

HEALTHCARE HEROES

healthcare-heroes.com

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HEALTHCARE is on the cusp of a dramatic transformation, one that will improve the lives of patients all over the world. At the heart of this transformation is an army of passionate individuals who care deeply about improving the lives of those around them, whose dedication and commitment makes a difference everyday, whether that be the patient who shares their story to help others going through a difficult time, or the entrepreneurs innovating with new technology to fundamentally change the way healthcare is delivered. We have created this book to celebrate these **HEROES**.

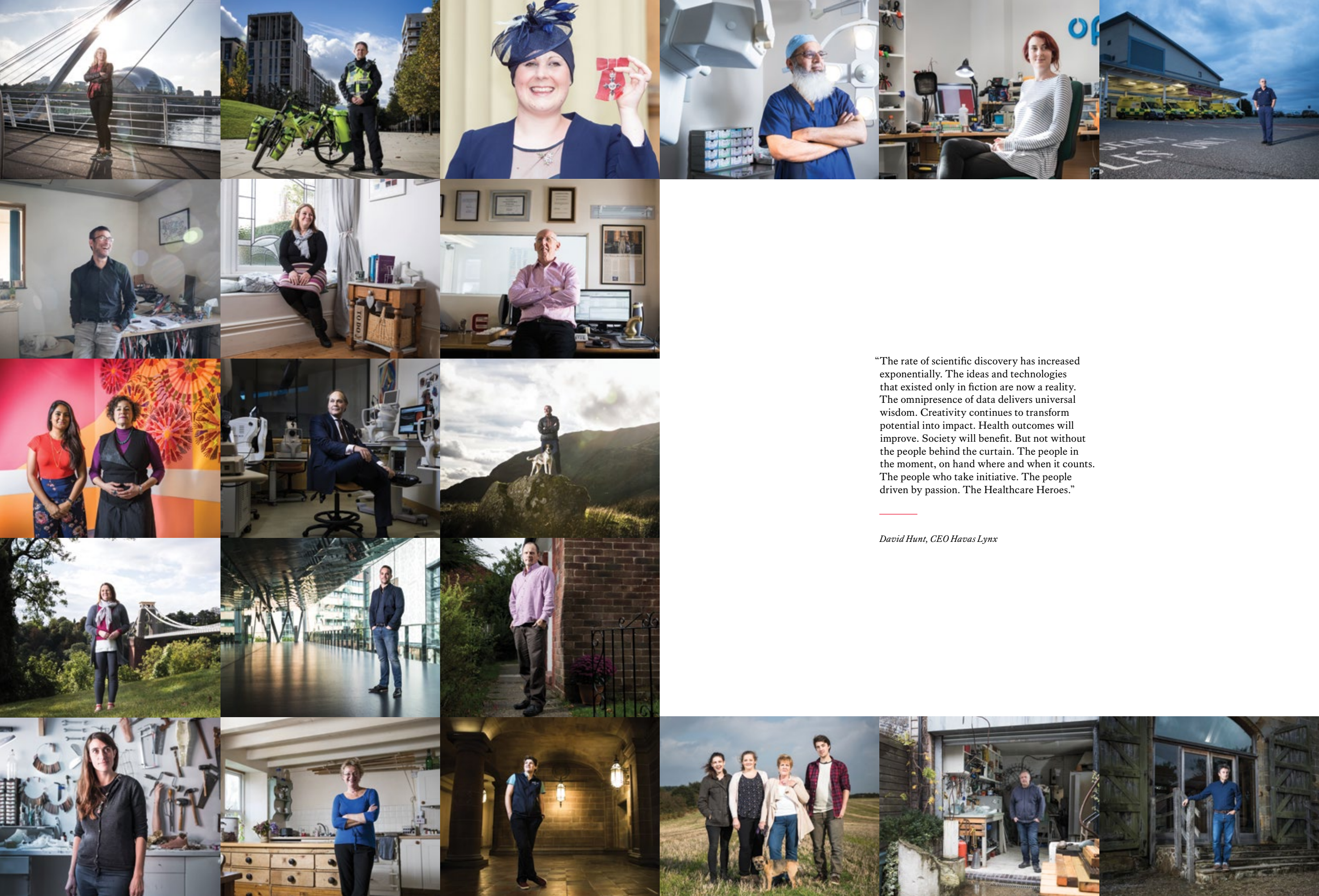


Above:
Artwork by Morag
Myerscough
commissioned by
Vital Arts pg 88

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“The rate of scientific discovery has increased exponentially. The ideas and technologies that existed only in fiction are now a reality. The omnipresence of data delivers universal wisdom. Creativity continues to transform potential into impact. Health outcomes will improve. Society will benefit. But not without the people behind the curtain. The people in the moment, on hand where and when it counts. The people who take initiative. The people driven by passion. The Healthcare Heroes.”

David Hunt, CEO Havas Lynx

A full-page photograph of Jo Milne standing on a bridge. She is wearing a black leather jacket over a red and black plaid shirt, black leggings, and green sneakers. She has her arms crossed and is looking towards the camera. The background features a large cable-stayed bridge structure with a prominent pylon and stay cables. The sun is positioned behind the pylon, creating a bright lens flare. In the distance, a large, modern, glass-domed building is visible across a body of water. Another bridge with a steel arch is also visible in the background. The sky is blue with some clouds.

JO MILNE

Millions witnessed the moment Jo Milne heard for the first time. Now she is delivering the gift of hearing to hundreds of children in Bangladesh.

THE GIFT OF HEARING

Our meeting point for the day is a building designed with maximum attention to detail for its acoustic properties and a place that only a few years ago Jo Milne wouldn't have been able to fully appreciate. But following surgery in 2014 which allowed Jo to hear, a whole new world was turned on for her.

Jo was deaf from birth but she never saw it as a hindrance. She grew up with two sisters who could hear and mum and dad treated each child with the same care and attention. The only difference she said was that, "My family and friends would have to look at me when they spoke so I could lip-read to include me in conversations, but I had great support and acceptance which meant I felt very confident being deaf." As a result, later in her teens she became actively involved in improving services for people with disabilities and

Jo also delivered disability awareness and equality training. But in her late 20s Jo started to notice her sight was slowly deteriorating. "I'd been aware that my peripheral vision hadn't been great for a while. I'd trip over things because if I looked forward I couldn't see my feet." She described her vision as like "Looking through an oval letterbox, above, below and to the sides are blank spots." As those blank spots were getting larger, Jo's visual world was starting to shrink. Medical tests confirmed that Jo had Usher syndrome.



Usher syndrome is a genetic condition that affects both hearing and sight and because Jo was profoundly deaf, she was petrified of losing a sense that she completely relied on. There is no cure for the syndrome and coming to terms with this brutal fact led Jo to suffer from depression. During that time she relied on others making decisions for her, like needing a guide dog on a permanent basis, which turned out wasn't right for Jo. She gradually began to believe that surgery to improve her hearing could be the way forward. There was no guarantee that the cochlear implants would work but despite that Jo decided to go ahead with the surgery.

Right:
Stills from the video
when Jo's implants
were turned on and
she heard for the
first time



During that time, one of Jo's friends contacted Lauren Laverne, BBC Radio 6 Music presenter. Jo became the subject of the show's regular feature called 'Memory Tapes'. Thousands of listeners contacted the show to suggest music recommendations for Jo. Following her radio feature, ITV's This Morning launched #songforjo and it became a national debate on which song or piece of music people would recommend Jo should listen to when her implants were turned on.

"When it came to switching the implants on, I'd asked my mum to film it so I could share the moment with my family and friends." The moment they turned the implants on, she fell apart. She was hearing for the first time which was extraordinary, but she was also carrying the emotion of her future sight loss. These implants could now guide her through the troubling loss of her sight and allow her to face life with a brand new sense. The film was uploaded

for the BBC Radio 6 Music listeners and went viral within 48 hours. Just a week later she was on news channels in the UK and Europe, in papers, magazines and on blogs. She said, "I was on the news all over the world; even family in Australia and friends in South Africa saw the clips."

The moment they turned the implants on, she fell apart. She was hearing for the first time which was extraordinary, but she was also carrying the emotion of her future sight loss.

The video has now had over 12 million views and has opened doors to things Jo could only dream of. She is currently part way through visiting the seven wonders of the world, a trip that has been donated by an anonymous businessman after he saw Jo talking about her sight loss. She is determined to build up a visual bank of memories. "My ever decreasing sight means I have to get out and

live life to the full, capturing every moment and to be given opportunities like this is truly amazing."

Right and below:
Jo out in
Bangladesh with
The Hearing Fund
UK, changing the
lives of over
500 children



"We ended up taking over 500 hearing aids for children. The expressions on their faces were priceless. Some were hearing their mothers voice for the first time, others were amazed by the sound of birds. Children don't hide emotion, so you can imagine the joy I saw."



Another person who witnessed Jo's video was an old school friend who was living in Bangladesh. She got in touch and the two arranged to meet. Around a similar time the 'Hearing Fund' got in touch. It's a charity, set up by the Osmond family to raise funds and awareness for deaf children and their families. After initial discussions with the charity, Jo and Amina suggested the idea of travelling to Bangladesh and taking hearing aids with them for children with hearing loss. The charity agreed and a variety of different sponsors, including the BBC, got on board. Makeshift camps were set up in Dhaka to distribute hearing aids. Jo said, "We ended up taking over 500 hearing aids for children. The expressions on their faces were priceless. Some were hearing their mother's voice for the first time, others were amazed by the sound of birds. Children don't hide emotion, so you can imagine the joy I saw."



Jo is continuing to work with the Hearing Fund in Bangladesh and is currently campaigning to bring sign language to the National Curriculum. “I would love sign language to be available for every child to shorten the gap between the deaf and hearing worlds.” Even though her sight is starting to fail her, the hearing implants have taken her world to another level, making her feel, oddly enough, ‘less blind’. Jo is two years post operation and she says that her life couldn’t be happier. She is embracing every opportunity that comes her way and will continue to raise awareness and be a voice for disabilities all over the world. ■

www.thehearingfund.org.uk

“I would love sign language to be available for every child to shorten the gap between the deaf and hearing worlds.”



TOM LYNCH

Former BMX world superstar knew he could reach patients faster than ambulances in heavy traffic, so he decided to set up the modern day Ambulance Cycle Response Unit.



THE POWER OF TWO WHEELS

Before meeting him I had read, ‘Tom Lynch is to BMX racing what Tony Hawk is to skateboarding.’ Throughout the 1980s and early '90s Tom Lynch was National Champion, British Champion, European Champion, number three in the World and a World Team Trophy Winner. He quickly became a global name on the BMX circuit competing nearly every weekend for almost 15 years from the expert classes up to the elite Superclass. Nowadays he is still a global name and he’s still on a bike but it’s the healthcare services that are getting the benefit of his many skills.

“When I was 11, I had an accident at school and everyone around me was panicking. The ambulance crew arrived and calmness came with them, all the madness suddenly disappeared. I remember that day as if it were yesterday.” That day made an impact on Tom and helped shape his future.

Tom had been riding for as long as he could remember, attacking the hills where he grew up on his Raleigh Chipper and Chopper and then later thrashing motocross bikes. So when the BMX trend took over in the early 1980s, Tom took to it instantly. He travelled the world as a BMXer, won numerous trophies and titles several times over, appeared on the front page of magazines, had fans on every continent and lived a life people can only dream of. He’d pushed his body to its limit and existed amongst the elite for as long as he could before stepping away from the limelight and coaching the next wave of Olympic hopefuls such as Liam Phillips and Shanaze Reade who went on to become World Champions and Olympians. “After that, well, I knew staying at the top of BMX couldn’t last forever so I decided it was the time to get a normal job but joining the ambulance service was far from normal.”



Above:
Tom competing
at MK85 BMX
racing

Below:
Tom's first BMX
in 1981



*“These days I’m still racing,
only now it’s to patients
rather than finish lines.”*

Tom trained with the London Ambulance Service, first with patient transport services then as an Emergency Medical Technician. He became increasingly frustrated with London traffic and the delays it caused to people who desperately needed care. He also knew not everyone needed to be driven to hospital by two highly qualified medical professionals. He often remarked that it would be quicker to

reach people on his bike but colleagues laughed him off. He realised that a lot of people didn’t know about his biking past, but he was sure that after all this time he could still cycle faster

than the London traffic in certain areas. Tom continued to talk up his idea, until in 1999 he got the go ahead for a trial to set up the Ambulance Cycle Response Unit (C.R.U.) to answer 999 calls in the West End of London. He still had friends in the bike industry and he made sure he got the best equipment available. The bike was fitted with the latest life saving equipment and the all-important, and now lightweight, defibrillator. The whole unit weighed nearly 50lbs (23kg) but this wasn’t a problem to Tom. The trial was a huge success. He said, “I knew the day the trial became a success. I was based around the West End and the calls were coming in and I was doing my best to ease the pressure on the ambulance crews. I would race to incidents, flying past traffic, cycling where motor vehicles could not go and getting to patients quickly. That particular day I went to five incidents within one hour. I treated the patients, cancelled the ambulances and used other medical centres as opposed to the accident and emergency.”



Above:
Tom riding with
the full kit which
weighs nearly
50lbs

Right:
The all-important
defibrillator in the
back pannier

According to NHS data, not all patients who call for assistance need hospital treatment, there are lots of incidents that a single medical professional with the right kit can handle. For example, Tom mentioned that, “Last week a cycle responder colleague went to ten ambulance callouts and only one patient needed an ambulance.” Clearly the C.R.U. can deliver the right patient care and can save time, money and resources which enables ambulances to deal with appropriate cases of need.

This gave Tom the ammunition he needed to take the service to the next level. He proposed plans to expand the service, create the training and policies, improve the bikes and the equipment they carried. He said, “I came up against a lot of red tape, but I’d seen the difference the cycle service could make in such a short space of time. I knew I had to keep pushing and increase the numbers on the ground.” One of the huge positives with using the bicycle was the reduction in time it took to get to heart attack victims. Every second counts when the brain is starved of oxygen and the results for preventing death from cardiac failure have significantly improved as a result of the work of the C.R.U. in the areas they work.



When we meet Tom he is fully kitted up, dark trousers, hi-vis vest and riding his custom bike. Today he manages several teams across London made up of over 100 ambulance paramedics including reserves and St John Ambulance volunteers, and is responsible for helping set up further teams around the country. The service has gone from strength to strength and they have people on the ground in lots of major UK cities, across Europe, USA and now even in China and Japan. He said, “Training can get very competitive. We have highly motivated individuals on the team such as triathletes, marathon runners, mountain bikers, cyclocross and roadracers as well as lots of fit and positive people. When you fuse this with excellent paramedic skills and a commitment to care you have a winning combination.” On his vest today there are a number of ribbons showcasing his achievements. We talk about the various forms of recognition he and the service have received, an important one being the MBE for which he was presented in 2007 for services to Bicycle Moto Cross (BMX) racing and the Ambulance Cycle Response Unit (C.R.U.) service, which he said allowed him to shout from the rooftops about the benefits of the C.R.U.

Tom has channelled his excellent cycling and coaching skills, his self belief and competitive spirit to develop and deliver a life saving service.



Above:
Tom relies
on good old
fashioned map
reading skills to
get to patients

Left:
Tom's many
awards shown on
the ribbons

Far Left:
Part of Tom's
bike team

*“Those are the moments we live for,
those are the gold medals.”*

*“He’d turned up with his
grandchildren; the youngest
one looked up to us and said,
‘thank you for letting me
meet my grandad’.”*

The service is making positive impacts on people’s lives on a daily basis, delivering value for money and high performance. Tom recalls the celebration they had to mark ten years of one of the C.R.U. teams. “We’d invited current and previous staff as well as people we had helped. We met one of the first people we’d treated for a cardiac arrest. He’d turned up with his grandchildren; the youngest one looked up to us and said, ‘thank you for letting me meet my grandad.’ Those are the moments we live for, those are the gold medals.” He credits his achievements to the amazing support of those who have helped him along the way, initially his parents, brothers and sister and now his supportive and loving wife who he says, “Puts up with a lot and has done so from day one of this crazy idea.” And of course looking to the future, his two children whose love of bikes will keep Tom on his toes.

