



Thirteen-year-old Thomas Snell was healthy and active teenager. He died from sepsis in Brisbane's Lady Cilento Hospital in July. Picture: Amanda Clarke

QLD NEWS

Hope for blood test to crack the mystery illness sepsis

Janelle Miles and Kara Vickery, The Sunday Mail (Qld)

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WHEN the time came to turn off his life support machines, 13-year-old Thomas Snell was wheeled outside on his hospital bed and took his last breaths with the warm rays of the setting sun on his face. His parents were with him.

The fit and talented sporting all-rounder from Darwin died at Brisbane's Lady Cilento Children's Hospital on July 22, almost three weeks after developing sepsis — organ failure caused by his body's response to a joint attack of the flu and a bacterial infection.

He was in Brisbane to compete for the Northern Territory in the Queensland Rugby Union Junior State Championships in late June/early July when he fell ill, one of several members of his team who developed influenza A.



Thomas Snell was in Brisbane representing the Northern Territory in the Queensland Rugby Union Junior State Championships when he became ill. Picture: Amanda Clarke.

His family – Mum Amanda Clarke, Dad Phillip Snell and younger brother Patrick, 12 – had travelled to Queensland to cheer him on.

One day, Thomas was texting his Mum asking for some cough lozenges and playing rugby for his under-14 side. By the next afternoon, doctors were connecting him to life support machines, urging his parents to tell their son they loved him.

“There follows 20 days of absolute heartache,” Amanda says by phone from Noonamah, an outer rural suburb of Darwin, her voice cracking with emotion.

Five hours before driving Thomas to the Lady Cilento hospital, his Dad had taken him to a Brisbane general practitioner. The teenager had been vomiting and had diarrhoea overnight, too unwell and lethargic to take the field for that day’s rugby games – unusual for the active, sports-loving boy.



Thomas (left) with his family, mother Amanda Clarke, dad Phillip and younger brother Patrick who are trying to make sense of his loss.

“The GP sent him away with gastro tablets,” Amanda says.

Back at their hotel, after she noticed her son’s breathing was shallow, and his lips and skin had changed colour, they took him to hospital. Thomas walked in, relying on his Dad’s shoulder for support. He was already in organ failure.

Twenty days later, he had deteriorated to a point that his parents, together with his treating team, made the traumatic decision to turn off his life support.

“He fought very, very hard,” Amanda says through tears. “But he was gone too far. His lungs were so damaged from pneumonia, we had to let him go.”

Had he survived, Thomas would have required amputation of his hands and feet. His rapid transformation from a healthy teenager to being on life support still haunts the family.

“We have guilt that we didn’t get him to hospital soon enough,” his mum says. “Why didn’t we know?”



Thomas Snell.



Pictures: Supplied

But sepsis is a mystery killer, even to doctors. It remains unclear why some previously healthy children and adults develop sepsis from common infections, and others don't.

The big hope is that through research, a blood test may be developed to pinpoint patients susceptible to sepsis so they can be treated with antibiotics as soon as possible and admitted to hospital.

A reliable test would also help doctors in rural and regional hospitals to decide whether children should be transferred to bigger centres with paediatric intensive care units.

"We see quite commonly that children who have life-threatening sepsis have seen a GP or been to an emergency department in the few days leading up to it and were found to have a mild viral infection and sent home," says paediatric intensive care specialist, Associate Professor Luregn Schlapbach, who treated Thomas at the Lady Cilento hospital.



"The children have a bit of fever, they're a bit grumpy, but otherwise they're okay. It is very challenging for parents, GPs and people in emergency departments to recognise when sepsis is starting.

"Most children when they have common infections their immune defence is able to deal with the infection and the children do not become very sick. But about one out of 10 children will become very, very sick and need life support. It remains one of the mysteries around sepsis."

Schlapbach says about 500 children around Australia and New Zealand are treated in intensive care each year after developing sepsis. He says between 5 per cent and 20 per cent of them die from the condition.

Although antibiotics do not work against the flu, which is a virus, Thomas also tested positive to a bacterial staphylococcus infection.

“The problem is not so much the viral infections that a lot of these kids have in the beginning,” Schlapbach explains.



Mercedes King was flown to Brisbane by the Royal Flying Doctor Service on August 29.

“It’s that somehow, through that viral infection, sometimes a bacterial infection can develop. The virus may just be an innocent bystander or, in some cases, could have opened the door for bacteria to get into the body. Bacteria can then overwhelm the immune system and lead to life-threatening sepsis.”

