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LAUREN BARBER

TECHNOLOGY

The nurses making healthcare easier

These inventors are embracing medtech, providing solutions to medical problems, writes **Melissa Iaria**.

As a registered nurse, Lauren Barber has administered many thousands of needle procedures.

Yet it was her own surgery, triggered by a needle-stick injury, that inspired her to delve into the problem of needle phobia.

"Needle phobia is a silent epidemic," Barber says.

"It's massively under-recognised, and the pandemic only amplified the problem. I realised we were failing adults, in particular, with how we managed these procedures."

Needle anxiety can not only cause patient distress and delay vital surgery, but can spur people to avoid healthcare altogether.

"I've seen burly, tattooed bikers, the epitome of toughness, crumble at the sight of a blood test, postponing critical surgeries," Barber says.

"Like any phobia, avoidance is tempting, but needles are an unavoidable part of life."

To address the problem, Barber developed NeedleCalm, desensitising adhesive pads which dull injection pain, funding her invention by working night shifts.

Securing a patent, some funding and support from groups such as the Medical Technology Association of Australia, she conducted a clinical trial



NeedleCalm developer Lauren Barber (left) and Pulse Tile creator Elleesha King.

with a 3D-printed prototype, and the product launched in 2021.

The NeedleCalm chief executive and founder credits her invention with helping save lives and transforming patient experiences by preventing healthcare avoidance.

"I knew there had to be a better way," she says.

"Having a needle is quite an invasive procedure and it's just common sense to improve that experience."



The award-winning medical device is being used in GP clinics, pharmacies and paediatric units and is about to launch in the United States.

"My ultimate goal is to see NeedleCalm in every hospital ward," Barber says. "It will have tremendous benefit, not only for the hospitals, but patients as well."

Registered nurse Elleesha King is also making strides in the medical tech field with an invention to boost chances

of survival after cardiac arrest. In her early career as a paramedic and nurse, King says she found it difficult to accurately check for a pulse during cardiac arrest emergencies.

Chatting with colleagues and further research confirmed the struggle was common, leading to delays in both CPR and defibrillation.

While King knew there must be a better way to check a pulse quickly, it would be another decade before she acted on her idea for a simple tool to help rescuers.

"I thought about it every day for 10 years, and ... last year finally pulled the trigger on it," she says.

King founded Pulsatile Innovations to help rescuers overcome the hurdle of manually finding a pulse in high-stress situations, potentially saving lives. Her Pulse Tile sensing device is designed to tell the rescuer if there is a pulse and if CPR is needed.

King worked extra shifts to fund a prototype and has since secured grants and hired staff.

A second prototype is now being developed and now must overcome the hurdle of regulatory approvals and clinical trials.

King hopes it will be used by hospitals and paramedics worldwide, and by the public to store in their first-aid kits.

"An effective tool like this would see an increase in survival rates," she says. "It just takes away one of those things you may or may not be getting right, and so whether you're medically trained or not, you can focus on other tasks at hand. It's just such a simple elimination of guesswork."

Young AI innovators on a global stage

This pair are on track to launch a platform that connects podcast listeners, writes **Barbara Cosson**.

Many of us have experienced that awkward moment at a networking event where you know no one and look for some lifesaving opportunity to connect with someone, anyone.

Two young women who found themselves in that situation could not have known that within a year they would be competing on the global stage as part of a competition which helps next-generation innovators develop and launch AI technology ideas.

Sophie Greiner, 23, and Bella Filacuridi, 25, found each other at an International Women's Day event in 2024, connecting over the love of a handbag. Finding a quiet corner to chat, they also discovered a shared love of podcasts, in particular the very successful *Shameless*.

What cemented their friendship and later their partnership was Greiner's idea to develop a platform, Dome, for podcast listeners to connect with one another. Dome also provides podcasters with "unmatched audience intelligence and AI powered engagement insights," Greiner says.

"We know through our own experience that people can become soul mates if they both love the same sports team or artist of movie ... or podcast," Greiner says. But,



Technology entrepreneurs Bella Filacuridi (left) and Sophie Greiner.

unfortunately, there is currently little opportunity for podcast listeners to easily connect and interact.

An avid podcaster listener, Greiner, who is still at university, came up with the idea for Dome while doing a law and politics degree. She swapped politics for a media and business degree and has taken a break from law.

On meeting Filacuridi, a product strategist with Accenture, Greiner

struck gold. "Sophie has a consulting background, so she is just very good at seeing something and saying, 'This is a problem, this is an opportunity, this is the potential, and this is how we fix it,'" they decided to work together on getting Dome off the ground.

According to Greiner, Filacuridi's experience in digital product strategy and customer experience design, and the fact she has worked across

different industries, has been invaluable to Dome's development.

They set out to talk to as many podcasters as they could to make sure Dome had traction.

On the day before applications closed, they accidentally stumbled on for the Red Bull Basement competition and decided to put themselves forward to represent Australia. To their amazement, they won.

The win saw them head to Tokyo in December last year to take part in the global competition against other young innovators from 40 countries.

On offer for the winner was a trip to Silicon Valley to meet with investors and be mentored by some of the best in the industry.

Unfortunately, it was not to be, but they did make the top 10 and got to pitch Dome to a global audience while also receiving significant support from a range of mentors on business models, marketing and pitching.

The experience has served to convince them they are on the right track. They are in conversation with pre-seed investors and, so far, they have generated a waitlist of 250 podcasters with an estimated reach of 2.5 million listeners.

Dome seems destined to be launched within the next 12 months. Filacuridi and Greiner are most proud of the fact that their platform will be a place that lifts other women up, highlights women's voices and women-led brands, while hopefully also working with women investors.