An idea that was born out of a desire to reach people faster and ease the pressure on the ambulance service and hospitals has grown into an outstanding service staffed by hundreds of well equipped and motivated paramedics. Tom has channelled his excellent cycling and coaching skills, his self belief and his competitive spirit to develop and deliver a life-saving service. He may have stopped winning trophies years ago, but he has won the hearts and minds of many individuals and families worldwide. ■

www.londonambulance.nhs.uk



#hello my name is...

KATE GRANGER

OCTOBER 1981 - JULY 2016

Although her life was cut short, the impact Kate had in the healthcare industry to elevate compassionate care will live on. She started a movement, raised hundreds of thousands of pounds, and was awarded an MBE for her services to the NHS.

THE IMPORTANCE OF INTRODUCTIONS

The majority of healthcare staff we’ve met on this trip have introduced themselves with: “hello my name is”, which is something we didn’t think anything of. Then we noticed name badges with a branded, “hello my name is” on them. We inquired about these badges and this led us to be told about a lady called Kate Granger, who unfortunately is no longer with us, but her impact on the healthcare profession lives on.

Kate Granger, a junior doctor, first became ill on holiday August 2011 in California when her kidneys failed. She was 29 at the time and after returning home for further tests she was hit with the devastating news that she had a rare form of cancer called a desmoplastic small-round-cell tumour of which there was no cure. Kate was determined that cancer wouldn’t stop her from working and she returned to work in January 2012. Her life expectancy was 14 months, but she lived on for nearly five years and in those five years she achieved more than some do in a lifetime.

Following her diagnosis she compiled a bucket list, incorporating amongst others one amazing challenge, which was to raise £250,000 for her local cancer centre. Kate, along with her husband Chris, drove the campaign with great endeavour and they eventually achieved the target just days before Kate passed away in 2016. She also got a tattoo, renewed her wedding vows, appeared on Coronation Street, did a sky dive, wrote a blog to chart her battle with cancer, published two books and took to Twitter to campaign for compassionate care.

With no introduction, no eye contact, no compassion, a junior doctor delivered the staggering news, “Your cancer has spread.”



Right:
The campaign #hellomynameis set up by Kate that gained the support of over 400,000 healthcare professionals as well as a number of high-profile individuals



It was through Twitter that the “hello my name is” campaign really ignited. Kate wasn’t happy about the lack of introductions she’d had from doctors during her care, especially one from a junior doctor who, with no introduction, no eye contact, no compassion, delivered the staggering news, “Your cancer has spread.” The doctor left the room as quickly as he entered, leaving Kate in deep distress. After voicing her concerns with Chris, he suggested that they did something about it. Kate decided to begin a campaign and after one tweet with the hashtag #hellomynameis the movement was born. She sent Chris home to design the logo and the hashtag quickly caught on.

Within two years it had the support of more than 400,000 doctors, nurses, therapists, receptionists and porters across more than 90 organisations. It also won the support of politicians and celebrities, including Prime Minister Theresa May, Richard Branson, Kylie Minogue and Drew Barrymore. It continues to grow and is starting to embed itself as best practice.

This campaign inspired a plethora of discussions concerning compassionate care and in 2014 NHS England launched the prestigious ‘Kate Granger Awards for Compassionate Care’. The awards have continued every year to date finding and awarding heroes within the NHS. Further recognition for Kate’s work came in 2015 when she was awarded an MBE for her services to the NHS and improving care. Then again in 2016 she received a special achievement award from the BMJ, honouring her for her work on the “hello my name is” campaign.

“This time of year often leads us to reflect on the year that has just passed. For me: 4 cycles of chemo, a national launch of #hellomynameis, an MBE, an Honorary Doctorate, a UK wide campaign tour, a trip to California, a CCT and a new job. Not a bad year really.”

Kate passed away on her wedding anniversary, Saturday 23rd July 2016. Her husband Chris Pointon announced her death on social media, saying that his beloved and brave 34-year-old wife died on Saturday, “Peacefully, surrounded by loved ones”. Throughout the treatment, which must have been an incredibly difficult time, her blog gave us an insight into her honest and optimistic outlook



Left:
Kate after
completing her
CCT training and
working as a
junior doctor

Right:
Kate promoting the
#hellomynameis..
campaign

Below:
Kate’s last tweet



on life. One of her last blog posts at Christmas time said, “This time of year often leads us to reflect on the year that has just past. For me: 4 cycles of chemo, a national launch of #hellomynameis, an MBE, an Honorary Doctorate, a UK wide campaign tour, a trip to California, a CCT and a new job. Not a bad year really...” Her honesty about her battles with cancer through the blog and her books have helped patients and doctors worldwide. The £250,000+ raised has helped in the fight against cancer. The “hello my name is” campaign continues to grow and although we didn’t get a chance to meet Kate in person, her positive influence can be felt far and wide and her vision on compassionate care is delivered daily by an army of incredible staff working in healthcare. ■

www.hellomynameis.org.uk





DR KHAWAJA GULRAIZ RAUF

Disfigurements on the human body can have devastating effects on people's confidence. Dr Rauf has spent his career using his unique set of skills to combat this, repairing bodies and rebuilding lives.



Left:
Jessica's treatment
to remove a large
birthmark using
Dr Rauf's unique
balloon treatment.
Before, during and
after pictures.

THE COMPASSIONATE SIDE OF PLASTIC SURGERY

When you think of plastic surgeons, your immediate thoughts are... face lifts, trout pouts and tummy tucks, but Dr Rauf's work couldn't be further away from this type of cosmetic surgery.

Dr Rauf specialises in reconstructive surgery, using a special technique known as tissue expansion. This type of plastic surgery is not very common. He says, "The actual procedure takes months and this seems to put off a lot of doctors from joining this field of medicine." In its simplest form, this treatment uses balloons placed under the skin, which over a series of months are injected with a saline solution to inflate the balloon thereby stretching the skin. Once the skin has stretched sufficiently Dr Rauf will remove the balloons and use the excess skin produced to reconstruct the affected area.



Above:
Dr Rauf's first
balloon treatment
to create a beard
using hair from
the scalp

His demeanour is extremely relaxed and he exudes a quiet confidence. When asked about his surgical results, he is very humble and doesn't wish to take any credit for the results. He said, "How can a gardener take credit for the beauty of the rose that he plants?" Dr Rauf graduated from the prestigious King Edward Medical College in Lahore, Pakistan in 1982. He moved to the UK to receive his surgical training, gaining Fellowship of Royal of Surgeons England in 1988 and Certification in Plastic Surgery from Royal College & British Association of Plastic Surgeons in 1992. After his training, he returned to the Pakistan Institute of Medical Science in Islamabad where he was Associate Professor of Plastic Surgery. It was there that he undertook his first tissue expansion procedure in 1995. He recalls the day, "A young man was brought to my clinic, almost dragged in by his brother. His face had been badly burned at the age of 14 and the disfigurement meant he hardly left the house. He even stopped going to school because he was so ashamed of his appearance." The skin that had been burnt meant the young man couldn't grow a beard, so Dr Rauf had to take hair growing skin from the patient's

head to help reconstruct the face. He continued to explain that this procedure was one of the first full beard and moustache tissue replacements ever performed. He recalled, "We used the balloon treatment at the front of his head to expand the skin. It is important to use the right part of the scalp so the new hair grows in the right direction." After three months when all the balloons had been fully removed, the careful placement and the precise use of the expanded skin, meant the new beard and moustache grew exactly how it would have done before the burns. Dr Rauf showed us a picture of the young man before treatment and then with a full beard. Apart from the slight scarring at the top of the beard the transformation seemed unbelievable.

"A young man was brought to my clinic, almost dragged in by his brother. His face had been badly burned at the age of 14 and the disfigurement meant he hardly left the house."

"How can a gardener take credit for the beauty of the rose that he plants?"


Later we meet Kathryn, who was involved in a road traffic accident in South Africa while on a college trip. The bus she was travelling in lost control and toppled over, the window nearest Kathryn smashed and her face was dragged across the road ripping the skin and hair from the side of her face. We sit opposite her on typical bright blue NHS chairs in a small waiting room. At first glance, apart from a small scar on her forehead you wouldn't know she's even had surgery. She takes her phone and shows us a picture straight after the surgery in South Africa. You can clearly see the skin graft applied by the South African surgeons. The problem, she explains, was "With this skin graft, the hair wouldn't grow back. This is where the magic of Dr Rauf came in." Kathryn was coming to terms with not having hair on one side of her head and was finding different ways to cover it up and disguise the area, but after her first appointment with Dr Rauf she said, "He gave me hope that I could once again have a full head of my own hair." So over a period of three months, Dr Rauf inflated a number of balloons strategically placed under Kathryn's scalp. The balloons were increasing the scalp area and

helping her body grow more skin and hair cells. After the three months Dr Rauf removed the balloons and started to reconstruct Kathryn's scalp. He first of all removed the initial skin graft sewn on by the South African doctors and used the extra skin that had been produced by the balloon treatment to carefully reconstruct the affected area. Months later Kathryn's hair had started to grow properly, the scars had died down, her appearance notably improved and she felt that her life could get back to normal.

"He gave me hope that I could once again have a full head of my own hair."



Above:
Replacing part of
Kathryn's scalp with
hair growing skin
after her accident in
South Africa



Dr Rauf operates a clinic that concentrates on giving patients the confidence to be happy with themselves, to be proud of their appearance and be able to live life without worrying how they look.



Kathryn is just one of many of Dr Rauf's success stories. We sit in a treatment room and he flicks through lots of slides on his laptop of previous patients. He stops at a picture of a man who was missing the end of his nose. The picture is of Arron Jackson (see below), a bouncer whose nose had been bitten off in an unprovoked attack. Dr Rauf said, "Body image was very important to Arron so we had to get the nose just right." In order to do the procedure, Dr Rauf expanded the skin on Arron's forehead and carefully manipulated the skin to re-create the tip of his nose. Every before and after slide we saw built an instant picture of a life Dr Rauf had helped rebuild. Some of the injuries were so graphic that we found it hard to look at the screen, but the more graphic, the more amazing the final treatment looked.

Everyone we met that day, including patients and colleagues, talked very highly of Dr Rauf. He isn't concerned about making the big bucks associated with cosmetic plastic surgery, his focus is more about the well-being of others, about helping people get back to, or gain a sense of normality. He operates a clinic that concentrates on giving patients the confidence to be happy with themselves, to be proud of their appearance and be able to live life without worrying how they look. ■



Dr Rauf isn't concerned about making the big bucks associated with cosmetic plastic surgery, his focus is more about the well-being of others.

Above:
Before and after
slides of Arron
Jackson's nose
that had been
bitten off in an
unprovoked attack

SAMANTHA PAYNE

Open Bionics is a young team set up by Samantha Payne and Joel Gibbard. Together they are pioneers of prosthetics, using the latest technology to create affordable and contemporary bionic limbs that are transforming the lives of amputees worldwide.



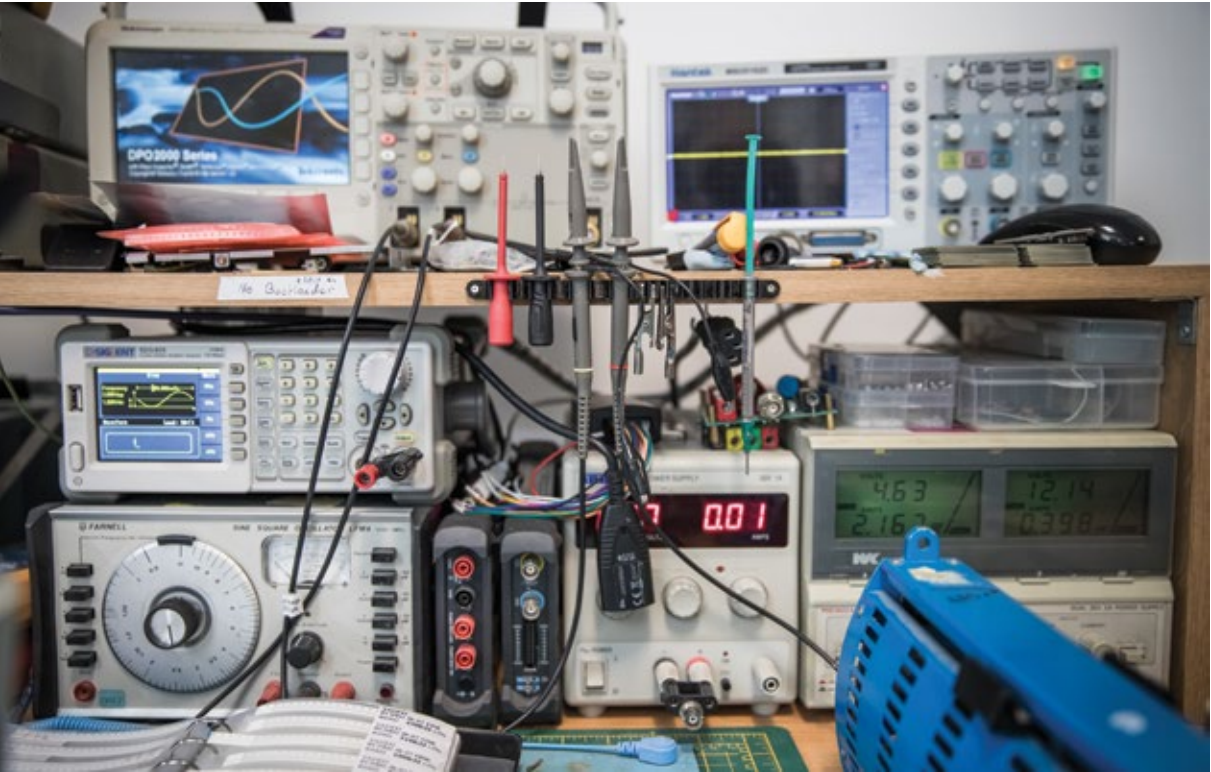
3D PRINTED BIONIC HANDS

Open Bionics have set out to revolutionise the field of robotic prosthetics, creating affordable, accessible, unique limbs for everyone. They are only two years in and still at the research stage but they are already in the top 50 robotics companies in the world. The Open Bionics team is fronted by Joel Gibbard and Samantha Payne. We recently met up with Samantha who gave us an insight into this young exciting company.



Samantha was working as a freelance journalist for a local newspaper in her home town of Bristol when she first met Joel. She recalls, “Joel had just finished a very successful crowd funding campaign called the ‘Open Hand Project’ to produce a low cost 3D printed bionic hand. She was assigned to the story. After the successful crowd funding campaign Joel quit his job to make open-source hands for amputees. Shortly after that he discovered a competition run by Intel which was looking for the best wearable tech project. The winner would receive \$500,000. He quickly got back in touch with Samantha asking for her help with the all-important pitch. There were more than 500 applicants and this was soon trimmed down to 30. The 30 entrants were given the opportunity to enter a three-month intense programme/competition in the USA. Samantha quit her job and the two of them set up Open Bionics and travelled to the States with the hope of winning the money. After three months, the numbers were cut from 30 to 10. The pair made it through to the end of the process but were pipped at the post, securing second place and a prize worth \$250,000 which was enough to

“Every development we make feels like a real leap forward and when we test the devices the reactions we get from the amputees and their families are priceless.”



Left, above, right:
The latest
equipment to test
all of the electrics

set up the business. During the three months in the States, the intense programme gave them the skills and knowledge of how to set up, market and drive a start-up company. They used the money to hire a main core engineering team and set up their lab in 2015.

One of the significant elements they took from the programme was the importance of understanding your audience. “We turned immediately to Dan Melville. He was amazing. We had worked with him before on the Open Hand Project and he helped us a great deal to understand prosthetics, the history, usage, design and potential. He also introduced us to loads of people who have built or used prosthetics.”

