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Indianapolis Chiropractor Offers Solution To Long-Haul Driving Pain

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Car seats can give you a massage, heat or cool your posterior, so why do so many drivers seem to feel discomfort on long drives or even routine commutes?

Paul Phipps, an Indianapolis chiropractor, thinks he has an app for that. Or at least an algorithm that offers a more subtle solution.

In addition to giving patients spinal adjustments, Phipps is director of research and development for Comfort Motion Global, a startup software developer that is using algorithms to regularly adjust seat positions so drivers and passengers don't have to.

On average, Americans spend more than 290 hours a year, or 12 days, driving, according to the AAA Foundation.

Phipps noticed that many of his chiropractic clients were professionals whose jobs required long drives to Chicago, Cincinnati, Detroit or Louisville.

“The car is where they spent the better part of their days. They were experiencing pain because they kept compressing their tissue in the same positions,” Phipps said.

First, he suggested they stop every 15 to 20 minutes, stretch their legs and resume their journey. But many reported that would just extend a trip that was already taking longer than they had planned.

Then he came across a patient named Lew Derrickson, then head of Northwestern Mutual’s operations in Indiana. Derrickson noticed that his Mercedes S Class had more than a dozen adjustable positions, but none of them was comfortable for more than 20 or 30 minutes at a time.

Phipps temporarily put his chiropractic practice on hold to conduct a feasibility study on this idea. He partnered with Rose-Hulman Institute of Technology, Logan University in Chesterfield, Missouri, and Ball State University. They rented a 2005 Cadillac DTS and began experimenting.

“We found we could control the positioning of the seat through the software controlling the seat’s memory module,” Phipps said.

They mapped occupants’ pressure points on the seat to see what triggered a driver’s movements or discomfort. Head-mounted digital cameras measured pupil dilation and other eye movements signaling fatigue.

To counteract fatigue, Phipps said software can adjust the heating or cooling feature to keep drivers alert and focused.

Drowsiness was cited as a factor in 11% of accidents resulting in significant property damage, according to a 2018 study by the AAA Foundation for Traffic Safety.

The findings were promising enough that he and Derrickson decided to form a business. Derrickson became CEO. Phipps became chief medical officer and head of R&D.

Daimler was the first automaker to show serious interest, but it took about two years to test and validate the algorithmic system to the point where Daimler was ready to put it in a production vehicle.

Comfort Motion’s software is integrated into seats of the 2020 Mercedes-Benz A-Class, B-Class, GLE and GLS. Eventually the feature will be embedded into the German automaker’s entire lineup.

A short 25-mile test drive in a GLE demonstrated the subtlety of the movements.

The touchscreen includes a comfort icon with two functions labeled “zone heating” and “seat kinetics.”

The movements, which focus mainly on the tilt of the seat bottom and lumbar support, were incremental, not forceful.

I had to concentrate to notice when the seat moved. The adjustments might be easier to detect for someone with chronic back or hip pain.

Comfort Motion licenses its patents, then the automakers can tweak the specifics of the software to their preferences.

The licensing fee is based on the number of seats in which the customer plans to offer the feature.

Because it’s based on software, a vehicle must have memory seats in order to use Comfort Motion’s software. While luxury brands such as Mercedes-Benz, BMW, Audi, Lexus, Cadillac or Lincoln offer them in nearly every model, globally about 20% of all new vehicles have memory seats, according to Phipps.

With annual global car and light-truck production expected to range between 94 and 98 million for the next few years, the potential market for advanced seat technology is about 38 million annually, based on the 20% estimate times two for both driver and front passenger seats.

Most of the larger automotive seating suppliers are also working on similar systems.

Lear Corp. has a ProActive Posture seating system that allows the driver to use Lear’s MySeat smartphone app to select personal preferences and fine tune his or her driving position based on biomechanic data.

Adient’s Recaro group has an intelligent driving seat that introduces partially automated memory and massage functions, that can save up to 100 personalized position preferences.

Faurecia has an Active Wellness system based on sensors in and around the seat to monitor the driver’s mental and physical condition.

Phipps said Comfort Motion is also pitching the technology to manufacturers of medium and heavy-duty commercial trucks, as well as airplane manufacturers, initially just for business-class seating.

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