As Thomas’s parents and brother mourn his death, another sporty teenager, Mercedes King, lies heavily sedated in a critical condition in the Lady Cilento hospital’s intensive care unit with sepsis.

Mercedes went to bed on August 27 suffering flu-like symptoms. She was taken to the Mackay Base Hospital the next morning, barely breathing. The 14-year-old promising netball player has tested positive to influenza B and also has an unidentified bacterial infection.

Her case comes as the doctors caring for her prepare to launch a study aimed at improving the recognition and diagnosis of sepsis, which they see as key to providing optimal treatment.

Schlapbach says the study will involve more than 500 patients at the Lady Cilento, Townsville and remote Queensland hospitals.

It will assess the value of a blood test measuring gene activation as a sepsis diagnosis tool. The test is based on international research identifying genes which are activated in patients with sepsis.

If it proves successful, it will not only allow paediatricians to diagnosis sepsis sooner, and potentially save lives, it should also reduce antibiotic prescriptions.

“At the moment, GPs and emergency doctors have a very challenging task when, out of hundreds of children that they see every day with fever, they have to make a call as to which ones need antibiotics and which ones should be in hospital because of the risk of sepsis,” Schlapbach says.



📷 Mercedes King with her parents, Becky and Troy.

“One of the really big challenges in medicine is that we know there’s a risk that we may run out of effective antibiotics in the next 10, 20 years.

“We have to be a lot more judicious in the way we use antibiotics but at the same time we know that using antibiotics early is the most successful intervention to treat children with sepsis. On the one side, you want to use less antibiotics and on the other side, you may need more antibiotics to treat more kids that may have sepsis.

“The only way out is a test that is much better in telling us which children are infected and when it is safe to stop antibiotics.”

Prince Charles Hospital intensive care specialist Professor John Fraser describes sepsis as “one of the biggest killers” worldwide.

In Australia alone, more than 15,700 adults are treated in intensive care units annually as a result of sepsis. About 3000 of them die from the condition — higher than the national road toll.

“One death from sepsis is too many,” says Fraser, who’s been researching the condition in sheep, trying to develop better treatments.

The sheep study has found giving too many fluids is not the best treatment for sepsis, increasing the risk of heart muscle damage.

“We have done some very clever science that demonstrates too much fluid damages the heart and other organs by flushing toxins through the already damaged organs,” Fraser says. “We have called this ‘the toilet flush phenomenon’.”



📷 Professor John Fraser describes sepsis as one of the biggest killers worldwide.

The findings confirm UK research. Fraser says future human trials are being planned aimed at minimising fluids in patients with sepsis in a bid to maximise survival.

“Our survival rates are really good in Australia compared to the rest of the world,” says Fraser, the director of the Prince Charles Hospital’s Critical Care Research Group. “We do very, very well but we have to do better.”

Isabella Holland counts herself “incredibly lucky” after spending almost two weeks in a coma as a result of sepsis.

The 25-year-old former professional tennis player from Brisbane says an infectious disease specialist has since told her that doctors were in awe of her recovery from what he termed “the trifecta” — an aggressive strain of meningococcal bacteria, penicillin resistance and sepsis.

“Usually you’d be happy hearing about a trifecta but he said it was a miracle to have everything possible in the medical world going against you to come through it,” she says.

In May last year, Isabella was feeling unwell with flu-like symptoms so she took some aspirin and went to bed early. By morning she was throwing up blood and was rushed to the Wesley Hospital, in Brisbane’s west, by her mother.

“I was in so much pain I couldn’t sit up in the car,” she recalls. “I had to lie down. Then I got into emergency and I literally just dived on the floor because the pain was just indescribable.”



Former Australian Professional tennis player Isabella Holland was lucky to survive sepsis.
Picture: Jack Tran

Tests revealed Isabella had contracted meningococcal W, a particularly aggressive strain of bacteria. Her kidneys were shutting down and her lungs were filling with fluid — signs of sepsis.

Isabella says it was only then that the seriousness of her situation fully dawned on her.

“I just freaked out,” she says. “That was the first time I was like ‘This could end badly’. If anyone has ever encountered that thought, it is the scariest moment in your life.”

Doctors placed Isabella into an induced coma for about 12 days so she could fight the infection, which was resistant to the usual treatment — penicillin.

She says the first few days were “touch and go” for her life and then doctors were unsure whether they would have to amputate her limbs.