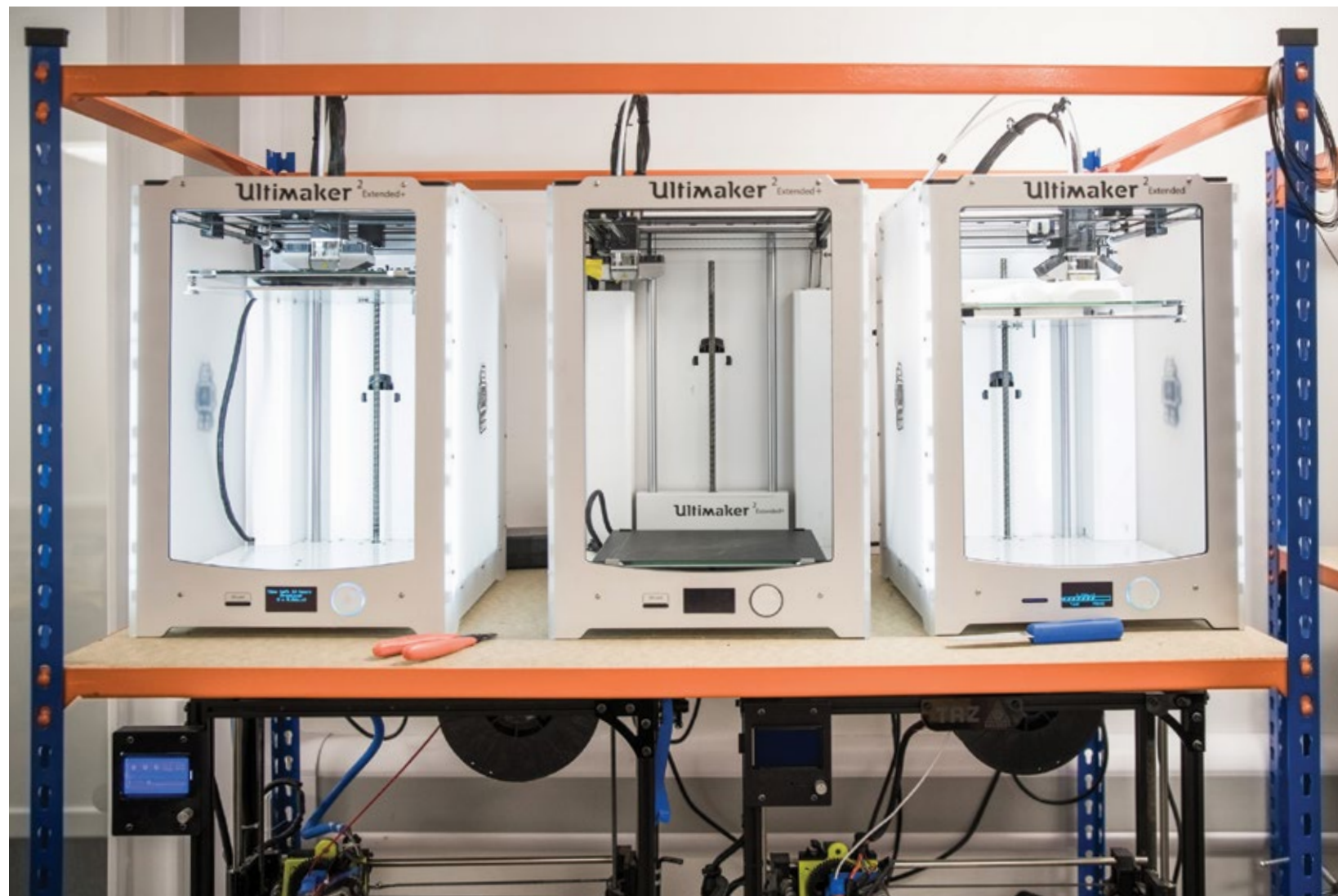




“I’d brought my brother along and once the hand was fitted I was able to shake his hand, which was pretty emotional.”

We later met Dan in the Open Bionics studio. He said, “I was born with only one full arm and never truly got on with the traditional prosthetic. When I came across the Open Hand Project on Kickstarter, I saw the title ‘3D Printed, low cost, bionic arm.’ I was intrigued.” Dan quickly got in touch with Joel to offer his help on the testing front and within months he was in the studio testing the first prototype. “I’d brought my brother along and once the hand was fitted I was able to shake his hand, which was pretty emotional.” Two years on, Dan is still one of the main testers at Open Bionics and travels to lots of global events to promote the business. He said, “I think what the team are doing is amazing. I’m so excited about the future of prosthetics and feel so privileged to play a small part in bringing these particular bionic limbs to reality.” He talked us through a number of movements the bionic arm he was testing could do... open and close to pick up a mug of coffee or bottle, grip to pick up small things like screws and a bunch of keys and a half hand to pick up carrier bags, as well as a finger point and thumbs up to be able to gesture.

Above:
Dan Melville
wearing the
Deus Ex arm



on the results and share any developments they have made.” This allows Open Bionics to harness expertise to develop and advance the current offering, creating a cycle where hopefully the designs and manufacture will keep on improving and benefit everyone. The Ada hands have a global reach and can be found in many countries across the world. Sam informed us that they have never taken out an advertisement or spent any money on marketing so they are constantly amazed when new orders arrive.

Next up is the Disney line and then the Marvel Superheroes line, making prosthetics appealing for kids.

The team have received global acclaim, won numerous awards and continue to push the boundaries with innovative technology. In the past, the manufacture of bionic hands has been generic and out of touch with individual requirements, but Open Bionics have changed that by initiating debate with amputees with the idea of developing a product aimed at comfort and affordability. “What we do is really rewarding, every development we make feels like a real leap forward and when we test the devices the reactions we get from the amputees and their families are priceless.” Sam and Joel are clearly focused individuals who are committed to driving this young exciting team forward and helping to change the future of robotic limbs for good. ■

www.openbionics.com

The process Open Bionics use to produce the current robotic limbs is quite unique. They use a 3D scanner to scan the residual limb and then use a 3D printer to produce the socket for a perfect fit. The 3D printer then continues to make the rest of the robotic limb. It’s this printing technique that enables the customisation that previously wasn’t available. Amputees can currently pay anything from £30,000-£80,000 for a bionic arm, but Open Bionics want to create limbs that will cost less than £4,000. The focus now is to create a lightweight limb with a comfortable socket that will ideally have some form of temperature control, can perform multi-grip functions and importantly, look great. The latest one in development is based on a fictional character called Adam Jensen from the game

Deus Ex. Next up is the Disney line and then the Marvel Superheroes line, making prosthetics appealing for kids. Samantha told us that they want to work on something specific for upper arm amputees and then exoskeletons to give people movement who may have suffered a stroke or have some other debilitating condition which restricts movement.

From an early stage Open Bionics have been truly transparent in their development, sharing lots of findings with the open source community. They set up the Ada hand project, a platform for research into prosthetics, object grasping and many human-robot-interaction applications. “Our open source licence aims to build a community to allow people to use our designs as long as they feed back



Far left:
The 3D printing machines ready to make the bionic limbs

Left:
The Open Bionics team



JOHN JACKSON

Sometimes small gestures mean so much.
The friendly smile when you feel down,
the non judgemental friend when you need
to talk. John works as a night porter and
provides both these gifts with ease.



THE HIDDEN HEROES IN HEALTHCARE

The sun sets behind the rolling hills surrounding Blackburn as we meet John in the cafe at the Royal Blackburn Hospital before his shift.

He’s been based here for 15 years working the majority of his time as a night porter. The job involves a lot of patient and family contact, something John loves. “Whenever I’m moving someone I’ll always talk to them straight away, introducing myself and letting them know what’s going on because it’s those first ten seconds that are the most important.” We move from the cafe up to the third floor and John acknowledges everyone we pass, making sure anyone who gets on the elevator knows exactly where they are going, greeting each individual with a big smile. I asked if he ever has gloomy days when he doesn’t feel like engaging. “No,” he says instantly. “I love my job. I love people, everyone is an individual and I accept them for who they are. I know that no matter how I feel, people in hospital will be feeling worse. They are in here for a reason and if I can make their stay a little better then I will.”

“I know that no matter how I feel, people in hospital will be feeling worse. They are in here for a reason and if I can make their stay a little better then I will.”



Above:
John at the Royal
Blackburn Hospital
A&E entrance

Right:
John wearing
his name badge
inspired by Kate
Granger, see pg 26
for her story



His personal approach and friendly nature is one that has been recognised by many, from people on the street to organisations that have provided him with various honours and awards. John said, “I was on the bus the other day and a chap said, ‘I remember you. You helped my dad when he was in the ‘Royal’. Thanks for that mate.’ Those things mean a lot you know. I’m not a nurse or a surgeon performing life-saving procedures, but when people remember you that’s really nice.”

He has also recently been presented the coveted Kate Granger Award for Compassionate Care. This came about for a number of reasons but one important area is his work with the hospital’s Bereavement Steering Committee (B.S.C.).

Moving people who have passed away is a part of the job that he takes very seriously. “When my mum passed away my sister said, ‘she can’t go to Heaven on her own’, so we put a cuddly toy next to her. Now when I take a child down to the mortuary I always like them to have a cuddly toy and I never forget to say, ‘Goodnight, God bless’. It’s important to treat people with dignity and respect at every stage that they are in our care.” This thoughtful nature has seen John take a large role in the B.S.C. His input has helped shape the service, improve the opportunity for counselling and has led to the introduction of bereavement suites for the families. Over the years he has talked to lots of families that have lost loved ones. He says, “I’ve lost people very dear to me over the years and it’s hit me hard, so I treat everyone the same as I’d like to be treated.”

“When I take a child down to the mortuary I always like them to have a cuddly toy and I never forget to say, ‘Goodnight, God bless’.”

John worked previously as an engineer at Lucas Aerospace for 20 years before making the move to the NHS. He told us that “Being an engineer was fine but the last 15 years working here has flown by. I love it.” The pride he takes in his job and the smiles he carries with him every day is commendable. The little time we spend with him gives us a tiny glimpse of the work he does and the lives he touches. It goes to show that little gestures like a smile can be so important. In a job that can often go unnoticed in a large hospital, John shines like a bright light. ■



“Whenever I’m moving someone I’ll always talk to them straight away, introducing myself and letting them know what’s going on because it’s those first ten seconds that are the most important.”





MICHAEL SERES

After undergoing life threatening surgery, the road to recovery gave Michael a focus and an opportunity to help thousands of patients worldwide.

FROM THE HOSPITAL BED TO THE WHITE HOUSE

The average person has about five metres of small intestine inside their gut, continually digesting food and absorbing nutrients and minerals. By the age of 40, Michael Seres only had about 70cm of intestine left. He had suffered from intestinal failure, was constantly sick and had to be fed intravenously for 22 hours a day.

Michael was diagnosed with Crohn's disease in 1972, when he was 12. Crohn's was considered rare in those days. It is an inflammatory bowel disease (IBD) that can affect any part of the gastrointestinal tract from the mouth to colon. Symptoms include abdominal pain, persistent diarrhoea and tiredness. His teenage years were dominated by how many times he went to the toilet (usually 10 a day). In order to control the disease he was put on powerful drugs and monitored constantly. Over the years the drugs became less effective and the Crohn's got worse. As a result Michael had to have parts of his small intestine removed. His first operation was when he was 14 and 20 operations later Michael was at the point of intestinal failure and needed intravenous feeding. The disease affected every part of his life, from work to family and everything in-between. He said, "For 18 months I was in hospital and would only see my kids on a Sunday. My daughter would stand on my IV pole and I'd push her up and down the corridor. That was the highlight of my week."

"For 18 months I was in hospital and would only see my kids on a Sunday. That was the highlight of my week."



He was told that a small bowel transplant could work. However only ten people in the country had such an operation and only five of them survived. He travelled to New York for a second opinion, but they confirmed that the only option was a transplant and to do it Michael would have to find half a million dollars. He read about a surgeon that had trained in Miami, Michael and his wife went to visit him. He said, “Within ten minutes I knew I could trust him. There were a number of risks, the body may reject the new transplant, the recovery time was about a year in hospital and odds for survival weren’t great but the chance to have a normal life again for me and my family was too big to turn away.”

In order to get to the operation stage Michael had to undergo a wealth of assessments to ensure his body was ready. “The operation came round much faster than I expected. Three months after I was told I was going on the waiting list, the phone was ringing telling me to get down to the hospital for surgery.” The operation went very well and Michael had to spend the next nine months recovering in hospital. Shortly before the operation Michael started to write a blog. Initially he wrote it to let friends and family know exactly what was going on, but as time went on more and more people started to read it. His posts documented the rise and fall of living with Crohn’s, preparing for surgery, and then day-to-day living after the operation. To date it has had 60,000 plus visitors from medical students to Crohn’s sufferers and even his transplant team. He said, “Four or five people have had successful transplants after reading about the procedure on the blog and suggesting it to their doctors.” Michael was only the 11th person to have the transplant in the country. Now they have completed 31.

He didn’t want to ‘get used it’ and decided to figure out a way to create something that would solve his problem.

His first memory after surgery was waking up and feeling a stoma bag resting on his body. This small bag is used to collect the waste from the body and has to be emptied manually. Michael said, “It would constantly leak and the doctors wanted me to measure how much was coming out.” Michael had to rely on visually monitoring the bag to know when it was full, then he’d empty the contents into a plastic jug for the nurses to measure it and record the data on a chart. He thought that there must be a better way to do this. He used social media to contact other stoma bag users for their views, but the only feedback he got was ‘just get used to it’.



He didn’t want to ‘get used it’ and decided to figure out a way to create something that would solve his problem. He hacked together a device with a blackberry battery, Nintendo wii sensor and a motherboard that would beep when the bag was full. The next stage was to work out how to measure the contents to deliver data for the doctor. Once he’d done this ‘11 Health’ was born. ‘11 Health’ is Michael’s company which he set up to allow him to develop and deliver his measuring device for medical bags. The device is attached to the bag and it sends the patient an alert to their phone or mobile when the bag is full. It also records data which allows doctors to monitor patients remotely. Michael’s company is now attempting to refine the medical bag, making it more patient friendly. He says, “We’re not a cool technology company... my son says ‘we measure shit’ but there is a real need for this technology; our challenge now is how we scale it and refine the product and then get it out to more people in need.”

Michael is keen to get as much coverage for his product as possible. He is currently pushing it in the EU and US and managing a team of 12 across both continents. When he was full of despair and in great discomfort, Michael couldn’t have dreamed that years later he’d be running a company which could aid Crohn’s sufferers, delivering keynote speeches, running workshops in the White House or becoming the first patient in residence at MedicineX, the world’s biggest digital health programme. Five years post transplant, he is in uncharted waters. He has moved past ‘just surviving’ and is fully embracing life, enjoying family time and pushing a product that he truly believes in. ■

www.11health.com



*He has moved past 'just surviving'
and is fully embracing life.*



JENNY CLARKE

After a premature delivery, Jenny witnessed twins stabilising on their mother using skin-to-skin contact rather than being rushed to an incubator. From that point on, through twitter, blogging and public speaking, Jenny has been on a mission to empower and educate parents and midwives on the benefits of skin-to-skin contact.

THE POWER OF SKIN-TO-SKIN

The light bulb moment came, Jenny said, when she heard Dr Nils Bergman speak at a conference in 2008. He is a doctor with a special interest in perinatal neuroscience and a promoter of skin-to-skin contact between a mother and her newborn.





Right:
Two of the hashtags
Jenny has set up to
tweet about

Jenny Clarke has been a midwife since 1993 but it wasn't until she heard Dr Bergman speak at a conference about the benefits of skin-to-skin contact that she fully understood the importance of immediate contact between a mother and her newborn baby on the newborn's brain and the mother's ability to parent. "On the mother, the baby is happier, the baby's temperature, heart, breathing rates and blood sugars become stabilised," she explained. Just two days after Dr Bergman's conference, Jenny was with a woman who was having a Caesarean section for premature twins. The neonatal unit was closed and there were concerns about the possibility of the twins developing hypoglycaemia and hypothermia. Jenny chatted to the mother and the paediatrician about skin-to-skin contact and showed them both the evidence that Nils had researched. They all reached an agreement about initiating skin-to-skin contact. Immediately at birth the twins were gently placed on the mother's chest. The twins' blood sugars were maintained, their temperatures stayed normal and their breathing stabilised. The babies were on the mother's chest for more than three hours. "Everything went brilliantly and the paediatrician was suitably impressed and the mother was overwhelmed with love by the experience," Jenny said.

