

By [Jordan Lite](#) in [60-Second Science Blog](#) [www.sciam.com](http://www.sciam.com)

You might be familiar with hyperbaric oxygen treatment, in which a patient breathes in extra oxygen while inside a pressurized chamber, as a therapy for [the bends](#) and [carbon monoxide poisoning](#). But while a small segment of families with [autistic children](#) believe it helps their kids, insurance generally doesn't pay for it, and many doctors are skeptical that it does any good.

New [research in today's \*BMC Pediatrics\*](#) may give the therapy more credibility as a treatment for autism. The randomized, double-blind controlled study of 62 children found that those who received 40 hours of treatment over a month were less irritable, more responsive when people spoke to them, made more eye contact and were more sociable than kids who didn't receive it. They were also less sensitive to noise (some autistic children experience a kind of sensory overload from loud sounds and background noise). The most improvement was observed in kids older than five (the study included children ages two to seven) who had milder autism.

It's not clear why the treatment helped, says study co-author Dan Rossignol, a family physician at the [International Child Development Resource Center](#) in Melbourne, Fla., which treats children with developmental disorders. But the pressure may reduce inflammation believed to restrict blood flow to regions of autistic children's brains that control speech, or improve its ability to absorb oxygen, he tells *ScientificAmerican.com*.

"We're not saying it's a cure," Rossignol said, "but ... if you can improve understanding so a kid doesn't run in front of a car, or improve sleep, that would be a benefit."

While the study only treated and tracked the children for four weeks, kids who receive the same number of sessions outside of research settings often remain better for longer, Rossignol says. Others get better after 80 sessions, according to [Robert Hendren](#), executive director of the University of California Davis M.I.N.D. Institute, a large autism research center. He adds that some parents also buy chambers (approved by the Food and Drug Administration) and give their children periodic "tune-ups" at home, though those treatments haven't been studied.

While most children tolerate the treatment well, it can cause claustrophobia, bruising of the eardrums, sinus pain and, rarely, seizures, Rossignol says.

An estimated [one in 150 children in the U.S. have autism](#) in what [some are calling an epidemic of the disorder](#), according to the Centers for Disease Control and Prevention (CDC).

Hendren, who wasn't involved in the study, says the research was "well done" but that the findings need to be confirmed by others before hyperbaric oxygen therapy is recommended as an autism treatment. He adds that the results will likely be used by doctors and parents petitioning insurers to pay for the treatment, which costs around \$120 to \$150 per session and isn't typically covered for autism. He speculates that 10 percent of autistic children are getting the therapy.

"It's going to cost a lot of money and yet if it works, it would be important to provide children with this kind of treatment," Hendren tells *ScientificAmerican.com*. "It may help reverse, theoretically, some of the process that's causing the autism."