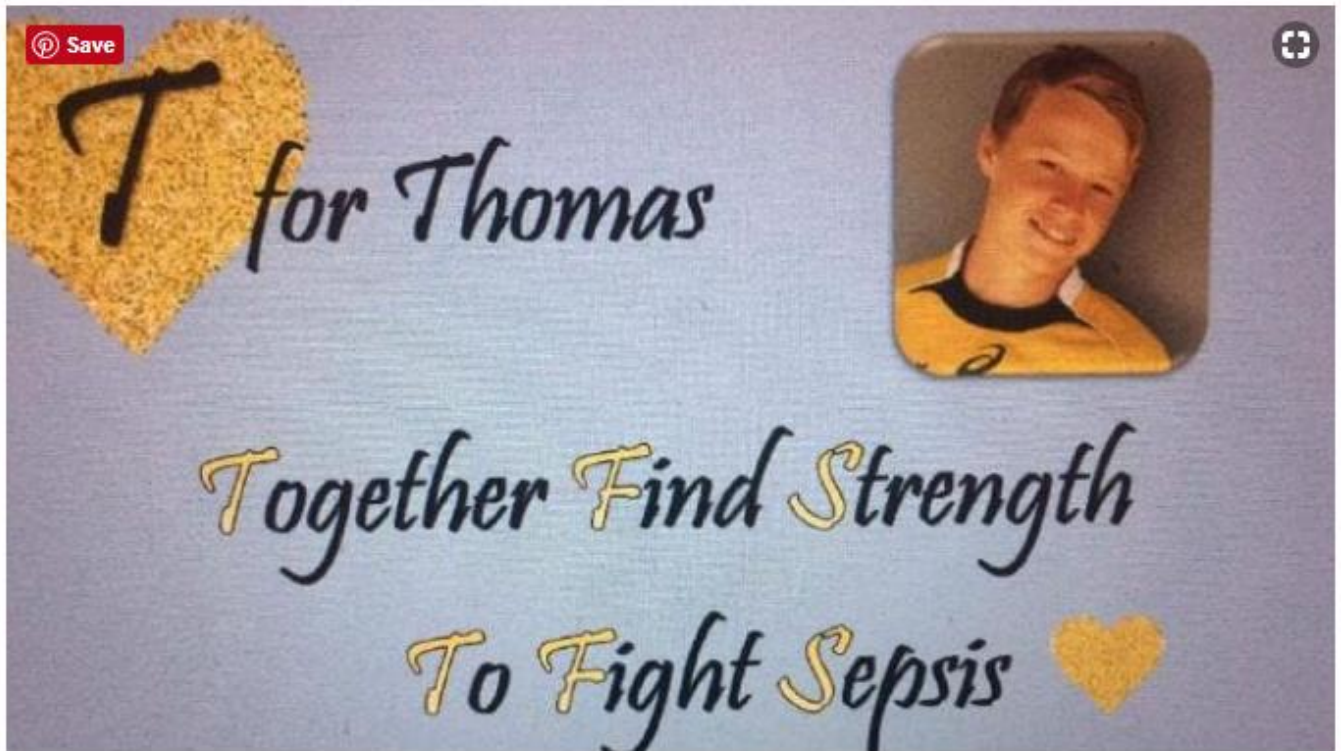
Amazingly, Isabella walked out of hospital about a month after being woken from the coma. She says doctors believe her high level of fitness helped her recover.

“To this day, it doesn’t feel like it happened to me, it is like someone else is telling the story to me,” she says.

Her spleen was ruptured during her sepsis fight and scans earlier this year revealed it has not recovered and she must take extra precautions to protect her immune system.

Isabella, who competed at Wimbledon in 2008 and in the Australian Open in 2009, 2011 and 2012, retired from professional tennis in 2015. She is grateful for her career, which began when she was 13, but says it is her illness which has taught her the biggest life lesson so far.

“It is kind of unfortunate that this happened to me but I learnt this valuable life lesson at such a young age and I think it is just going to stay with me forever, how important your health is and just how valuable it is,” she says.



📷 Join the "T for Thomas" campaign on Wednesday, World Sepsis Day. Picture: Amanda Clarke

As Isabella rejoices in being alive, Thomas's family have vowed to promote awareness of sepsis, a medical condition they had never heard of before their son's illness.

They've already raised \$5000 for the "T for Thomas" campaign which they plan to donate to sepsis research, hoping fewer families face a similar tragedy.

Wednesday is World Sepsis Day.

To donate to the Children's Hospital Foundation: childrens.org.au

[Email janelle.miles@news.com.au](mailto:janelle.miles@news.com.au)