*"On the mother,
the baby is happier,
the baby's temperature,
heart, breathing rates
and blood sugars
become stabilised,"*

From that moment on Jenny became a skin-to-skin 'addict'. "The culmination of these events; hearing Dr Bergman speak, witnessing the happiness it brought to the mother and the stability it gave to the children, gave me the confidence to start shouting from the rooftops." The years went by and Jenny moved to another hospital, continuing to promote the practice wherever she could. Jenny shared the evidence about skin-to-skin informing colleagues, mothers and families and even writing "IS THE BABY IN SKIN-TO-SKIN?" on the theatre white board. She noticed her message kept getting wiped off and became increasingly frustrated, so in a moment of madness Jenny took some stepladders and a marker pen, climbed up and wrote across the wall "IS THE BABY IN SKIN-TO-SKIN?" and put big hearts either side. She smiled with a mischievous grin as she recalled, "The anaesthetist went bananas at the time but we are still good friends to this day and he is now an advocate of skin-to-skin."



Her focus is on the well-being of others, empowering mothers and giving babies the best start in life.

Jenny was already on Twitter as @JennyTheM so she started to tweet about #SkinToSkin. At the same time she put work into her blog and started to write articles for nursing and midwifery journals. Jenny’s aim has always been to promote the benefits of skin-to-skin thereby challenging general, traditional practices of putting children straight into cots. “At first I was a bit nervous about using social media as a midwife but it

genuinely felt like a whole new world had opened up for me of like-minded individuals. What I also loved was the fact it instantly broke down the hierarchical structure ever present in healthcare. I was speaking to doctors, anaesthetists, theatre staff, nurses and midwives – we were all on a level playing field.” Her blog also started to attract attention, sparking conversations locally and then around the world.



Jenny took some stepladders and a marker pen, climbed up and wrote across the wall “IS THE BABY IN SKIN-TO-SKIN?”

Left:
Jenny on Twitter
@JennyTheM

Above right:
A newborn in skin-to-skin contact with the mother



Jenny is a keen public speaker and loves to promote the practice of a positive birth experience for women as well as why skin-to-skin is important in any birth setting. She is currently speaking at different conferences each year, delivering webinars and initiating Twitter discussions. All of this is done in her spare time, attending the majority of conferences during her annual leave. She said, “When you are passionate about something and have a chance to influence others in a positive way then just jump at the opportunity, even if means eating into your holiday time. It is also a great way to meet and connect with other current and future midwives.”

Her focus is on the well-being of others, empowering mothers and giving babies the best start in life. She is a mentor to future midwives, promotes the benefits of skin-to-skin and also debates how staff can challenge the status quo. She calls it ‘compassionate rebelliousness’. She acknowledges rules and procedures are in place for safety but, “As a midwife your focus is on the mother and newborn child and some rules are now quite outdated.” Jenny is happy that skin-to-skin is now a well-known phrase and that new parents across the country are asking about it. She is also proud to be part of a movement that is strengthening the bond between parents and children, one that delivers the immeasurable benefits from the moment of birth. ■

www.jennythem.wordpress.com



TAL GOLESWORTHY

Former boiler engineer, Tal Golesworthy was faced with a decision. Undertake a life threatening operation and then live on a debilitating blood thinning drug, or develop a better solution himself.

PAT	BLANK	D.L.	DATE	T.O.
ER	28+28	0.10/15		
TD	28+28	14/10/15		
IN (WEN)	32+32	11/11/15		
JL (CWH)	30+30	07/11/15		
SB (WEN)	24+24	24/11/15		
ST (WEN)	24+24			
AN (GTT)	30+30	27/11/15		
CR (WAK)	24+24	18/11/16		
LR (WAK)	32+32	12/11/16		
TS (WAK)	26+26	18/11/16		
CS (WAK)	24+24	19/11/16		
BN (GTT)	18+18	23/11/16		
PS (WEN)	28+28	26/01/16	10P	20T 10-26/13
AO (ESH)	26+26	15/02/16		02-15
NS (REN)	28+28	04/02/16	ESP	ST 07-30
KW (REN)	26+26	08-09/02/16	ESP	18T
EF (REN)	30+30	01-04-16	2SP	ST 08-19
SCIENCE HHS 28+28+28 4-5-16				
VR (WEN)	22+22	23-05	20P	10T 0
FL (GTT)	26+26	23-05		
LAP (WZL)	28+28	07-07		20P
PG (WEN)	24+24	30/8/16	07-32	-05
AP (REN)	28+28	5/7/16	08-02	-
BB (REN)	1+1	4/10/16	08-40	-
BU (REN)	26+26			

Right:
Tal in the room
where the
heart stents are
sterilised before
being sent to
the hospitals

THE POWER OF THE PATIENT

“I’m being unwittingly emotionally blackmailed by the patients.” Tal bellowed with a wry smile on his face and a subtle shake of the head. “We’ve helped 78 people with the syndrome and have over 300 years of trouble free, post operative success, but still it’s like wading through thick mud trying to get the NHS to use the product.” But it’s these 78 success stories that keep pushing Tal every day, knowing the positive impact his invention can have.



Left:
The mould for
Tal's aorta

Tal Golesworthy is in his 50s, he's an ageing rocker, a former combustion research and development engineer who has found himself in the medical world innovating new products because of a syndrome he's had from birth. Tal has Marfan syndrome, a genetic disorder that can cause problems with eyes, skeleton, and in Tal's case, his heart, more specifically his aorta. As the heart pumps blood around the body, the aorta stretches to accommodate the blood flow. In most cases it relaxes back to normal size but in Tal's case it doesn't, gradually enlarging over time. He'd known about the syndrome from an early age but a genetic study in 1992, found his aortic root diameter was significantly above the norm. This started an annual review process and in 2000 he was told the time had come to consider pre-emptive surgery.

Tal scoured the net and sought advice from the best doctors and surgeons in the business. He wasn't happy with any of the options available. "Traditional surgery dictated I have my chest cut open, a metal valve and prosthetic aorta inserted to replace my own aortic valve and aorta and then live on a blood thinning drug for the rest of my life. No thank you!" Tal's research and development background meant he was well equipped to handle a medical project, so he set about researching everything there was to know about Marfan syndrome, the aortic valve and the complications of this medical procedure.

"Traditional surgery dictated I have my chest cut open, a metal valve and prosthetic aorta inserted to replace my own aortic valve and aorta and then live on a blood thinning drug for the rest of my life. No thank you!"



Left:
A number of
aorta moulds

Below:
A selection of
awards Tal has
won over the years

He approached the project from an unusual angle. He thought that if a hosepipe is bulging, then you simply get some insulation tape and wrap it round the outside of the hosepipe to stop it bulging. So rather than replacement, his idea was to protect the current aortic root by surrounding it with a medical grade mesh. What started out as a side project became his full-time job and he set up a small team which over four years developed the various stages of imaging, CAD modelling, manufacturing, cleaning and sterilising the implant until they were happy to proceed.

Part of that team was Prof. Tom Treasure, then at Guy's Hospital London, and Prof. John Pepper, of the Royal Brompton Hospital, London. It was John who would be carrying out the first surgery on Tal. Tal said, "I had to trust this man with my life; I had total faith in John, I was completely happy with the implant, but that didn't mean I wasn't completely petrified." The operation was a success, the implant fitted and there were no immediate complications. The breakthrough had happened, a procedure that took half the time of the current one, one which meant Tal wouldn't be reliant on debilitating drugs and would allow him to go on and live a full life. He was ready to shout from



the rooftops about this amazing new product that could save the NHS time and money and decided his time would now be better spent getting this product to market, allowing people to go on living life drug-free, through his company Exstent.

The operation has been completed 78 times since that day, the youngest patient being 11 years old, the oldest, 56. There are currently over 30 publications written about the procedure in major journals, Tal talks a lot at medical conferences and his TED talk has had over one million hits. However this surgery relies on GPs and cardiologists offering the implants. "For me it's more than 12 years post op and we've only done 78 patients. It's a joke." When you consider that with this cardiac problem there

are approximately 2,000 operations a year around Europe that could benefit from the implant, it is easy to see Tal's frustration.

This frustration is shared by a lot of other inventors trying to break into a tough medical arena. He said, "All I set out to do was to fix myself. I didn't set out

to change the world, but I've found myself in a position where I'm trying to change a part of the world that is very resistant to change. If I had any sense I'd walk away, but it seems I don't have any. I can't abandon those patients who want to exercise their choice of treatment." It's easy to see the desire Tal has, the passion that bursts out of him when he talks and the fact that his job isn't a job, it's a mission to realise the potential of an implant that can make such a positive impact on people's lives. ■

www.exstent.com



“All I set out to do was to fix myself. I didn’t set out to change the world, but I’ve found myself in a position where I’m trying to change a part of the world that is very resistant to change. If I had any sense I’d walk away, but it seems I don’t have any. I can’t abandon those patients who want to exercise their choice of treatment.”



NEESHA GOBIN CATSOU ROBERTS

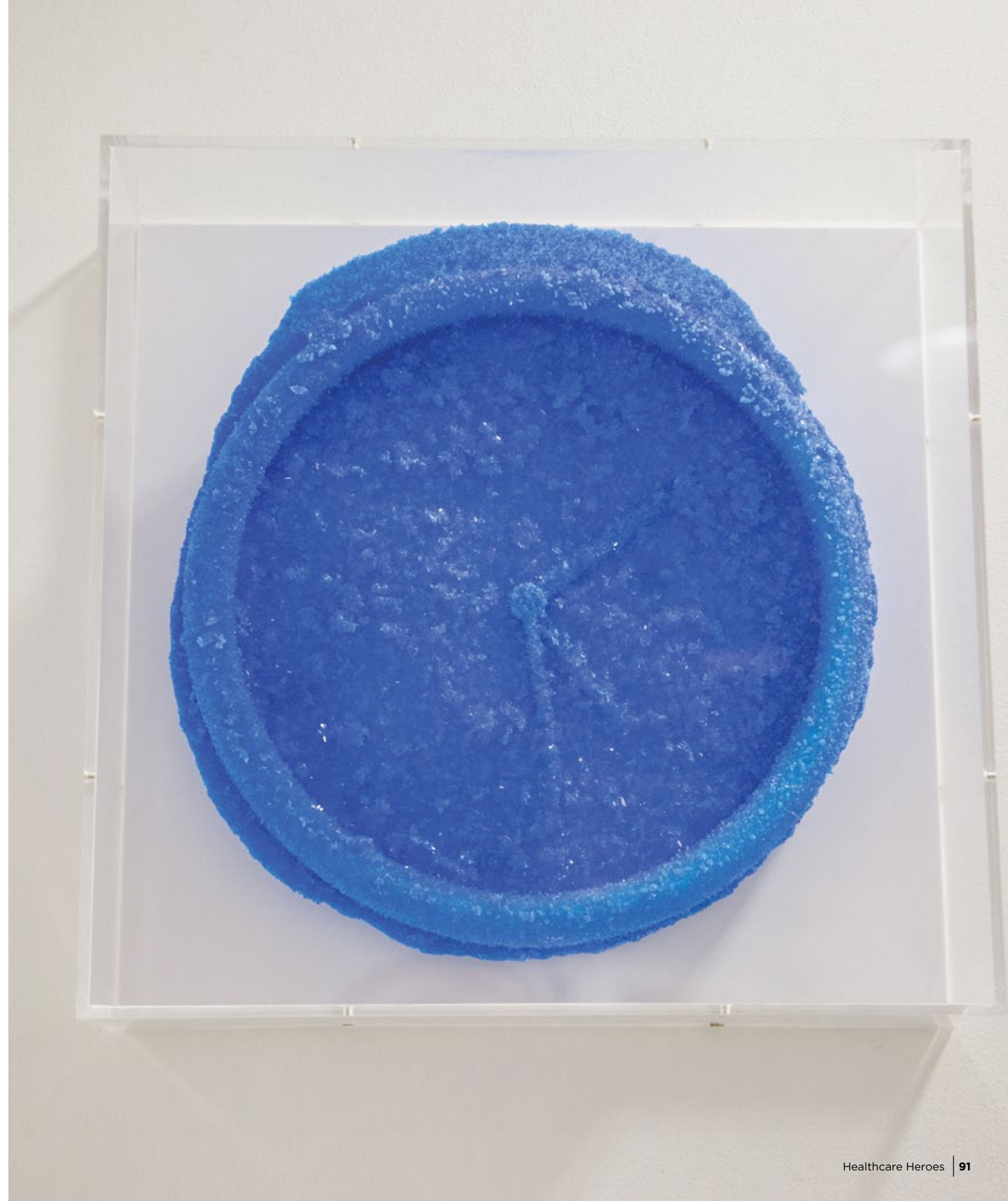
A sterile labyrinth of corridors and clinical rooms void of personality make hospitals scary places to visit for the majority of people. Vital Arts are looking to change that experience by transforming spaces, engage patients and make hospitals a better environment for all.

PUSHING THE BOUNDARIES OF ART IN HOSPITALS

Vital Arts deliver arts projects for the well-being of patients, families and staff. We meet Catsou Roberts, Director and Neesha Gobin, Arts Manager in a hospital that has three towers, the highest of which has 14 floors, with 675 beds, 110 wards and 26 operating theatres. This is a lot of space to fill with work by professional artists, and it is just one of the five hospitals that Vital Arts deal with.

Walking through the revolving doors at the entrance we are hit with a flood of colour in geometric shapes reaching up the walls on tiles designed by renowned artist Morag Myerscough. The space immediately feels brighter, more welcoming and a whole lot more interesting than any hospital we've ever been in. Neesha greets us at the entrance and explains, "Because this is the Women and Children's entrance we wanted to create a space that is bright and welcoming and Morag's work does just that." Vital Arts, established 20 years ago, is charitably funded and raises money for all its projects. They set out to commission site-specific, permanent artwork that has a real engagement with the architectural space, creating something unique for each designated area.

Right:
Clocks, an
installation by
Roger Hiorns



We meet Catsou, who is waiting for us in the Children's Imaging Department eager to show us the latest installation by Tatty Devine. "Tatty Devine make jewellery that blurs the boundaries between art and fashion so commissioning them to make their first work for an architectural context was exciting." The installation includes thousands of individual acrylic pieces carefully arranged to create kaleidoscopic compositions that catch the light like only jewellery can. The numerous artworks commissioned by Vital Arts can be seen in the corridors, reception areas and importantly the treatment rooms breathing colour and life into an area that could otherwise be intimidating for children. Neesha says, "As soon as we put up the artwork, the staff were delighted and told me it was lovely to see how the space was transformed. They responded to the vibrancy of it, as did the patients and their families who enjoy its playfulness."

Vital Arts are the link between the artist and everyone in the hospital. They work closely with clinicians, staff and patients to ensure the best outcomes. Catsou said, "It's their space and they need to feel an affinity with the art, just as we aim to reach patients using the services who might not otherwise have access to contemporary art."

Breathing colour and life into an area that could otherwise be intimidating for children.

Right:
Artwork by Tatty Devine placed so the patient can see it as they lie on the bed

Left:
Artwork by Tatty Devine in the reception area



© OWEN RICHARDS



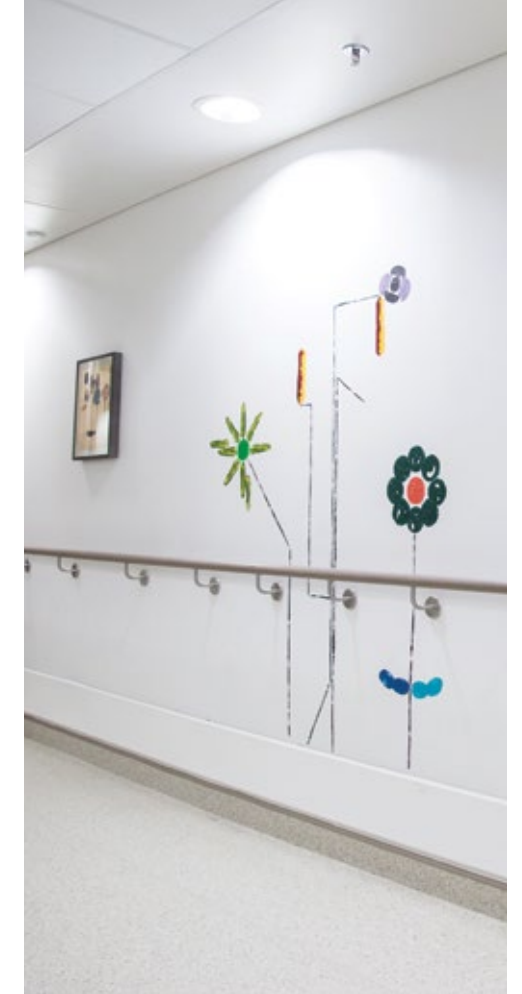
Above:
Award-winning
artwork,
Animals! by Chris
Haughton

Right:
Artwork *Outside
Inside* by Georgie
Hopton

The selected artists come and spend time in the hospitals giving them a greater understanding of how the patients and staff use the space. For example, Jacques Nimki, an artist commissioned by Vital Arts, went to the children's A&E several times in the middle of the night to understand the energy of the environment before beginning his work. Neesha said, "We are always thinking about the demographics of who will be viewing the artwork, how and when they will be seeing it. We consider whether they will be walking through a corridor, sitting in a waiting room, lying down and looking at the ceiling, and so provide artwork to be seen in various ways." We catch a lift up to another children's area, where the space is vibrant, playful and brilliantly tailored for the audience. In the radiography rooms there is art set into the ceiling so patients receiving treatment have something to focus on when they have to lie still. On this site alone Vital Arts have nearly every floor covered, which is astonishing. One of the great things about the artwork is that you forget you're in a hospital; the cold, sterile, empty corridors and rooms you associate with them are gone. Catsou explained, "Unlike museums that have opening times, this building is never emptied of possible viewers. The art is beaming from the hospital walls 24/7. I love the fact that at any time of the day someone is likely to be looking at a great work of art, and quite possibly, enjoying an eye-catching and mind-opening experience."

