 'Oh yeah, that's fine. We see what you see,'" said Lewis.

Soon after, she received a call from the facility and was told she would not be able to get the procedure done with her hair in the twists. After the call, Lewis posted a TikTok video detailing the conversation. She expressed her frustration and felt that the person on the phone was "close-minded."

"As a Black woman, that is so exclusionary for coarse and thick hair. To literally have no product in your hair and show up with it loose, you're not even reaching my scalp with that," Lewis said in her video.

The comments section on Lewis' TikTok video is full of people sharing in her frustration and confusion or recounting similar experiences with EEG scheduling.

West 14 Street MedicalArts declined to comment for this article.

The New York [medical center](#) is not the only facility with similar EEG prep instructions. The Neurology Center, which has several locations in the Washington, D.C., area, provides EEG pretest instructions for patients reading, "Please remove any hair extensions or additions. Do not use hair treatment products such as hair spray, conditioners, or hair dressing, nor should you fix your hair in tight braids or corn rows."

Marc Hanna, the neurophysiology supervisor at the center's White Oak location in Silver Spring, Maryland, has more than 30 years of experience performing EEGs. He oversees 10-12 EEG technicians at the

facility.

Hanna said the hair rules are meant to help a technician get an accurate reading from the test. "The electrodes need to sit flat on the scalp, and they need to be in precise spots on the scalp that are equally apart from each other," Hanna said.

For people with thick and curly hair, this can be a challenge.

A 2020 article from Science News detailed a study that measured how much coarse, curly hair could interfere with measuring brain signals. A good EEG signal is considered to have less than 50 kilo-Ohms of impedance, but the researchers found unbraided, curly hair with standard electrodes yielded 615 kilo-Ohms.

Researchers are working to better capture brain waves of people with naturally thick and [curly hair](#). Joy Jackson, a biomedical engineering major at the University of Miami, developed a clip-like device that can help electrodes better adhere to the scalp.

Experimentation with different braiding patterns and flexible electrode clips shaped like dragonfly wings, designed to push under the braids, has had promising results. A study, published by bioRxiv, found this method resulted in a reading well within the range for a reliable EEG measurement.

But more research has to be done before products like these are widely used by medical facilities.

Hanna said the facility where he works does not automatically ask patients to remove their protective styles because sometimes the technician can complete the test without them doing so.

"Each one of those cases are an individual case," Hanna said. "So, at our facility, we don't ask the patient to take all their braids out. We just ask them to come in. Sometimes, if one of the technicians are available when the patient is scheduling, they'll just look at the hair and say, 'OK, we can do it' or 'We don't think we can do it.' And we even might say, 'We don't think we can do it but come in and we'll try.'"

In practice, Hanna said, it's not common for hair to be an issue. But for patients whose hairstyle might make the test inaccurate, he said, it becomes a conversation between the doctor and the patient.

When Lewis arrived the following day for her MRI and EEG appointment, she was told her EEG had been canceled.

"It was just kind of baffling a little bit because, literally, as soon as I walk in, I saw about four different Black women who all had either twists, locs, braids, or something," she said. "And on the call, the woman was saying if you come in and my [hair](#) is not loose, we're going to charge you. And she did recommend to cancel my appointment. But I never approved that."

After Lewis explained what happened during the phone call, she said, the receptionist was very apologetic and said the information Lewis was given was not true. Lewis said she spoke with one of the EEG technicians at the facility to confirm that her mini-twists would work for the test—and felt a sigh of relief when she saw the technician was also a Black woman.

"The technician, I think overall, they just made me feel safe," Lewis said. "Because I felt like they could identify with me just from a cultural standpoint, a racial standpoint. So, it did make me feel a little bit more valid in my feelings."

Lewis later returned to the facility to get the procedure done while still wearing mini-twists. This time, the process was seamless.

Her advice for other patients? "When you feel something, definitely speak out, ask questions."

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