

## Amazing recovery attributed to cord blood

Toddler diagnosed with cerebral palsy shows remarkable improvement

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Dallas Hextell was already a miracle to parents Cynthia and Derak, after they spent three years trying to get pregnant.

But now he is looking like a medical miracle to the rest of the world.

The 2-year-old son of the Sacramento, Calif., couple was diagnosed with cerebral palsy, but is now showing fewer signs of the disorder and marked improvement after an infusion of his own stem cells — made possible by the preservation of his own cord blood shortly before birth.

Derak Hextell now believes his son will be cured of the incurable malady.

"[Dallas' doctors] said by the age of 7, there may be no signs of cerebral palsy at all," Hextell told TODAY co-host Meredith Vieira while holding a curious Dallas on his lap. "So he's on his way, as far as we're concerned."

For Cynthia Hextell, the changes in Dallas just five days after the intravenous infusion of his cord blood cells are not coincidental.

"[He's changed] almost in every way you can imagine, just from five days afterwards saying 'mama' and waving," she said. "We just feel like right now he really connects with you."

"It just seemed like a fog was over him before, like he just really wasn't there. There was kind of, like a glaze in his eyes. Now, as you can see, you can't get anything past him."

### A difficult start

The joy of Dallas' birth in 2006 was met with gradual heartbreak as he was unable to feed from his mother. He was constantly crying and rarely opened his eyes. At five months, Dallas had trouble balancing himself and his head was often cocked to one side.

The Hextells switched pediatricians when Dallas was eight months old and was diagnosed with cerebral palsy — a group of nonprogressive disorders that affect a person's ability to move and to maintain balance and posture.

Various studies show that the damage to the motor-control centers of the young, developing brain that causes CP occurs during pregnancy, although there are smaller percentages of the disorder occurring during childbirth and after birth through the age of 3.

"I think it's important to remind people that cerebral palsy has to do with the motor part of the brain and usually kids don't deteriorate," said Dr. Nancy Snyderman, NBC News' chief medical editor. "But they have significant motor problems, which explains why he wasn't a good sucker when he was breast-feeding as a baby and all of this colicky stuff that sort of confused the diagnosis."

There is no known cure for cerebral palsy, and the treatments to help manage its debilitating effects make it the second-most expensive developmental disability to manage over a person's lifetime, behind mental disabilities.

At 18 months, Dallas had very limited motor skills. He could not crawl, clap or sit up and he communicated only through screaming brought on mostly by pain and frustration.

### Life-changing decision

During her pregnancy, Cynthia Hextell had done thorough Web research on health issues relating to childbirth and came across a pop-up ad for Cord Blood Registry, the world's largest family cord blood stem cell bank. The San Bruno, Calif.-based company has preserved cord blood stem cells for more than 200,000 newborns throughout the world.

Hextell said the cost of saving Dallas' cord blood — about \$2,000 and not covered by insurance — was off-putting. But she ultimately registered for CBR, thinking she would rather put up the money and not use it rather than have saved it and regretted it later.

(Cord Blood Registry spokesman David Zitlow said the procedure costs \$2,000 for processing and \$120 per year for storage.)

"We had a perfectly healthy pregnancy, but it did take us three years to get pregnant," Cynthia Hextell told Vieira. "It was a good chance he was going to be our only child, so that was one thing that if we were going to do it, this was our only chance."

"Heart disease ran in [Derak Hextell's] family. I was adopted, so I knew if we ever needed something, Dallas and I were the only ones [who could provide a genetic match]. So those were things [we considered], but nothing like I thought something was going to be wrong with my child. Literally, it took us until about two weeks before our due date to make the final decision because it is expensive."

After Dallas was diagnosed, the Hextells traveled to Duke University, where doctors were using cord blood as part of a clinical trial to treat a small number of children who had cerebral palsy or brain damage. Mrs. Hextell called some of the parents of the children and all of them reported tangible improvement in their children following the transplant of stem cells, evidenced in better speech and motor skills.

So the Hextells agreed to infuse Dallas' own stem cells back into his bloodstream last July, a procedure that took less than an hour.

Within five days, a different child emerged — laughing, clapping, waving and reacting.

"We think [the transfusion] has a real big part to do with it because it was such a drastic change within five days of the procedure taking place," Derak Hextell said. "It had to be because he wasn't reaching the milestones that he's reaching now. He was falling further and further behind."

"Before he went to Duke, we were trying to teach him to use a walker," Cynthia Hextell said. "Now he walks with no assistance at all."

### **Saving the cells**

Although Dallas' case was not part of a controlled case study, Snyderman said it should not be overlooked in the progressing studies of stem cell treatments.

"I think the thing that medicine has not done very well is we haven't made a big enough deal about anecdotes," she said. "This is not a controlled case study. It's not a randomized clinical trial. But it is a child with a diagnosis who got a transfusion of stem cells and not only stopped the deterioration of his problems, [but] he's doing better."

"So I take it very seriously. And I think it's an extraordinary reminder that cord blood, that stuff that is thrown away with the placenta in the emergency room as sort of medical waste, can have extraordinary applications. We're all offered it in the delivery room."

Snyderman didn't have to convince one person about the promise of those stem cells.

Said Cynthia Hextell: "They're like gold."

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