"For just a moment or two, a little calm is brought into their lives, and it makes a noticeable difference."

As well as the art installations they also run a Patient Participation Programme which provides year-round opportunities for patients to engage with music, dance, poetry, and other arts. One particular programme with the London Symphony Orchestra enabled singers and musicians to perform to patients. In the neonatal ward for example, the musicians would sing lullabies to babies in incubators. Neesha said, "The nurses noticed the babies' heart rates dropping, their oxygen rates rising and the parents feeling more relaxed. For just a moment or two, a little calm is brought into their lives, and it makes a noticeable difference." This participation programme is partly funded by the sale of limited edition works which Vital Arts produces with some of the artists—often as a result of an artist-in-residency—allowing the team to continue delivering new ways of patient interaction. Another successful project involved Trinity Laban Conservatoire of Music and Contemporary Dance, who encourage movement in patients. Neesha said, "One visiting daughter had not seen her mother engage in any form of activity since her admission into hospital. Yet on this occasion, her mother was singing and clapping along to the music played by the dance artists and both mother and daughter were visibly uplifted."



Catsou added, “Our priority is to assist clinical aims and enhance the hospital environment, and this is an effective way to do that—as attested by our physio colleagues, and supported in many recent studies on arts in healthcare.”

It’s clear to see the team are passionate about what they do. Catsou says, “I want to raise the standard of what art can be in hospitals.” They also want to act as a beacon encouraging other hospitals to be courageous, ambitious and discover new artists—not to just reach for off-the-shelf solutions by recycling artists who have already made work in hospitals. They are focused on delivering innovative projects, constantly pushing themselves and the artists to create work that is fresh, interesting and meaningful.

There are hospitals around the world with empty walls, harshly lit clinical wards and intimidating operating theatres. They are places of work for professionals worldwide and are visited by millions of patients each year. What Vital Arts have done is special, it’s visionary, it opens artwork to a new audience that cleverly responds to the space it occupies and improves the patient experience within. Vital Arts have shown how some imagination can transform hospitals, making them less frightening and more uplifting. The team aren’t motivated by money, rather, they are interested in how they can offer life-changing encounters with significant contemporary art. What they do is create unique spaces which have a positive impact on everyone who spends time there. ■

www.vitalarts.org.uk



Above:
Neesha and
Catsou next
to *Array*, an
installation by
Richard Slee

“Her mother was singing and clapping along to the music played by the dance artists, both mother and daughter were visibly uplifted.”



← Gynae Clinic

← Ward 8B

← Way Out & Lift ⑨

→ Antenatal Clinic

→ Antenatal Ultrasound

→ Emergency Gynae Unit (EGU)

→ Maternal & Foetal Assessment Unit

→ Wards 8C - 8F

“Unlike museums that have opening times, this building is never emptied of possible viewers. The art is beaming from the hospital walls 24/7.”

PROF. PAULO EDUARDO STANGA

Professor Paulo Stanga conducted the world's first bionic eye transplant in July 2015, marking the beginning of a new era for patients with sight loss.





THE MAN RESTORING SIGHT WITH THE BIONIC EYE

Over its 200-year history, Manchester Royal Eye Hospital has been home to a wealth of pioneering individuals who've pushed the boundaries in eye care. One such individual is Professor Paulo Stanga, who carried out the world's first implant of an artificial retina, popularly known as a 'bionic eye', in patients with Age-Related Macular Degeneration (AMD).

Professor Stanga is a Consultant Ophthalmologist and Vitreoretinal Surgeon at Manchester Royal Eye Hospital. He has travelled the world and held jobs in some of the busiest cities, from Buenos Aires, to New York, London, Liverpool and now Manchester. We meet him at a room in the NIHR/ Wellcome Trust Manchester Clinical Research Facility surrounded by a number of specialist retinal imaging devices and looked on by a number of printed eyes displayed on posters attached to the walls. Professor Stanga became interested in pioneering research early in his career, saying that he wanted, "To challenge established concepts and develop new ways of treating patients." Those early days were busy and demanding. He spent the early '90s in New York working for Professor Harvey Lincoff who was one of the most famous retinal surgeons of his time. Paulo was working long hours in the week and also at weekends. He smiled as he said, "I even had to bring my wedding forward and delay my honeymoon in order to hit a deadline two days after I was married. My wife still reminds me now that we haven't had a honeymoon."



© PAUL COOPER

After New York, Paulo worked in London and Liverpool before settling in Manchester in 2003. “The opportunity was brilliant, the role gave me a chance to set up a team around my research and push on with pioneering trials.” After introducing, amongst others, new imaging and retinal laser technologies as well as treatment techniques into clinical care, in 2008 Paulo started setting up trials with the bionic eye. He worked closely with a US company called Second Sight who produce the Argus II Retinal Prosthesis System also known as the bionic eye. The initial trial focused on the implantation of the bionic eye for complete blindness in Retinitis Pigmentosa. He subsequently set up a pilot study of the bionic eye system in Dry AMD, one of the most common forms of severe loss of central vision, which affects 20-25 million people worldwide and 44,000 more people per year in the UK. The condition causes an impairment of the central vision resulting in people being unable to discriminate faces, read or drive. The world’s first surgery on a patient with this condition was completed by Paulo in 2015 on 80-year-old Mr Flynn, whose central vision had completely disappeared. The procedure involved

“The world’s first surgery on this condition was completed by Paulo in 2015 on 80-year-old Mr Flynn”

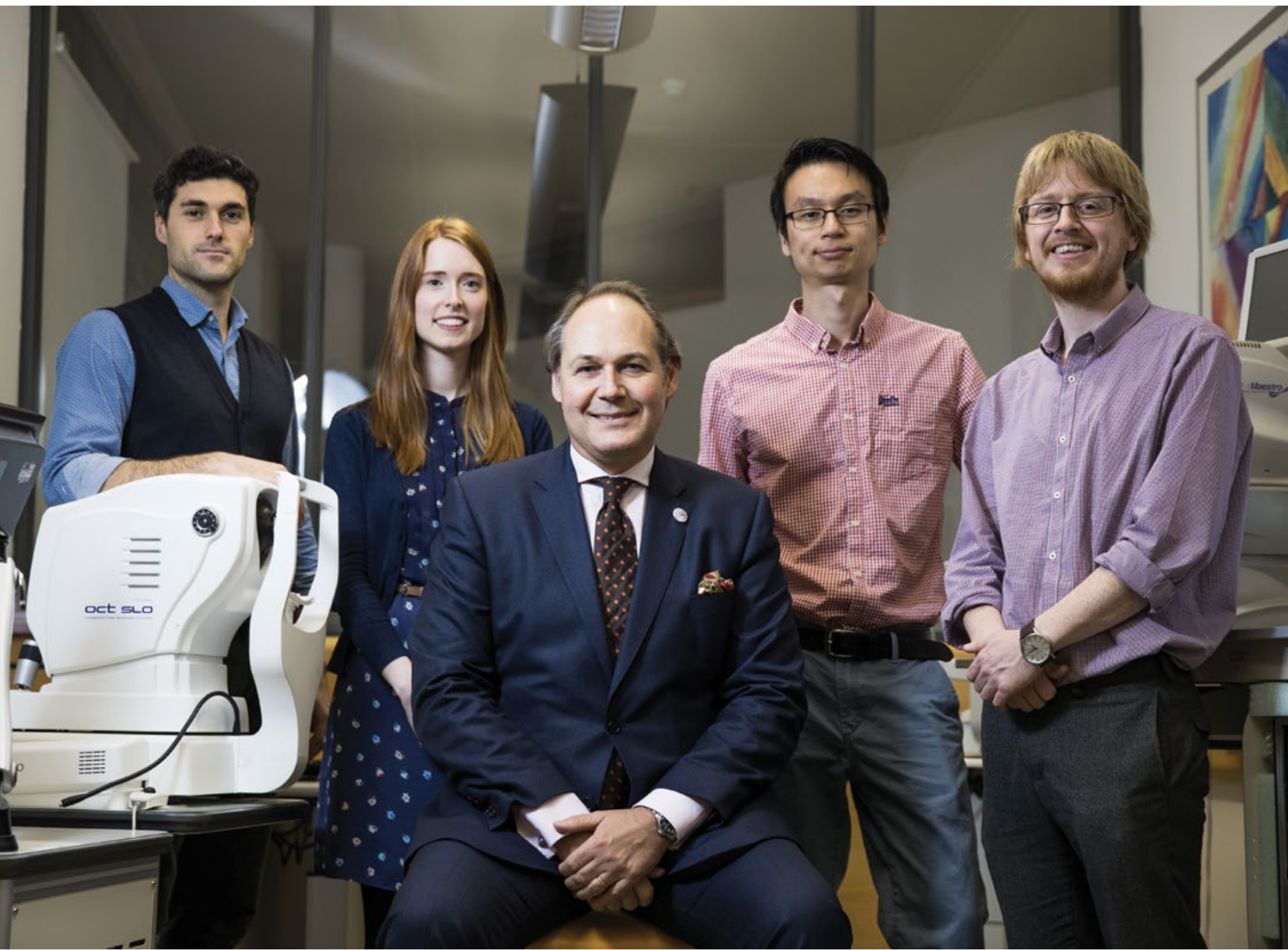
attaching the implant within one of Mr Flynn’s eyes. This implant receives its visual information from a miniature camera mounted on glasses worn by the patient. The information is then transmitted wirelessly to a receiver that sits on the wall of the eye and from which the information is transferred to an array of electrodes that sits on the surface of the macula where they stimulate the remaining cells and replicate the patterns of light and darkness for the brain. The surgery was a huge success and less than two weeks later Mr Flynn was able to detect patterns of horizontal, vertical and diagonal lines on a computer screen using the newly acquired central vision provided by the implant. Paulo said, “Over time Mr Flynn is learning to interpret these patterns of light and darkness and regain some central visual function.” The implant itself cannot provide any detailed vision but it can help patients to detect distinct patterns such as door frames and shapes without having to rely solely on their peripheral vision. Paulo praised all patients who are taking part in the trial.

“Over Christmas he had seen fireworks for the first time in 30 years and also the glow of the Christmas lights. He could even make out his grandkids running towards him. These are the stories that drive us.”

Left:
Mr Flynn after the world’s first bionic eye surgery, wearing the Argus II glasses

Right:
One of the many imaging devices at the Manchester Vision Regeneration Lab at Manchester Royal Eye Hospital and NIHR/Wellcome Trust Manchester Clinical Research Facility





“We are learning because of the courage and generosity of the patients taking part in this trial. At the moment there are only five patients in this trial but their involvement now means that in time we will be able to enrol others and this way help a lot more people. We are very excited and feel very positive about this trial. Our patients are the first ever human beings to experience the combination of their natural and residual with artificial vision. This successful integration of these two types of vision will hopefully pave the way for the treatment of many other causes of blindness”. Paulo told us that he still vividly remembers when one of the first patients with Retinitis Pigmentosa to be implanted in 2009 told him that, “Over Christmas he had seen fireworks for the first time in 30 years and also the glow of the Christmas lights, he could even make out his grandkids running towards him. These are the stories that drive us.”

These unique trials are only taking place through the Manchester Vision Regeneration (MVR) Lab at the Manchester Royal Eye Hospital and NIHR/ Wellcome Trust Manchester Clinical Research Facility, as well as an independent Retinal Clinical-Research Fellowship Programme which Prof. Stanga set up in 2010 to contribute to this and other research. He said, “I couldn’t do any of this without the support of my team and the understanding of my family.” His fascination with the eye and his continued interest in how high end technology can help the medical industry allows Prof. Paulo Stanga to seek out solutions that haven’t been trialled or even thought of. He’s building a strong team and continues to treat patients with career defining surgery, improving the vision of many and in some cases restoring some visual function and helping patients to live more independently. ■

www.cmft.nhs.uk/royal-eye

Left:
The MVR team
left to right:
Dr Francesco
Stringa, Ellie
Marrochia, Prof.
Paulo E. Stanga,
Dr Soon Ch’ng,
Niall Doherty

A man with grey hair, wearing a dark jacket and blue trousers, stands with his arms crossed on a large, mossy rock. A dog stands next to him. The background features rolling green hills under a dramatic, cloudy sky with sunlight filtering through.

STEVE WATTS

In his fundraising days, Steve smashed targets to raise over £1,000,000 for Booth Hall Children's Hospital and at 63 he broke records to become the first person to run the Everest marathon with a heart pacemaker.

THE HILLS ARE CALLING

Steve vividly remembers an early project in school in 1963 when he was ten, learning about Hillary and Tenzing conquering Everest.

He even remembers telling his brother, “One day me and you are going to follow in the footsteps of Hillary and Tenzing.” Then he paused, smiled and said, “More about that later.” Steve then took us on his life’s journey from that first school project culminating in his recent trip to the Himalayas with his brother Peter, sister-in-law Carla and son Matthew.





Steve Watts is a runner, a fundraiser and a storyteller. He talked about, his time in the army and his job as a courier and salesman, but it was his running that had caught our attention. He said, “I remember reading about a chap called Joss Naylor who was a sheep farmer and fell runner, and amongst other amazing records, ran 72 lakeland peaks within 24 hours.” Steve was fully animated talking about Joss. He wrote to him and asked to meet him at his farm, saying he had a painting of Joss he wished him to sign. Naylor agreed and Steve went to Wast Water to meet him. It was the first time he’d been to the Lakes and standing at the bottom of the brooding grey Wast Water looking up to Joss’ farm, he instantly fell in love with the place. Joss came off the fell, took one look at Steve who had just finished a cigarette and said, “Thee lad, needs to stop thee smoking, lose some waaait and get on thee fells.” From that point on Steve packed in the fags, cut down on the booze and started fell running. Three years into his running he attempted the Bob Graham Round with a friend but pulled out with severe cramps after 12 hours. The run gave Steve a taste of the immense challenge of top

fell running. He was hooked. He attempted it the following year and made it....42 peaks and 72 miles within 24 hours. He picked up his Bob Graham certificate from Joss Naylor, which thrilled Steve and brought a wry smile from the sheep farmer. An article about his experiences appeared in a local newspaper and shortly after that he was contacted by Alan Jones, a work colleague. He asked Steve if he could help raise money for one of his neighbour’s children who was receiving treatment at Booth Hall Children’s Hospital and needed their own ventilator machine. So Steve decided to complete a 58-mile run with his dog. They did the distance in just over eight hours raising more than three thousand pounds.

‘Children running for Children’ saw over 7,000 children take part in a family fun run that was witnessed by thousands of people. The event raised over £130,000.

