

## **A turn for the better Local man helps create chair that could revolutionize scoliosis treatment**

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**LANCASTER COUNTY, PA** - Sure it was built in his dad's garage with parts found in the trash, but Dr. Clayton J. Stitzel might have helped create the first meaningful treatment for curvature of the spine to come along in decades.

Scoliosis, which causes the spine to grow crooked, is painful and can cause serious complications as well as early death. Treatments have been few and far between over the years, and many children with developing spinal curves spend their formative years in torso braces designed to stop the bend from worsening - they're the same frightening contraptions spoofed in the movies "Sixteen Candles" and "Romy and Michele's High School Reunion." Others endured potentially dangerous surgeries to install rods in their spines.

Stitzel said scoliosis treatments to date have offered marginal health improvements at best. But his scoliosis patients at Lancaster Spinal Health Center in Lititz have been using a crazy-looking chair Stitzel refined from a colleague's design.

Used in conjunction with an exercise-and-manipulation regimen developed by cutting-edge researchers, Stitzel is seeing results.

"This is the first wave of the future for chiropractics," Stitzel said. "This rehabilitation is science-based and it's evidenced-based."

East Hempfield Township resident Pat Mann said she's struggled with scoliosis all her life.

As is the case with most scoliosis patients, Mann's condition was discovered by a school nurse when she was 14. Her early treatment was drastic.

"I went to what was then Elizabethtown State Crippled Children's Hospital," Mann said. "I had plaster of Paris casts put on each side for three months from shoulder to hip."

Mann, 73, lived much of her life without complications from scoliosis. But about 20 years ago, she began experiencing pain that limited how far she could walk and how long she could stand. Co-workers told her they could see the pain in her face.

"All the orthopedic doctors wanted to operate and put in rods that screw into my backbone," she said. "But they didn't want to guarantee that it would stop the pain. They only gave me about a 60 percent chance that the pain would be lessened. I had done a lot of reading about the surgery that said the pain does return after about five years, so I wasn't inclined to do that."

Then Mann saw a recent newspaper article about Stitzel's focus on treating scoliosis with specific exercises using weights and other devices. She gave it a try. She felt results after weekly and biweekly visits over eight months.

In October, the prototype for Stitzel's therapeutic chair was finished and ready to be tried. Mann added time in the chair to her treatment regimen. The combination has worked, she said.

Mann said her pain has largely subsided, and X-rays show a reduction in her spinal curve from 60 degrees to about 40 degrees.

The exercise-and-manipulation regimen Stitzel uses is still unproven in large numbers of people, and the chair has been used on only a handful of patients so far. But what Stitzel has seen has convinced him he's onto something.

"We've consistently stopped the progression of scoliosis every time," Stitzel said. "We're turning a corner from how you can stop it to reducing it. And, if we can do that in a 73-year-old, we can do that in anybody."

Stitzel said he's seen results in younger patients, too. As the spine grows sideways, scoliosis patients often lose height. One of Stitzel's 20-year-old patients shrank 2 inches in a year because of her spine's curvature; after using Stitzel's combination regimen, the patient grew 2 inches.

The series of exercises and manipulations Stitzel uses was developed by the nonprofit Pettibon Institute in Washington and adapted for scoliosis treatment. It's a concept that rebukes the notion of bracing, or forcing the spine to grow straight.

"You can't force the spine to do something - you have to convince it," said Stitzel, a graduate of Manheim Central School District, Penn State University, Palmer College of Chiropractic and the Pettibon Institute. Because a curved spine weakens muscles and tissue on one side, Stitzel uses "righting reflexes" to strengthen that side. In a way, it's contrary to logic because Stitzel exaggerates a patient's curvature by weighing down that side of their body with weights. But Stitzel said the brain's instinct to compensate for the extra weight strengthens the patient's weaker side.

A study by Dennis Woggon, director of CLEAR Institute in Minnesota that studies and researches chiropractic scoliosis treatment, showed 19 patients treated for four weeks to six weeks with the weight therapy experienced an average 17-degree reduction in curvature. And Stitzel has seen progress in his own scoliosis patients.

For Stitzel, it was the first therapy he had encountered that stopped and reduced curvature. But he thought he could do better by refining an invention by Woggon, his colleague.

The first version of what Woggon called The Vibe chair wasn't adjustable, so it couldn't be adapted to different sizes of patients. But it did sit on a vibrating platform, like Stitzel's version, and the shaking movement strengthened some muscles while relieving acute and chronic pain in 82 percent of those who tried it.

"This is one of the easiest ways I know that someone of any age or condition can increase joint mobility, muscle strength, overall circulation, bone strength and density, and overall fitness," Woggon wrote of The Vibe.

Stitzel loved Woggon's invention, but he couldn't wait for improved versions of The Vibe that could be useful for his patients.

So he did what anyone would do: He went to his dad, John Stitzel, a retired Manheim Central junior high school principal who also happens to be handy in a workshop.

"Clayton and I started talking, and I said, 'Tell me what you need and I can probably build it,' " John Stitzel said. "We started in my garage just talking about how this thing could work and how it might look. I took it from there and designed it with what they needed."

The first therapeutic chair John Stitzel built started with a chair he found on the trash heap. He commissioned welders to make adjustable arms and a swivel back, Amish leatherworkers to add straps and an upholsterer to sew the cushions. After several versions, the most recent chair was professionally crafted by a local cabinetmaker and includes an adjustable suspended chin rest to hold the patient's back even straighter while in the chair for 15- to 20-minute intervals.

Modifications are still being made, but the results look promising. Clayton Stitzel's proof is in his patients' before and after X-rays and reports that their pain is diminished.

"I have seen some improvement," Mann said. "It's not as much as I would like, but I don't expect it to happen quickly when I've had this problem for 50 years.

"I know (Dr. Stitzel) has had remarkable results with younger people. If I had had access to this chair when I was a teenager, I think this could have been avoided or treated successfully."

Treatment doesn't stop in Stitzel's office. Scoliosis patients must do exercises at home to continue progress. And Mann said she feels a difference when she stops working at home.

Still, she's optimistic. And so are the Stitzels and Woggon, who already has sold 10 chairs and recently signed a contract for mass production of The Vibe. Proceeds will benefit Woggon's nonprofit CLEAR Institute.

"I still have days when it's painful," Mann said.

"I think it will take another year or two before I see a lot of progress. But I'm hopeful, and I'm already better than I was."

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