

Medical miracle

“The GREATEST

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BLESSING”



Article view

Queensland teenager Asha Morris was the first cancer patient in the world to undergo groundbreaking surgery with a 3D printed implant. Today this inspiring young woman is happy, healthy and taking her first steps towards a dream career in medicine.

On

October 3, 2019, a carefree teenage girl walked out of her family home and along streets lined with old wooden Queenslanders and well-tended subtropical gardens. The day was warm and full of promise. All over suburban Brisbane, jacarandas were flowering.

Asha Morris was on her way to visit her boyfriend; then to the white-sand beaches of the Sunshine Coast for a family holiday.

These were some of the last steps Asha would take independently for 18 months. In the following days, her world would shift on its axis. Her safe life in a comfortable, leafy suburb would be gone, she'd struggle for her very survival, and emerge a different person to that frivolous, slightly rebellious 15-year-old girl.

"I was a ratbag," Asha remembers now. "I was really naughty."

Her mother, Lucinda (or Luci) Morris, is more diplomatic. "It was what teenagers do – challenging the boundaries and challenging everything."

Back then, Asha was toying with the idea of becoming a beautician. "I never thought of myself as being academically strong," she says.

That morning, Asha had woken with an itchy leg, but as the day progressed, it really began to hurt. "There was nothing visible, no red mark or bruise or anything," she recalls. By the end of the day, she could barely walk. She and her boyfriend, Mahli, had to rent a scooter to get her back to the train station.

The next day, a Sunshine Coast doctor ordered an MRI



The procedure was the last option for Asha (left), but both she and Luci (above) were optimistic it would work.

and the day after that she was meeting an oncologist in Brisbane. Even before the biopsy, the doctors knew it was something "sinister".

They put her on a course of hormone stimulation because what was to come would harm most of her organs, including her ovaries, and to safeguard her fertility, they needed to collect some eggs.

Then it was straight into chemotherapy. The pain she had felt was a tumour pinching a nerve. It was a rare Ewing sarcoma, a bone and tissue cancer. "The tumour was inside the bone and into the tissue," Asha says, "the soft tissue at the back of the calf behind the skin."

With no time to think about what was happening, Asha and Luci went into survival mode. It was a "whirlwind" Asha says, and a vortex of pain. "Our life sideswiped left," Luci adds. "We went, 'we're doing this now.'"

Luci knew she'd have to leave work, and this wouldn't be easy. She was a passionate art teacher and a devoted single mother to three girls (Indiah is two years older and Phoebe two years younger than Asha). But it was necessary

“so we could just focus on the next step that was required in Asha’s medical journey”. The family came through it together, surviving financially largely on Luci’s carer’s pension.

Asha underwent a year of chemotherapy in total, six months either side of the surgery. And she had a central line tube running under her skin for 18 months straight, to put fluids in and take blood out of her body.

There were immense challenges. The chemo made her bald, underweight and very ill. She and Luci learned to find rituals, distractions and small moments of joy between the gruelling procedures, the steps forward and backwards, the endless empty hours of uncertainty at the Queensland Children’s Hospital. They made badges for the nurses, and Asha filled 19 journals during treatment.

“That was huge for me because everything I felt, I wrote down,” she tells *The Weekly*. “I’d write about the things I wanted to happen when I got out of chemo, what I wanted to do. It would be suffocating not to express and feel every aspect of it because it is this whole roller-coaster of emotions.”

She felt devastation for the little bald babies who didn’t understand what was happening to them. And grateful to her oncologist, Dr Wayne Nicholls, “for being honest with me. Because of my age, he appreciated that I was interested, not only in my care, but in the medicine behind it and understanding what was happening to me. It made it seem smaller when I understood what my tumour was, instead of just this dark hole trying to kill me.”

Although he never told her she would be cured, Asha was always hopeful. “I trusted that he knew what he was doing. I didn’t see it as my story coming to an end at any point. I always saw that this was a hurdle I was going to get through.”