A number of months later Steve’s son Matthew was rushed to Booth Hall Children’s Hospital. While there Steve spoke to the consultant who remembered him from his previous fundraising feat, she asked if he’d be interested in helping them raise money for the scanner appeal. He agreed to help and was given a two-year secondment from his current employers to help raise the target of £1 million to pay for the first children’s CT scanner. He threw himself into the role and organised a number of large scale events. One such event called ‘Children running for Children’ saw over 7,000 children take part in a family fun run that was witnessed by thousands of people. The event raised over £130,000. In just 18 cram-packed months they managed to hit that amazing target. After reaching the total, the research and development team at Booth

Hall asked Steve to stay on as the fundraising and events manager. While in the role, he set up Krypton Factor Assault Course events, ran the London Marathon and climbed Kilimanjaro as well as many other achievements.

Steve spent a number of intense years as fundraising manager for the research and development team at the children’s hospital, but decided to step back for a while concentrating on family life and, as he said, “get a normal job”. One day though, in his late 50s he fell ill and subsequently had to have a pacemaker fitted. Lying on the medical table he said, “All I could think about was my brother who’d died of a heart attack only four years earlier.” He thought he would never run again, but with excellent medical support he slowly made the road to recovery. Steve said, “The pacemaker gave me another chance, a new lease of life. This is where Everest comes into the story. It was my 60th birthday and my younger brother Peter gave me a birthday card with a few numbers inside.” It turned out that these numbers were the coordinates for Everest’s base camp. The birthday present was for both of them to go to the base camp and then summit Kala Patthar in the land of the giants.

Above Left:
The ‘Children
running for
Children’ event
which raised over
£130,000

Right:
Steve running
Lands End to
John O’Groats
in a 10-man
relay fundraising
for Booth Hall
Children’s Hospital



After seven wonderful days of hiking they approached Periche, a village before base camp to see a helicopter deliver two body bags and an injured person. As soon as they were dropped off, the helicopter headed back up the mountain. “We knew something terrible had happened. An avalanche buried 16 Sherpas on Everest that day making it the mountain’s worst tragedy.” However, the sherpas in charge of Steve’s group, decided to take them to base camp and then to the summit of Kala Patthar. “The journey up was tough, my brother nearly didn’t make the summit, but those few days gave us a whole new respect for the people that earn their living up there in the land of the giants.”

What happened at Everest really affected Steve. After returning home he said, “I couldn’t stop thinking about the families that would be hugely affected by the loss of a loved one and the consequent lack of income.” This was when the fundraising bug re-emerged. “I promised to return and do the Everest marathon, raising as much as I could for the Himalayan Trust UK and the British Heart Foundation.” So Steve and his son Matthew set about raising money and organising fundraising opportunities under the name, ‘Heartbeat for Everest’. At 63 he would become one of the oldest people to complete the marathon as well as the only person to complete it with a pacemaker. Over the next year Steve spoke at lots of schools and in local papers talking about his experiences at Everest and his forthcoming record breaking run, and his aim to raise thousands of pounds for the two charities.

“If I can inspire people to get out in the great outdoors and experience life then I’ll be a happy man.”





Above:
Before the world record Everest run. From left sister-in-law Carla, Steve, brother Peter, and son Matthew

Left:
The helicopters bringing the body bags to Periche after Everest's worst tragedy to date

Right:
Steve during the marathon



Eventually, Steve and his family went out to the Himalayas to focus on the task at hand and purely by chance he got chatting to a lady in his group, who apparently worked for the company that made his pacemaker, Medtronic. She spoke to her firm on her return and Steve was invited to fly out after the trip to Minneapolis to speak at Medtronic's 40th anniversary and to also meet the team who made his pacemaker. Steve flew out with his wife to Minneapolis and said, "To actually meet the people who have given me a new lease of life was amazing, I felt truly blessed."

Also on the trip whilst coming back from base camp with his family, Steve's son Matthew noticed something which disturbed them all greatly. "Returning from base camp we were taking some pictures of Everest when Matt noticed a body lying in a gully below." Steve ran down to discover a porter hunched over in the foetal position, suffering from hypothermia. They managed to get him out of the gully and back to the village further down the valley. Steve said, "When the porter came back to his senses, his first thoughts were to get back up the mountain and grab the load he was carrying. Without that he wouldn't get paid and couldn't feed his family." He was in no state to go anywhere so Steve talked to a number of marathon runners in the camp, they managed to get some money together to pay for the porter's medical bills and enough to see him safe so he didn't have to get back up the mountain to fetch his load or work for a month.

"She couldn't believe he was going to attempt the highest marathon in the world with a pacemaker, and at the age of 63"

So after meeting someone from Medtronic and helping to get a porter to safety, Steve was finally ready to face the toughest marathon in the world. He was focused on finishing and started at a comfortable pace arriving at the half way point 40th out of 170 runners. He said, "I was three and a half hours in when I fell and bust my toe. The front of my trainer had ripped off and my big toe was in a bad way." He couldn't run anymore and had to limp at times but he wasn't one for stopping and completed the race in just under ten hours. Asked why he would even think about running a marathon at his age with a pacemaker he said, "Life isn't a rehearsal. I'm truly blessed with the support of my son Matthew, daughter-in-law Helen and wife Christina. You've got to grasp every opportunity, and when you can, get out on these hills."

These three events... having a pacemaker fitted, witnessing the tragic events at base camp and helping save a porter's life seemed to have reignited a desire to help and to share his story. Steve said, "There is a potential to do things with Medtronic but really my focus at the moment is 'Lakeland Walks and Talks,' which is something I have set up and I truly love doing it." He wants to spread his enthusiasm for the hills and inspire young people in particular by taking them out on the fells and sampling the majesty of it all. "Whether those young people are in schools, whether it's an individual, or groups or families... if I can inspire people to get out in the great outdoors and experience life then I'll be a happy man." ■

www.lakelandwalksandtalks.com





TERESA CHIN

Teresa felt isolated in her nursing career so took to Twitter to find nurses who felt the same. She is now the driving force behind @WeNurses, a modern day online nursing revolution with over 60,000 active followers sharing information, ideas, knowledge and support in order to improve patient care.



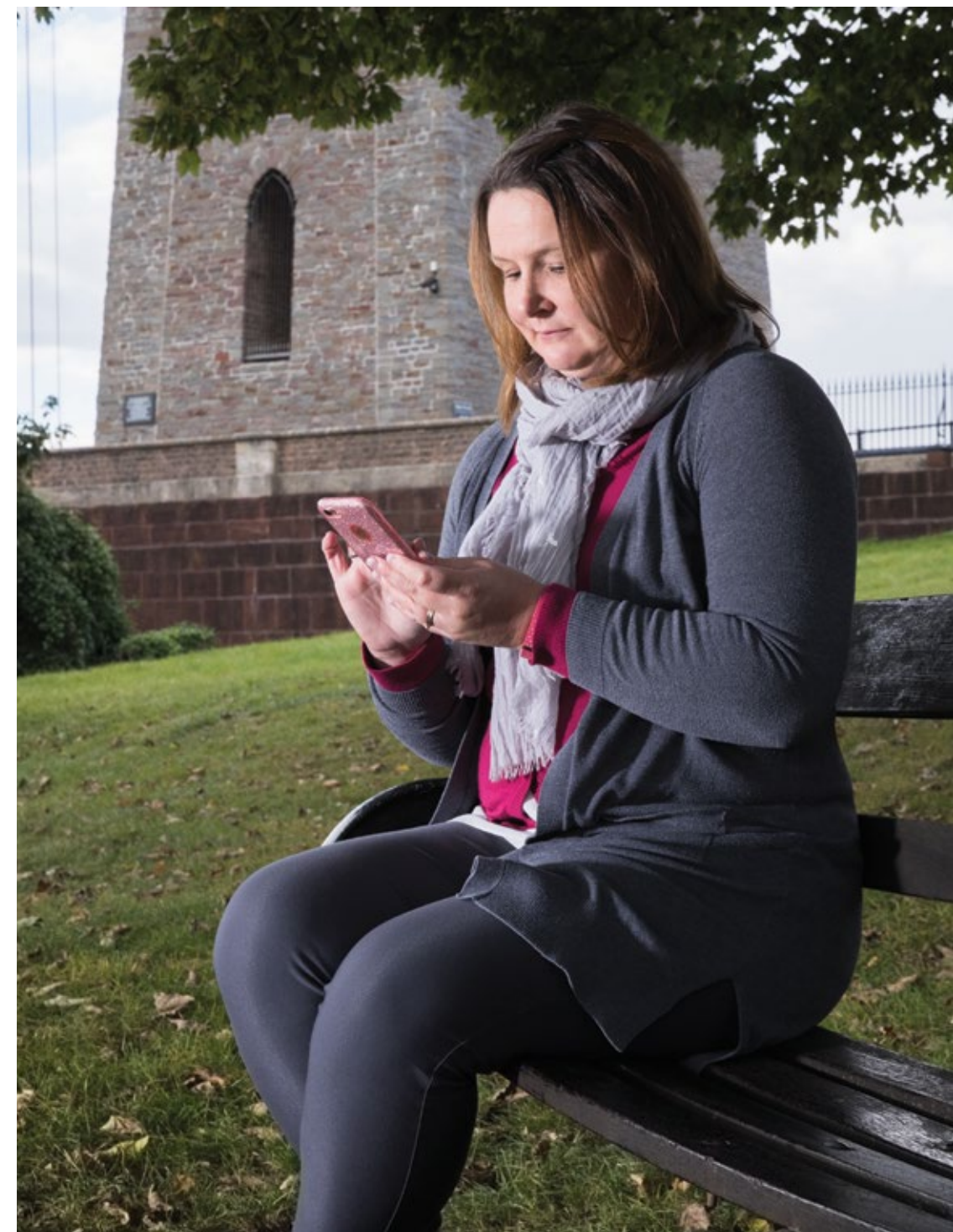
THE POWER OF SOCIAL MEDIA

In healthcare circles Teresa Chin is a social media guru, a skilled communicator, connector of people and a conversation starter, that is as long as those conversations are 140 characters or less.

Back in the 1990s Teresa worked as a nurse in a variety of different roles before becoming an agency nurse and working predominantly in elderly care. She said, "Being an agency nurse allowed me to balance my work and life commitments very well. The downside is that you don't belong to any single team and have to seek out your own on going training. I felt quite isolated, and after a rant at my husband Nick, he suggested connecting with other nurses via Twitter." Teresa had not yet embraced social media and at first dismissed the idea feeling reluctant to communicate with people she had never met. However after continual encouragement from her husband she decided to set up an account.

Above:
Teresa's MBE
awarded for her
services to nursing

Right:
Teresa grabs
a moment in
between shots to
update her Twitter
@WeNurses



She started out anonymously as @AgencyNurse in 2010 and began tweeting about articles she'd read or new things at work. This sparked conversations quite quickly which both surprised and encouraged Teresa. She then created the @WeNurses Twitter handle to organise Twitter discussions every other

Thursday. Teresa soon realised that there were lots of nurses who really wanted to discuss various topics from employment rights to new policies in healthcare. It was clear to her that social media could be a great way

to engage nurses, to start discussions and help the large nursing community. She then decided to create a website for WeNurses to become an online community that could share the Twitter discussions. This started in 2012. "From early on Nick helped me out with the technical side, setting up the social accounts, building websites, integrating Twitter into the sites and making sure all the conversations were captured."

WeNurses quickly grew, attracting healthcare professionals from all over the world with the current count on Twitter being nearly 60,000 active followers. As a result of this success lots of people started contacting Teresa asking if she could initiate discussions on specific subjects and in 2014

"This was such an honour and as soon as the community found out I was receiving a MBE, Twitter went mad."



Below left:
Teresa's specially made shoes worn to collect her MBE

Right:
A medal from a recent fundraising event



WeNurses are coming up to their fifth birthday and although Teresa has had lots of amazing feedback, it has been a tough journey. What drives her she said, was that feeling of being disconnected from other nurses, which she didn't want anybody else to feel. She was also determined to succeed after various bosses told her it couldn't be done. As well as online support, Teresa has also had recognition from 'very high up'. She came home one day to see a letter on the floor that had 'On Her Majesty's Service' stamped at the top. She thought it was a parking ticket. It wasn't. It was an MBE nomination for her services to nursing. "This was such an honour and as soon as the community found out I was receiving an MBE, Twitter went mad."

Teresa decided to set up WeCommunities which is a virtual space that could connect, drive and support specific tweeting communities within the medical world. WeCommunities hold discussions on chosen subjects, then all of the information from the chats are logged and stored on the site. This bank of resources is constantly growing and amassing ground breaking information, links to sites, journal articles, infographics and other important information that otherwise would be hard to get hold of. There is also a 'Twitteriversity' which is a step-by-step guide to using Twitter on a professional level. Teresa said, "One of the most interesting discussions we had was when Plymouth University contacted me and wanted to run a discussion around sustainability in the NHS, but they wanted to include their colleagues in Spain. So initially we had half the people tweeting in English and half tweeting in Spanish. Within about 15 minutes people we knew who were English started using Google Translate to tweet in Spanish and vice versa. It was great fun as well as a great discussion." Ideas and opinions can now be shared outside the confines of a specific hospital and experts worldwide can feed into these global conversations, improving knowledge and shaping day-to-day practice.

Around 50% of the population use social media, and Teresa's goal is to get at least 50% of nurses using social media as a professional platform. Teresa may have started out trying to stay ahead of the ever evolving policies and training within the NHS, but she has inadvertently ended up amassing an army of professionals who are now fully embracing the power of social media and are redefining the way information is shared within the healthcare industry. ■

www.wecomunities.org

She was also determined to succeed after various bosses told her it couldn't be done.

A full-page photograph of Jimmy Endicott standing in a modern, glass-walled corridor. He is wearing a dark blue button-down shirt, a dark blazer, and blue jeans. The floor and ceiling are highly reflective, showing the surrounding architecture and the man himself. The corridor has a glass railing and large windows looking out onto a city street.

JIMMY ENDICOTT

When Jimmy heard about a girl who ended her own life after being bullied, he wanted to design a system that allowed young people to reach out in times of need. He developed ChatHealth, a nurse-led SMS helpline service that ensures no cry for help ever goes unanswered.

TEXTING THEIR WAY TO A HEALTHIER FUTURE

“Four years ago we trialled ChatHealth in three high schools. Now, that service will soon reach nearly one million young people. It’s been an amazing effort by everyone involved but there is still plenty to do,” Jimmy enthuses. We meet him to talk about the Digital Lab and the text messaging service known as ChatHealth.



Jimmy Endicott and his team have spent the last few years setting up and delivering a unique text messaging service, delivered by school nurses offering support and advice to young people at their point of need. This all started when Jimmy got a job in healthcare working as a communications manager, dealing with everything from organising event communications to everyday press releases. After a chance meeting with a school nurse he saw the potential for an exciting initiative. The nurse had told him that they were struggling to connect with pupils in the most up-to-date ways. “To see us”, she said “pupils might have to go and ask at reception and then wait outside the clinic room. Sometimes they are just too embarrassed to do it.” Jimmy thought that there must be an easier way and that’s when discussions around a text messaging service started. He said, “A lot of schools are now embracing the use of mobile phones and as young people are always on their phones, reaching out to them and connecting in this way seemed like an obvious thing to do.”



He put a proposal together, the idea being to set up a service where pupils could seek the help of school nurses via an anonymous text messaging service. This anonymity would allow pupils to freely ask questions without fear of judgement or ridicule. Jimmy said, “Texting is such an easy form of communication. Young people can simply text things like... ‘I’m feeling really down today’ or ‘I’m getting bullied, what should I do?’.” The reply from the school nurses initiates a conversation, one that perhaps would never have previously happened. This conversation could help a teenager deal with the distress of bullying or intervene at an early stage of depression. Shortly after Jimmy started the service a teenage girl in a nearby school ended her own life after being bullied. This made him more determined to create an effective point of contact for as many young people as possible who find themselves in need of help and proper support.

This made him more determined to create an effective point of contact for as many young people as possible who find themselves in need of help and proper support.

