Transcript Details
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ReachMD
www.reachmd.com
info@reachmd.com
(866) 423-7849

Climate Change in the Clinic: Examining Neurological Impacts

Announcer:
You're listening to *NeuroFrontiers* on ReachMD. On this episode, we'll discuss the global impact of climate change on neurological health with Dr. Beth Malow. She's a Professor of Neurology and Pediatrics and the Vice Chair for Academic Affairs in the Department of Neurology at Vanderbilt University Medical Center, and she also spoke on this topic at the 2025 American Academy of Neurology Annual Meeting. Let's hear from Dr. Malow now.

Dr. Malow:
Climate change is very much linked to health, and I like to think of two areas. We certainly are seeing a lot of air pollution from the burning of fossil fuels, some of these wildfires that have been happening, and also extreme heat. When we have air pollution and heat, it's synergistic. Both of those can contribute to health issues in folks with neurologic conditions. Stroke, dementia, multiple sclerosis, sleep problems, and certainly mental health type issues are all impacted by climate change. In other words, climate change contributes in a negative way to the development of stroke and dementia.

If you have a neurologic disease condition—let's say you have dementia—it actually can make it worse. Climate change can increase the chances of mortality or being hospitalized. Let's take people with dementia or elderly people in general. They're susceptible to things like heat. The medicines they take affect their ability to thermoregulate—control their heat in their bodies—so if you add extreme heat on top of an underlying condition, it can make everything worse. Another example is multiple sclerosis. We know that when you have MS, your symptoms are exacerbated by heat. They flare when you have exposure to increased heat, so if climate change is increasing heat and the overall temperature and producing more heat waves, you're going to have more MS flares.

The biggest culprit is these particulate matters. They're very small. They're invisible to the naked eye, right? It gets into the lungs, it passes the blood-brain barrier, and we actually can breathe it in through our olfactory system. There's also oxidative stress and even changes to our genetics. We call those epigenetic changes that occur after we're born.

The healthcare systems oftentimes contribute to climate change in a big way, and that's through, for example, our big energy-intensive buildings: heating, cooling, medical equipment, MRIs, all of that. So we really do have a role to play. Now, I'm not saying that we would stop doing any of those important medical procedures or turn our hospitals down or off—it's just being aware, though, that we do consume a lot of energy and we generate large amounts of waste. And if we can figure out a way that we can be more efficient with our energy, it would be great.

The other piece is what can we do as a medical center to educate our patients and the public. It's really important to remember that climate change is absolutely, positively in your lane. It's a health issue. And people trust their doctors. They trust their healthcare professionals. There's a lot of trust that people put in hearing from their healthcare professionals. It could be as simple as "You have a gas-burning stove, Mr. Jones. Have you thought about getting an induction stove that would not create that same level of indoor air pollution? Did you know that there are some incentives for those now?" That's the kind of thing that we can be talking to our patients about. That's very simple and very practical, and in some cases, not only improves their health, but saves money too.

Announcer:
That was Dr. Beth Malow discussing the impact of climate change on brain health. To access this and other episodes in our series, visit *NeuroFrontiers* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening!