

# How Melbourne doctors saved twins from three killer conditions

DOCTORS have operated before and after a baby girl's birth at just 1.7kg to save her and her identical twin from rare killer conditions.

**GRANT ARTHUR**HEALTH EDITOR

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Brianna Martino's 11 week old twins, Estelle (left) and Florence. Picture: Jay Town

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DOCTORS have operated before and after a baby girl's birth at just 1.7kg to save her and her identical twin from rare killer conditions.

Just 16 weeks into her pregnancy, Brianna Martino was told her unborn twin girls were suffering the one-in-1000 twin-to-twin transfusion syndrome, requiring immediate laser surgery in the womb to divide a shared placenta and save both their lives.

The Geelong mum was then stunned a week later when Royal Women's Hospital specialists revealed her unborn girls were both growing within a single sac — a one in 100,000 conditions called monoamniotic, where their umbilical cords can become tangled, cut off the blood supply and kill both.

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Results of 20-week scans then dropped another bombshell, revealing one twin, Estelle, had a heart condition that would be impossible to survive without immediate surgery after birth.

It left Ms Martino in an unimaginable situation: saving both Estelle and Florence from knotted umbilical cords meant they had to be born as soon as possible, yet Estelle needed to remain in the womb as long as possible to grow large enough to survive heart surgery.

"I was very scared and shocked thinking it wasn't going to be a good outcome," Ms Martino said.

"We aged every time we had a scan, to see if there were two heartbeats."

After lifesaving in-utero surgery for twin-to-twin syndrome by Monash Medical Centre's Dr Andrew Edwards, both girls were still alive at 26 weeks and had grown to a point where they could be delivered in an emergency.



Brianna Martino with her 11-week-old twins Estelle and Florence. Picture: Jay Town

Ms Martino was admitted to the Royal Women's for round-the-clock surveillance.

Specialist nurses used heart monitors four times a day to search for strong signs of life for each baby, ensuring the umbilical cords were not becoming too tight.

If the vital signs weakened, head of the RWH multiple pregnancy clinic Dr Steve Cole and his team were prepared to deliver them immediately.

"We can't untangle the cords, so the only thing we can do is pick the right time to deliver them," Dr Cole said.

"The big problem for those babies is that they can somersault around each other all day every day, and they tie their umbilical cord in knots. If one of them jumped the wrong way too hard and pulled them tight, that can result in the death of one or both instantaneously."

The RWH deals with about three cases of monoamniotic twins a year and usually aims bring them into the world at 32 weeks, when the danger of remaining in the womb outstrips the impact of premature birth.

But with Estelle's leaking heart valve unable to pump blood to her lungs, she would not survive long outside the womb — and a 32-week heart is still too small to undergo complex surgery.



Brianna Martino with Estelle. Picture: Jay Town

Desperate to give Estelle more time to grow, RWH foetal cardiologist Dr Darren Hutchinson planned to push the pregnancy to 34 weeks.

“We want these babies to be as big as possible for that procedure to be performed ... to be as close to 3kg or above, if possible,” Dr Hutchinson said.

“They have been doing these procedures at the RCH for about 25 years, so they have a lot of experience. But it is only a very small number that are done below 2.5kg — a handful, if that.”

But at 32 weeks, Ms Martino’s placenta separated from the uterus, and she needed to give birth. Weighing just 1.7kg — only half the size needed for surgery — Estelle was born on February 7.

“After the birth I was very excited in the moment, but then it was all about the next step and finding out how severe was the stenosis, what is the next outcome, what is going to happen. It was another rollercoaster,” Ms Martino said.

To buy her more growing time, Estelle was rushed to the RCH where she was given the drug prostogladin in the hope it would keep open a hole in her heart that would otherwise close after birth.



Estelle resting by herself. Picture: Jay Town

With the drug successfully opening a duct, Estelle's heart had an alternative way to move blood from her heart to her lungs for three weeks, allowing her to grow to 2.2kg.

While she was still tiny, doctors feared keeping her on the medication for any longer due to the side-effects of breathing problems and stomach complications. So RCH surgeons passed a balloon into Estelle's heart on March 8 to open her narrow valve.

"It was technically a very successful operation: the vessels were difficult to get access to, but they were successful. The balloon procedure itself was good, the narrowing was reduced by about 75 per cent," Dr Hutchinson said.

Images taken of Estelle's heart at the RCH last week confirm blood is now flowing strongly to her lungs, and both she and Florence are flourishing despite the drama of the pregnancy.

“I am really lucky that with all the odds they’ve had stacked against them they are doing so well,” Ms Martino said. “Everything they have overcome, we are so lucky, I feel we are very fortunate.”



**The Royal Women’s Hospital’s world leading research has helped thousands of women like Brianna become healthy mothers of healthy babies, many of whom believed their dream of motherhood was out of reach.**

**The hospital is launching a Miracle Mum’s appeal to continue making the impossible possible this Mother’s Day.**

**To help mothers like Brianna, visit [thewomens.org.au/donate/fundraising-appeals/brianna-miracle-mum/2](http://thewomens.org.au/donate/fundraising-appeals/brianna-miracle-mum/2)**