Right:
Pupil accessing
the unique text
messaging service



The pilot scheme was rolled out across three high schools in 2012. It performed better than anyone expected with a large uptake of students using the service. ChatHealth has now been taken up by around 25 health organisations around the UK and can be accessed by nearly one million young people. Some school nurses were, at first, a little sceptical about taking a more digital approach but more and more now recognise it can be helpful to do their job across multiple platforms. Jimmy said, “We are not trying to take away face-to-face consultation. That is, and always will be a really important form of communication. The messaging service is often the first step, the early acknowledgement, the start of a conversation.” Teenagers quickly adopted the new confidential way to discuss health advice and the nurses were impressed by the uptake and honesty from the students. Jimmy said, “They were texting about all aspects of healthcare including mental health, contraception, and substance misuse. Anonymity means it’s easier for them to talk about sensitive or difficult issues.” The nurses are also able to signpost the young person on to other appropriate healthcare services if necessary or offer to see the young person face-to-face. ChatHealth helps to ensure no message ever goes unanswered, even out of hours automated texts signpost alternative sources of help.

*Anonymity means it’s easier
for them to talk about sensitive
or difficult issues.*

As well as the messaging service Jimmy is also fronting a Digital Lab initiative which is concentrating on the development of other areas that embrace the use of technology when delivering health services. “We’ve piloted a virtual clinic that cuts travelling time for both patients and community nurses. We are also using peer-to-peer online forums chaired by a nurse – there are lots of other exciting ways for patients to access health advice. Some of it is in its infancy stage, but it’s all very exciting.”

Jimmy’s focus and passion has helped ChatHealth to expand and grow into the service it is today. It is easy to see how his infectious energy and enthusiasm is driving ChatHealth to make a difference, replacing despair with hope, giving young people a life line that could change their lives for the better. The long-term impact of the professional advice given by nurses is often difficult to measure by statistics, but it is safe to say that what started out as a trial in just three schools, is now making a huge difference to young people who previously may have suffered in silence. ■

www.twitter.com/ChatHealthNHS



MATT EAGLES

Living with Parkinson's disease from the age of eight certainly hasn't stopped Matt living life to the full. Over the years he's jumped out of planes, abseiled town halls, photographed Team GB at the 2012 Olympics for ESPNsoccernet and is now working as a patient engagement lead to pass on his experiences of living with Parkinson's.



LIVING WITH PARKINSON'S FROM THE AGE OF EIGHT

“You can see I’m not exactly stood up straight there.” Matt points to a picture (see right) in the photo album I hold. “I won the trophy at a speech and drama festival. It was around this time that doctors first thought that I may have Parkinson’s disease. At that age it was nearly unheard of.”

We meet Matt at his home, he sits opposite us talking about his school days. “The head teacher of my first school, Headley Cleaver, first noticed me falling backwards in assembly,” he said. At the same time he recalls having trouble at swimming lessons where his legs would just start to sink. Matt was referred to his GP Dr Fox who got the ball rolling and sent him to the Booth Hall Children’s Hospital. However it was a chance encounter at the local infirmary where the breakthrough was made. It was there that Dr Liversedge suggested to Matt’s parents that he try Sinemet, a drug for Parkinson’s disease. The tablets seemed to work, and more importantly from Matt’s perspective he was given 50p by the doctor for taking this bold step to try them out, unfortunately it didn’t stop Matt having some tough times at school.

“One of my teachers called me ‘sparrow legs’, another teacher called me ‘dead legs’. In my first year of senior school, I was dragged into a class by fellow pupils and the teacher forced me to lie on the floor under the black board for the whole lesson to, in her eyes, recover. I couldn’t get up.” One way Matt got around some of the torment was to get involved in everything he possibly could and because his legs were weak, his upper-body got really strong. He said, “I used to arm wrestle the strongest lads in the year. There was only one of the rugby lads who ever beat me and he went on to become a professional rugby player, so that used to get me a bit of street cred.”

“I’ve never at any point thought I’ve got Parkinson’s so I can’t do this.”



Above:
Matt’s shot from
Japan vs Egypt.
Men’s Olympic
quarter final

Right:
Matt as a child
holding a trophy
he won at a speech
and drama festival

Over the years Matt has tried lots of drugs to control his Parkinson’s. He used to have to inject himself each day inserting a canula into his stomach and then attach a syringe driver which administered the toxic drug intravenously. The needle remained in place all day until he went to bed. “One of the drugs would work like Viagra,” he said, and would cause extreme startle, making him jump out of his skin when the phone rang, which was very awkward in the telesales arena where he worked. Another one of the drugs caused a potentially catastrophic Impulse Control Disorder to appear. “All of a sudden I started to gamble heavily and lost thousands of pounds. I realised something was seriously wrong and spoke to my consultant who took me off the treatment immediately. Pretty much over night the gambling subsided and the risk taking behaviour disappeared.” Just over ten years ago Matt had deep brain stimulation. He now has two electrodes that go into his brain and are powered by a battery in his chest. The implants control his stiffness and rigidity and can be remotely adjusted depending on the severity of the symptoms.



The symptoms are still there though and can become more exaggerated with emotions or mis-timing drugs, but they are a lot more manageable than they used to be. He was in hospital for nearly three weeks and it changed his life. “Simple things,” he says, “like before the treatment, at night I used to roll out of bed and pee into a bottle on the floor because I couldn’t make it to the bathroom. Now I can stand up and walk to the toilet.”

Matt worked in publishing for over 20 years and during that time he started writing football match reports for the local paper. “It combined two of my loves... writing and photography.” Photography certainly isn’t the first pastime you would think of for someone with Parkinson’s but this hasn’t stopped Matt. Back in 2012 he got an amazing opportunity through ESPNSoccernet to photograph the football at the 2012 Olympics. He said, “I’ve never at any point thought I’ve got Parkinson’s so I can’t do this. I just worked out exactly how I could capture what I’d need. So I got my press pass and followed Team GB around, photographing both men’s and women’s games at Old Trafford, Wembley and the Millennium Stadium. It was amazing.”



He now has two electrodes that go into his brain and are powered by a battery in his chest.

Unfortunately he was made redundant recently and found it incredibly difficult, despite his experience, to find a job. “I didn’t want to think it, but the fact that I talked a lot about my Parkinson’s and the work I’d done around it on my CV didn’t help me at all.” He continued to do what he enjoyed, writing and photography, but as well as match reports he started to write about his experiences with Parkinson’s. He was sharing his experiences through Parkinson’s UK and on social media and it wasn’t long before he’d written more and more articles and was being interviewed a lot. He said, “I’ve appeared on Sky News, Sky Radio, daytime TV, Five Live, Radio Wales, World Service and I was featured in the Independent, Mirror, Sun, Express.” He is now working as a ‘patient engagement lead’, and an ambassador for Medtronic who manufacturer what Matt calls, ‘My brain pacemaker’.

Above:
Matt’s scars from the deep brain stimulation electrodes implanted in his brain to suppress his Parkinson’s

Left:
The battery in Matt’s chest that powers the electrodes in his brain



We talked some more about social media and the ability to talk to people and share experiences. He said, “Once, I was making a sandwich, I’d managed to spread the butter without wrecking the bread, I’d managed to cut the cheese without chopping my fingers off, I put the bread on top and then had a twitch and knocked the sandwich straight into the dog’s water bowl. I was gutted.” He dealt with it by sharing the moment on social media and it instantly started a conversation with people who had similar instances. “Sharing a frustrating moment allows me to laugh at it rather than get annoyed. I enjoy sharing my experiences, ultimately it helps me cope. I hope it helps others too.”

Because Matt has had Parkinson’s from an early age, he’s had no choice but to live with it. He said, “I’ve not really known anything different.” Living with Parkinson’s every day is different; some days can be great and others can be really dark and it’s this breadth of experience that he can share with others, people who are new to the condition who are trying to find ways of dealing with it. “It’s lovely to get feedback from people saying they’ve heard me on the radio or TV and they’ve felt less alone. I’m not afraid to tell the world I’ve got Parkinson’s. I can’t change what’s happened to me, but I can embrace it and live the best possible life I can.” He also spoke fondly of his wife Viv who he married back in 2014 saying, “She is my rock and keeps me on the straight and narrow but encourages me to do everything I possibly can. We make a great team.”

Matt’s attitude to life is astonishing. He talks about jumping out of a plane, abseiling from the top of town halls, photographing at the Olympics and at a Kaiser Chiefs’ gig and laughs off the idea of being an inspiration to others saying, “I don’t do things to inspire people, I do things because I want to. I set myself goals and work out ways to do them.” By speaking out, Matt is letting people know that having Parkinson’s can be normal and that they don’t have to stop enjoying life. He said, “I feel pain every day and at some point every day my legs don’t work so there will be stuff I can’t do, but I never forget I’m blessed and I try to live life as fully as I can.” ■

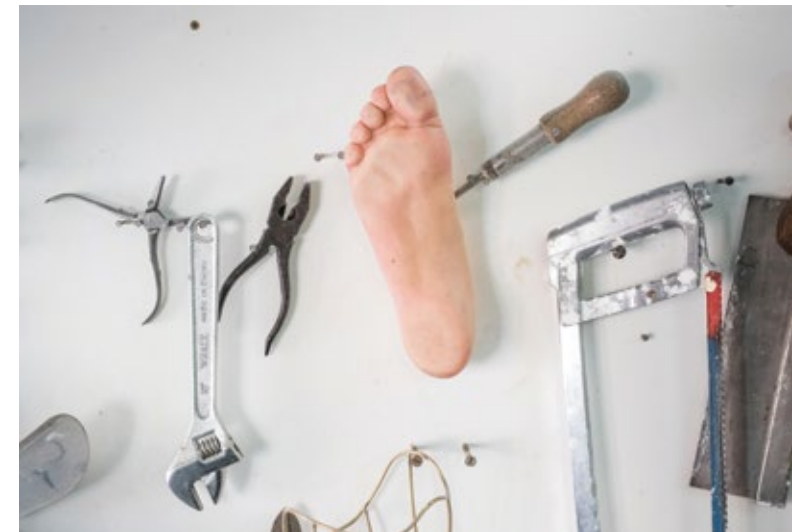
www.instagram.com/matteaglesphotography

“Sharing a frustrating moment allows me to laugh at it rather than get annoyed. I enjoy sharing my experiences, ultimately it helps me cope. I hope it helps others too.”



SOPHIE DE OLIVEIRA BARATA

Sophie's creative approach is changing the face of the prosthetic industry. Her designs allow amputees to celebrate their individuality with style, from crystal encrusted arms, to legs with built-in speakers, each piece is completely unique.



THE POWER OF PROSTHETICS

“It’s a bit of a mess I’m afraid,” she says. Sophie De Oliveira Barata leads us down a dimly lit corridor to her studio space. Large metre canvases lean against the walls left over from a public art trail the weekend before. We’ve read lots about Sophie’s work, The Alternative Limb Project and were eager to see the studio where all her creations come to life.

With four white washed walls and a row of windows on one side allowing light to penetrate the room it seems a fairly typical studio space, but its contents are anything but typical. Hanging on one wall is a mixture of tools and limbs and next to the screwdriver is a realistic foot. Underneath a hanging hand saw is an arm reaching up from the desktop. Above us we see the head and shoulders of a balding man with one eye. There are visual delights wherever we look. I spin round to see

the soles of two realistic feet opened at the top with laces to tie them up, both resting neatly on a wooden step ladder. Then there are the more artistic pieces that catch our attention... the oriental styled blue and ivory leg with drawers in it or the elegant jewelled arm with realistic fingertips. Sophie notices our open mouths and curious eyes, smiles and says, “I’ve always been interested in tricking the eye and mixing fantasy with reality.”

Her work can be split into two areas, the realistic limbs and the alternative limbs. Sophie makes about six alternative limbs per year, most are privately funded and she will work directly with a client to explore the possibilities and ensure their personality is represented. She said, “There is a genuine need for realistic limbs so I’ll continue to produce them but I want to keep pushing the boundaries in my work with alternative limbs. The world is constantly changing and more and more amputees now see their limbs as accessories.” It is easy to see a future where people will own a number of limbs depending on the situation, the conservative realistic looking limb for work, right next to the flashy personally designed statement piece to wear on a night out. Sophie’s work is allowing people to express their individuality rather than hide it away.

“The world is constantly changing and more and more amputees now see their limbs as accessories.”

In the world of prosthetics function has always won over fashion, but Sophie’s work now offers the opportunity to fuse functionality with personality. The alternative limbs Sophie creates are just that, they are as different as the people she makes them for. You can’t pigeon-hole her work, it travels from real to surreal and visits every stop in between. The creativity flows through each unique piece, from crystal encrusted arms to legs with built-in speakers. Her work celebrates individuality in its purest form and allows people to celebrate their differences in ways they never thought possible. ■

www.thealternativelimbproject.com



NAOMI CAMPBELL

It all started with a simple idea for a micro-straw.
Now Naomi Campbell is a hydration nurse specialist and is the founder and Innovation Director at Simple Measures, a public interest company set up to improve hydration across all areas of health and social care.



TACKLING THE PROBLEM OF 'AVOIDABLE' DEHYDRATION

It was at home where the idea first came to Naomi Campbell. “I don’t know why I didn’t think of it sooner,” she remarked. She was watching her daughter play hands free with a toy made of plastic strands. Her daughter was using a single strand (about a metre in length) as a drinking straw to get a flow of water just by sucking very gently, while lying down in bed. Naomi had a go, and instantly knew this simple concept could be developed to create an entirely new type of drinking aid.

*Preventing dehydration
is an epidemic problem
in elderly care.*

Five years previously Naomi, a nurse, had been caring for her sick mother. She had taken a number of months off to look after her around the clock with the help of her family. “Even with one-to-one care 24 hours a day, mum would still get dehydrated.” Preventing dehydration is an epidemic problem in elderly care. According to recent figures, one in five people coming into hospital are under-hydrated. This has a massive impact on resources as it is often the root cause of acute admissions to hospital due to urine infections, falls and confusion and acute kidney injury which is now known to cost the health service more than breast, skin, and lung cancer combined. Following the experience with her mum, Naomi worried that nurses and carers on busy wards would find it very hard to adequately support and monitor patients’ hydration intake. It was a concern that stayed with her, laying dormant until that moment when she saw her daughter sucking on the toy straw. From that day Naomi knew she wanted to focus her energy on solving the problem of poor hydration in hospitals, care homes and the community.





Naomi set about developing new ideas to help improve basic hydration care and gained funding from her then employer Peninsula Community Health, to help support her ideas and ultimately create a unique new nursing innovation role. She also spoke to relevant ‘innovation’ groups to help develop her ideas into practice. The first product Naomi brought to test phase was a new hydration risk assessment tool with a simple ‘traffic light’ drinks coaster system. The coloured coasters would act as a visual aid for nurses and carers alike. The simple idea indicates how capable the patient is at hydrating themselves... green being independent, amber signifying some help needed, and red signalling full support needed from a carer. The initial trials of the coasters were a huge success. Nurses on a busy ward could quickly glance at a patient and check their hydration status. This gave Naomi the confidence to trial her next product... a mug that had a measuring device inside it. “A lot of the time frail elderly patients take just a few sips of their tea or coffee and that would be it.” This mug allows carers to more accurately measure the amount drunk, before then throwing the rest away. These products, although very simple were proving to be a hit with frontline nurses, care staff, patients and their families.

“These products, although very simple, were proving to be a hit with front line nurses, care staff, patients and their families.”

Back in 2010, Naomi secured a Regional Innovation Fund of £15,000 and with support from NHS Innovations Southwest she continued to develop the design of her new drinking aid known as the ‘micro-straw’. On December 25th 2013, her micro-straw was officially granted a UK patent. Since that light bulb moment back in her daughter’s bedroom in 2009 Naomi has become the ‘go to’ person for hydration. After developing the first drinking risk assessment tool based on ‘reliance on a carer’ in 2011, she was asked to join hydration work stream groups with the Care Quality Commission and the Department of Health, and was also asked

to contribute to a large fluid management study, as well as being invited to write a number of articles for nursing journals. Naomi was also part of a parliamentary forum based at the House of Lords to raise awareness about hydration. She said, “There is a fine line between passion and obsession and for the past six years I feel I have been constantly operating within that space.” She is now the founder and Innovation Director at Simple Measures, a new community interest company established in October 2016, that allows her to focus her time on improving hydration care across all areas of health and social care.

