

MEDICAL FIRST FOR ALEX



Little pioneer: Two-year-old Alex Cantwell with mother Margaret. Springs in her skull are helping to reshape her head in much the same way that dental braces work.

Picture: ROSS GIBLIN

Novel treatment to reshape girl's head

KELLY ANDREW

A LOWER HUTT toddler has become the first person in the southern hemisphere to have radical surgery that has left her with springs in her skull in an effort to reshape it.

Alex Cantwell, 2, developed a misshapen head after spending several weeks lying in a neonatal incubator. She had been born nine weeks premature, and long periods lying on her side meant her head became flat on its sides with a bulbous forehead.

Earlier this year, a concerned paediatrician referred her to Hutt Hospital where her parents, Margaret and Steve Cantwell, met plastic surgeon Charles Davis. He told them about a novel technique developed overseas — spring-assisted surgery — that could normalise their daughter's head shape using wire springs embedded in her skull.

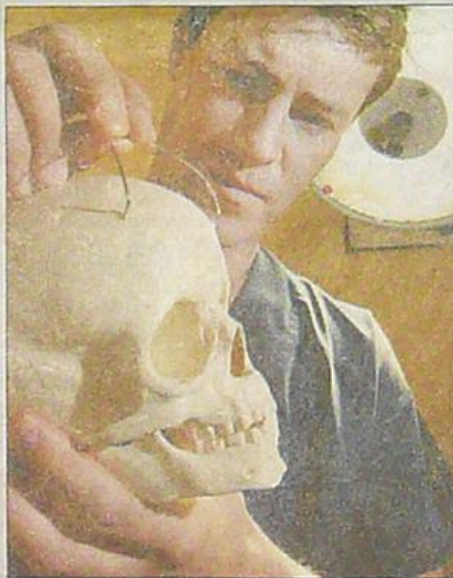
The outward pressure of the horse-shoe-shaped springs would gradually, over months, nudge the plates of the skull into the correct position. When the skull was in the desired place, the wires, similar to those used in orthodontics, would be cut and removed.

Mr Davis is the only surgeon in the southern hemisphere performing the operation.

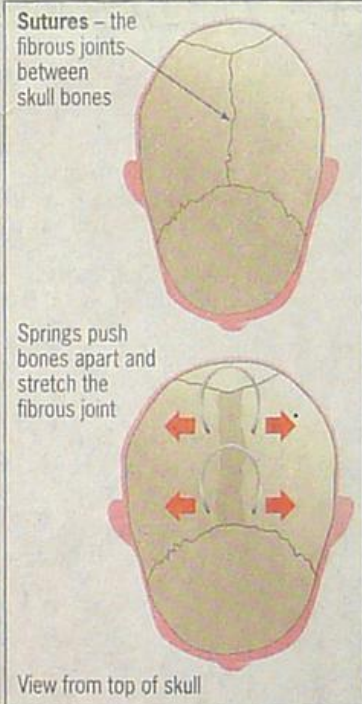
Alex was older than the ideal age range — under six-months-old, when the skull is more malleable — but Mr Davis believed she would still benefit.

In May, Alex became the first in the southern hemisphere to undergo the surgery. Three pieces of 1.2-millimetre-thick medical grade wire, cut by Mr Davis to the correct length and shaped to her head, were inserted under the skin into

▶ SPRING-ASSISTED SURGERY



Surgeon Charles Davis used springs to widen Alex Cantwell's skull. Born prematurely, Alex developed scaphocephaly (a long narrow head) from lying on her side in the incubator.



small holes drilled in her skull. She went into hospital on a Sunday, had the operation the next day, and was home two days later. By Friday, she was running around outside.

The springs are visible up close as ridges under her scalp. They will not be removed till May next year, but their impact on Alex's appearance had been dramatic, Mrs Cantwell said. "Friends who know that she's had the procedure and haven't seen her for two or three weeks always go, 'Wow'. Her head shape is back within the normal range."

Alex's parents were relieved to hear there was an alternative to traditional invasive surgery which would have involved removing and cutting the bone from around their daughter's brain, blood transfusions, and a week in hospital to recover.

"We were just really thankful that there wasn't going to be any cutting open of her skull and remoulding it; that it would just be some springs in her skull," Mrs Cantwell said.

Since Alex had her operation, five other babies and toddlers have had similar procedures, all performed by Mr Davis with the assistance of a neurosurgeon and anaesthetist.

They had either been born premature or with a condition called craniosynostosis, in which the skull plates were fused together, making them grow abnormally.

Spring-assisted surgery was pioneered in Sweden about seven years ago and has been used on about 120 children there. Mr Davis was trained by its inventor, and since returning to New Zealand has been asked to demonstrate to surgeons in Australia and Malaysia.

He said when parents were given the option of traditional surgery or the spring-assisted alternative, they generally chose the springs. The wire was imported by a local workshop and customised by Mr Davis.

"It's not quite No 8 fencing wire, but it is very DIY, and making the springs myself makes it very inexpensive," he said.