By March, the tumour had significantly shrunk. Now came the surgery to remove it, along with 16cm of bone. Asha was offered a revolutionary, experimental surgery that had only been performed once before, and never on a chemotherapy patient whose immune system was already compromised.

But her doctors believed it could save her leg.

The technique uses a 3D-printed scaffold that Asha says is “bright orange and looks like the Eiffel Tower” around which the body can regrow its own tissue and bone.

Dr Jing Lim is the CEO and Chief Technology Officer of Osteopore, the Australian-Singapore company that developed the technology. “The idea,” he says, “is to enable the body to regenerate bone on its own.” Asha was a good

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– *Asha Morris*



candidate, he says, because she was young. “The youthfulness and exuberance in regeneration for younger patients does play a major role in what would shape the eventual outcome.” But the chemo would also have an impact on how well her body could regenerate.

The surgeon for this fiendishly difficult operation was Dr Michael Wagels. He tells *The Weekly* that, to meet the criteria, Asha had to be “out of options”. And she was. The chemotherapy, he explains, had increased the risks involved in other techniques, such as the insertion of a titanium rod, which could create “a hostile environment” for wound healing.

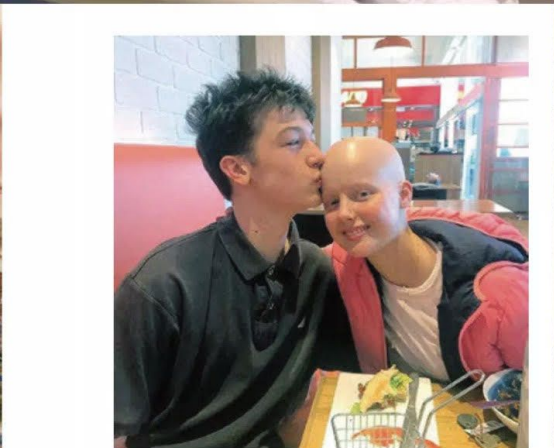
“The risk of infection in the bone for someone who is immunosuppressed can ultimately lead to limb loss and loss of life as well,” he says gravely. “The special thing about this particular implant is that it’s made of material that is bioresorbable – it is basically dissolving suture material. It’s a temporary scaffold that helps to support and direct the growth of the regenerative tissues that are



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The care and support of her mother Luci (left and below right) and boyfriend Mahli (below left) was invaluable to Asha while she underwent this experimental treatment and the brutal reality of chemotherapy.



ultimately going to replace it. The way I bring the implant to life is to wrap it in some tissue that has a blood supply and has the potential to regenerate into the tissue of choice, in this case bone. It gets replaced by Asha's own native bone that is inextricably part of her."

Dr Wagels felt Asha was "the kind of person where, whatever happens, she'll be able to rise to the challenge. Whatever happened to Asha, she was going to cope with it."

Asha is someone, her mother says, "who has this innate, natural inner light that makes everyone around her feel good, even when she's going through absolute crap. That's always been part of her nature – to uplift and find the positive."

After the groundbreaking initial surgery, Asha developed a fracture blister. Dr Wagels says she had "this florid, prolific production of fluid underneath the skin, which was completely unpredictable".

It was a horrible time, says Luci. "We had about a two-week wait while it declared itself." There had to be a second surgery. "She was basically in a wheelchair for a year after that."

Asha lived in the Children's Hospital for three months. It was lockdown and Mahli couldn't visit. But his father's apartment is in Southbank, across from the hospital. The nurses would push Asha's bed to the window so that they could wave to each other while they spoke on the phone.

Asha and Mahli have been together since they were 13. "I've asked him about it since," says Asha, "and he said

that he never even questioned or thought about not holding my hand through it. I think, as a teenage girl going through something where I really lost my whole sense of self and my identity – my physical appearance completely changed, I lost all of my muscle and my leg is different, I got so thin and I lost all my hair – and to have someone who I essentially knew loved me and gave me comfort and laughter. I am very, very blessed to have him in my life."

There were more tough times to come. The post-surgery chemo caused mucositis – ulcers in her mouth and all

through her gastrointestinal system. The worst times for Luci were when Asha caught infections. She had no immunity to fight them so would be rushed to hospital. "There was one time we went to the ICU where she had a temperature so high that she was having rigors [a form of extreme shaking]." Luci remembers another time when "I was on a chair with one knee on the bed ... holding her [through the pain] for seven hours".

It was when she reached the radiation stage that Asha began to feel "a sense of relief". By then, she was largely out of hospital and learning to drive. "Mum and I had this lovely routine. We would go into the hospital every day [for treatment] and we would get a Starbucks because it was Christmas and they do pumpkin spice lattes then. I didn't feel so sick.



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“When you find one thing to laugh about, what a difference it makes.”

— *Asha Morris*



Cancer has given Asha and Luci (left) gratitude for their health and their medical care (far left).

also wants to help others struggling with the same kinds of health issues that beset her.

She had to wait impatiently until she was 18, but she now volunteers in the operating bay at the Children’s Hospital, offering support to parents and caregivers. Because of the risk of infection, she couldn’t use her crutches in theatre. “I had to work really hard to be able to walk independently,” she says. But she can do that now.

Ultimately, Asha wants to be a doctor,

“When the radiation finished,” Asha says, “my body was so grateful.” She looked healthy, her hair was

sprouting back, she was putting on weight.

Then Luci found a lump: breast cancer. Their hearts sank. But the cancer had been found quickly and the treatment was far less invasive.

Today both Luci and Asha are clear of cancer. “Our journeys have been lucky,” says Asha, “like this mad existence. We got diagnosed quickly and received good care. Our bodies are strong and have fought for us. We’re mentally strong, surrounded by love and support, and we are intelligent and determined.”

Even though he performed the astonishing surgery, Dr Wagels says, “you don’t get this kind of outcome without the team of oncologists working very hard for a long period of time to manage the lifesaving treatment Asha had for cancer. Dr Martin Lowe, the orthopaedic surgeon at the Children’s Hospital, the physiotherapists, occupational therapists, nursing staff, engineering staff who designed the implant – they were all key components of the outcome.”

Dr Wagels, now at Princess Alexandra Hospital in Brisbane, is working on two new trials with 3D-printed implants, to address lower limb and cranial injuries and abnormalities. The doctor is looking for patients to take part in the trials, and a grateful Asha “very passionately”

but having missed much of the last two years of school, she’s working towards that dream in achievable steps. “My school was amazing,” she says, “they helped me do pieces of assessment to graduate. And I graduated with enough to get me into nursing, which I start next year. I’m very excited.

“I think nursing will be a wonderful pathway to medicine because I’ll have patient perspective, nursing perspective and then the clinical perspective. I want this so badly and I have the passion to back it. You really can do whatever you put your mind to and so much can change quickly.”

Her advice to people with cancer is to try not to be angry. “It almost feeds it,” she says. “When you go through something like this, use it to your advantage and see the little gifts that are hidden because usually, with something bad comes something good. Your cancer isn’t your identity, it’s a part of your puzzle, and that pathway or experience could be a part of something down the track. When you find one thing to laugh about throughout the day, what a difference it makes.”

Now, after all the pain and suffering, Asha can say “having cancer has been the greatest blessing to me because I’m so appreciative of everything, and I don’t think that will go away. To be 19 and truly live with intention and purpose and awareness of just being alive and make connection with people and walk on my own two legs – these are things I took for granted. I feel blessed to be able to live healthily. I feel very grateful for the gifts that my cancer gave me.”

“Asha has her life ahead of her,” says Dr Lim. “It really touches my heart.” **AWW**