Left:
Traffic light
drink coasters
that signify the
patients need for
hydration help

Right:
Measuring mug
that measures
in reverse as the
patient drinks



Simple Measures is now working closely with frontline care providers, researchers, educators, manufacturers and product designers to help develop simple, cost-effective ways to improve basic hydration care. She said, “Simple Measures now has a clear focus on delivering a bespoke training programme focused entirely on basic but fundamental hydration care, and I am absolutely thrilled we are developing our current and new products.” Dehydration is a global problem and the company is already linking with people in the UK, Europe, America and Australia. Naomi also firmly believes the ‘micro-straw’ - which triggered her passion for improving hydration, has massive potential to support humanitarian, life saving, oral rehydration therapy for children, as it is widely known that acute dehydration caused by diarrhoeal disease is the second leading cause of death in children under five years old.

“There is a fine line between passion and obsession and for the past six years I feel I have been constantly operating within that space.”

An idea that started in a small village six years ago has culminated in the formation of a new company dedicated to preventing ‘avoidable’ dehydration. One that can now start to tackle a global problem, through education and simple cost-effective products that will improve and save the lives of countless vulnerable people of all ages. Furthermore it will highlight the vital role of frontline carers across the world who every day make great efforts to assist and encourage people to drink enough to remain adequately hydrated. ■





OLIVE FULTON

Olive could be rushed to hospital at any time, because of her brittle asthma condition. But rather than sit on the sidelines waiting, she is busy being a nurse, a public speaker, a patient engagement lead, development coach for her national lacrosse team and a serial blogger.



BREAKING THROUGH THE LIMITATIONS OF ASTHMA

The September winds rustle the leaves above our heads and the trees sway to the beat of the city all around us. We sit in a gated park surrounded by five storey buildings and have found a little bit of breathing space in this busy city, which seems a rather appropriate meeting place to speak about asthma as we meet with Olive Fulton.

From the age of two Olive was diagnosed with asthma and relied on inhalers to control her symptoms. Asthma didn't affect much of her early life. She was sports mad, playing lacrosse at a high level and later going on to complete a degree in sports science. During a gap year ski season while she was working out in Fernie, Canada, Olive got pneumonia. She was in intensive care and had to be flown from the local hospital over the Rockies to Calgary where a specialist team managed to get hold of her condition. She said, "That £60 I spent on insurance was the best £60 I ever spent, I later found out my medical bills topped £250,000."

"You're going to have to give up sport before it kills you."

Left:
Olive on one
of her many
hospital stays

Below:
Olive with the
Scottish lacrosse
team

When she returned home she was told she had brittle asthma (uncontrolled asthma). This massively affected her life from that moment on. She was determined not to let the condition dictate her life and continued with her sport and her degree. The three year degree ended up taking four years because of a number of asthma attacks that left her in hospital for weeks at a time. She vividly recalls looking down to the end of her bed while her consultant quietly said to her, "You're going to have to give up sport before it kills you."

Giving up though wasn't something in Olive's mind-set. She refused to fully stop her sports career and activities but accepted that some changes had to be made. The first was a career change. She trained and qualified as a nurse and got a job working on a renal ward. The second big change was in lacrosse. She moved from all action outfield player to a goalkeeper. She recalls, "I was in goal at a development day and a scout approached me to attend a trial for the national lacrosse team. After the trial I made it into the team. I guess I have to thank my asthma for helping me represent my country in a sport I love." Olive continues to work for her sport as development director, working at the grass roots level, building the popularity of the sport across the whole country. She is also assistant manager for the national team.

Olive's condition meant that her job on the renal ward was too tough to maintain, so she moved off the ward and became a community nurse. "My work in the community is about supporting patients to live the life they want to by making sure they are well enough to do it." Around the same time she was invited to AUKCAR (Asthma UK Centre for Applied Research). The centre was interested in finding out how Olive copes as a patient and the issues she faces. This chance meeting has led to her spending more and more time doing patient and public involvement with the centre to aid asthma research working with the Ph.D. students, lecturing on the rises and pitfalls of asthma and speaking nationally at lots of conferences.

"I guess I have to thank my asthma for helping me represent my country in a sport I love."



“If I didn’t do the things I do then my asthma would have won. Simple as that.”

We leave the park and stroll up a pedestrian area, dodging the bikes and the hoards of students. Olive talks about her blog as we head up to AUKCAR, saying, “I can’t remember when I started writing but I feel I can write better than I can speak about my feelings.” She went on to say, “I’ve had lots of feedback from people who’ve said the blog has shown them that this type of asthma isn’t the end of the world. That you can still achieve and plan to do lots of things you want to do. If people get something from stuff I write then I’ll keep writing.” Her blog has been read by thousands and helped a wide range of people from fellow sufferers to doctors and clinicians, all trying to better or fully understand how asthma can affect daily life and ways to improve.

After a short walk we arrive at the University where some AUKCAR researchers are based and Olive shows us around. This is where she is currently helping with children’s research groups. She has helped set up a centre in Edinburgh and London and is aiming to help establish groups in other cities. At the group they are prototyping new decals for inhalers for children, sharing experiences and creating a patient support group. “I act as a middle man. There are lots of academics trying to understand asthma and how it affects patients. I have experience from both sides so can help to make sure the right questions are asked.”



One of Olive’s latest posts leads her to talk about her ever increasing use of drugs. She mentioned how she was picking up two carrier bags full of drugs for the week. She has drugs to control her asthma, drugs to control the drugs and drugs to suppress side effects. She said, “Do I wish I didn’t have asthma and didn’t have to take drugs? Yes, but there are things I would never have done if I hadn’t had asthma. Last year I got an article published in the British Medical Journal, I’ve played lacrosse for my country and spoken at lots of lectures, I can’t actually number or name the amount of great experiences and amazing people I’ve met.”

Clearly Olive would prefer a life without the bags full of drugs, but the burden asthma has put on her life has forced her to think differently, to act differently and face life head on. Where other people could have easily disappeared within themselves and hidden from the world, Olive has fully embraced life. One week she could be giving a talk in London, the next coaching lacrosse, working in the community or writing her blog. She is a focused, driven individual who has continued to do what she does despite her brittle asthma and by doing so has helped so many people. She said, “Doing little bits and pieces rather than massive things keeps my life achievable and really interesting. If I didn’t do the things I do then my asthma would have won. Simple as that.” ■

www.aukcar.ac.uk

SARAH, REBECCA, SANDIE, LUCAS AND BRYAN THE DOG

The world can be a dark and lonely place for mental health patients. Especially for those on secure wards. But by providing patients the opportunity to get out in the open, this team is transforming lives through the simple act of walking and talking.





THE BENEFITS OF OF A GOOD WALK

We entered into the airlock from the outer door, photographs were taken of our faces, security tags printed and then handed to us. With the outer door securely shut we were allowed into the courtyard. We then headed over to the allotments through a gate in the far right corner to chat to the team who were heading up the ‘Walking Therapy Group’.

The facility provides specialist medium and low secure services in a secure hospital setting for patients diagnosed with learning disabilities and autistic spectrum disorders. A lot of inpatients here have a history of offences that are directly related to their specific disorders. The focus is on rehabilitation aiming to get people back into the community. We met a few of the ‘drivers’ involved in this rehabilitation, one of them being Sarah Ommaney, a keen walker, who started as a healthcare assistant in 2014. She was keen to get the inpatients out of the confined environment and into the outside world. She said, “Exercise can help with anxiety, also being outside gives the inpatients a chance to interact with others they may meet and they can apply the social skills they learn in sessions here at the hospital.” She spoke to the ward staff and put together a proposal to get inpatients out for the day. However, it took the best part of a year to get the relevant permission and as soon as that happened there was plenty of interest to venture outside the walls from both inpatients and staff.

“Anxiety levels of the inpatients were reducing and all the feedback we were getting was really positive.”

One of the interested staff was Sandie Pattison. She had been a healthcare assistant for over 25 years and retired two years ago, but the ties were strong and she returned ‘on the bank’. “As soon as I heard about the walking group I knew I wanted to be involved. There are some amazing places just outside these walls within half an hours drive and I knew the inpatients would really benefit from getting outside into the green space.” On some of the early walks the team noticed the inpatients were stopping to stroke dogs of fellow walkers. Sandie said, “There are lots of studies around animal therapy with direct links to reducing anxiety, so I started to bring my dog Bryan along with us.” Bryan quickly became a hit with most of the inpatients and they would save scraps of food for him when they knew they were going out.

Another professional facilitating the walks is Lucas Hollingsworth, an occupational therapist. He noticed that, “Anxiety levels of the inpatients were reducing and all the feedback we were getting was really positive.” He told us that the walks give inpatients a shared interest to discuss when they are back in the unit. They can help plan walks, come up with suggestions and ideas and all of them look forward to the freedom each walk brings.



Lucas’ role specifically looks at the life skills of the inpatients, concentrating on the overall aim of getting them back into the community. The walks provide him with an opportunity to witness the progression inpatients are making on a regular basis. As well as thinking for themselves, they are planning what they will wear, working out routes, understanding the country code and helping with navigation. Lucas said, “There was a patient who came out for the first time and noticed Sandie and me greeting fellow walkers and he asked if it was something he could do. Now he will say hello to people he sees on the walk. These moments just wouldn’t happen tucked away in the wards.”

“Now he will say hello to people he sees on the walk. These moments just wouldn’t happen tucked away in the wards.”

The team take inpatients out every week but there are currently more people who want to go on walks than they can facilitate. This has led to a surprising trait of generosity, for instance Sandie told us that, “One of the lads came up to me and said, ‘I went on the walk last week so you can let someone else go this week.’ Not only that but I’ve noticed that when everyone is out walking there is a real sense of camaraderie, some will slow down for others or carry another person’s backpack.



“One real break through we had was when a patient who was an elective mute started to talk on one of the walks.”

“The new environment levels the playing field. The tensions that may have been high on the wards are almost instantly dissolved.”



Even before we go on the walk some of the inpatients will ask others ‘are you going to be warm enough, have you got enough layers on?’” The walks bring a new found respect and a definite lack of aggression. Sarah said, “The new environment levels the playing field.

The tensions that may have been high on the wards almost instantly dissolve as soon as we are outside.”

As well as reductions in anxiety and aggressive behaviour, the outside freedom has seen a number of impressive results in communication. Sandie recalls, “One real break through we had was when a patient who was an elective mute started to talk on one of the walks. Previously he would say the odd word with great reluctance but now he is openly talking, something he’d not done in any session back at the hospital.” Lucas adds, “On the walks there is no pressure to talk, so you find patients open up, talking about personal interests to do with films and sport and we get a real insight to their personalities.”

Rebecca Sanderson said, “The whole focus of what the unit does is to facilitate the inpatients’ journey back into the outside world and these trips really help to see how they can cope in a number of different situations.” There is a huge amount of trust and respect placed on the inpatients and in order to leave the compound they have to demonstrate good behaviour. It’s working because the findings and feedback have been very positive. The walking group is now well established and the team have the support of the doctors, nurses and management and have secured extra funding to allow the walks to continue. They are delivering a whole host of benefits both physically and mentally and the team will continue to offer the walking therapy to compliment all of the other treatments, helping improve the inpatient’s well-being and ultimately their move back to the outside world. ■

www.stah.org

MATT DURRAN

Matt is an artist working with glass, who had never planned to work in the medical world. But when an opportunity came up that involved growing human noses within glass moulds, he jumped at the chance.



WHEN ART AND MEDICINE COLLIDE

Just under the railway bridge at the end of a row of shops, there is a red door with frosted glass. The only suggestion of an artist's residence is the pressed ceramic house number screwed to the wall. We ring the bell tentatively half expecting it to be the wrong address, but with a clunk of keys and a swing of the door Matt Durran, an artist working in glass, welcomes us in.





Left:
Some of the many
glass moulds
Matt made for
the Royal Free
Hospital

Below:
A nose growing in
a bio-reactor

Matt's insight into the material possibilities of glass, alongside his artistic ability to make creative leaps made him the obvious choice for the team at the Royal Free Hospital. They needed bespoke, highly accurate products but hadn't managed to find a medical glass maker who could produce exactly what they were looking for, which was to create a non-reactive, detailed mould for tissue-engineered cartilage specifically to create a nose. Matt knew it could be done. He said, "Glass is the perfect material to use for this, it's been used in the medical industry for 250 years, it can be sterilised easily, it's inert and you can see cells growing through the material. It can also be manipulated to exact requirements."

We first heard about Matt's work through the Craft Council. He didn't seem an obvious choice for a healthcare publication like this one, but after a bit of research around his work, we were fascinated and got in contact. Matt prides himself on his variety of work. Over the years his explorations have taken him from ancient lava-formed obsidian to stockpiled waste glass and the frontiers of new technologies. He has created unique pieces of installation art, up cycled waste glass as well as solved specific problems for the medical industry. One of Matt's early jobs was carving ice for an events company back in the 1990s. He said, "It seemed a bit crazy, you'd do all that work for it just to melt

away so I wanted to do something more permanent and was really intrigued by glass." He started on lots of different projects using glass but quickly realised that he needed to understand the material technology side. When he got the opportunity to study in Sunderland and Copenhagen he jumped at it. He was fascinated with the technical and cultural differences in approach between the two countries. This led to a re-evaluation of his practice.

"Glass is the perfect material to grow noses. It's been used in the medical industry for 250 years, it can be sterilised easily, it's inert and you can see cells growing through the material."



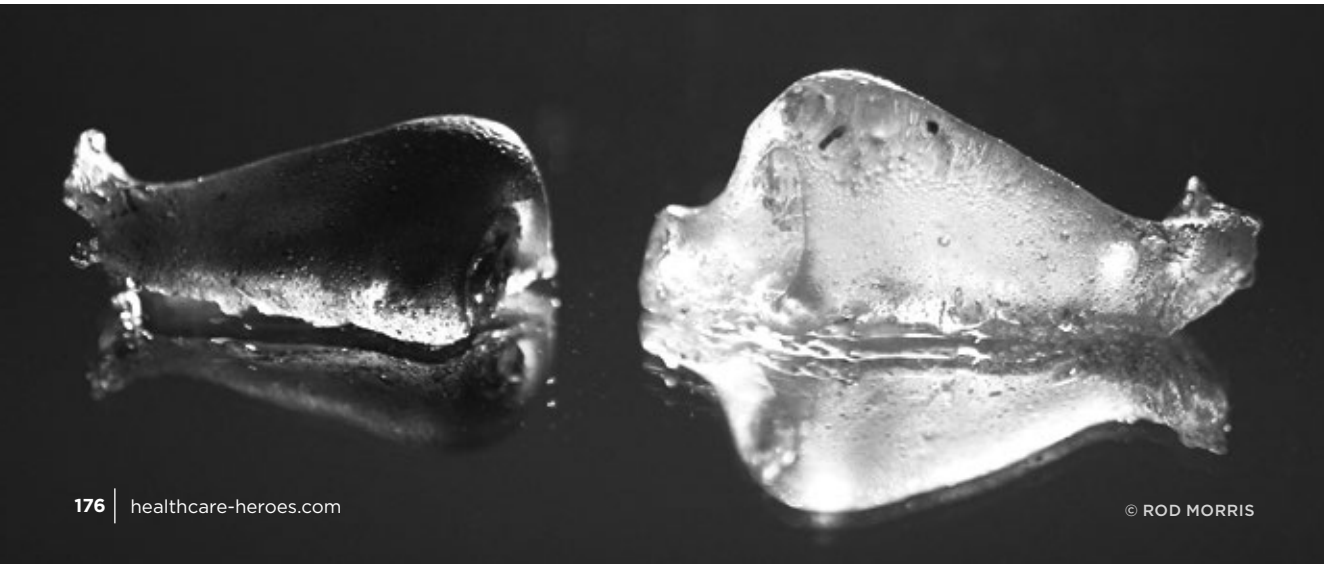


Left:
Matt checking a
new set of glass
moulds

Below:
Two different
nose moulds in
wax, made for
visual purposes

His creative approach allowed him to experiment with a number of different moulds until he happened upon one that would work perfectly. He began with a plaster cast of his own nose and then used a technique called slumping – laying warm glass over a mould with painstaking care – to make several glass moulds of his own nose. The moulds were then filled with a synthetic material, which contained the patients cells to create the scaffolding of the nose. It was then grown in a bioreactor. Once the basic structure of the nose was created it was attached to the inside of the patients forearm. This bio-integration allows blood vessels to populate it and skin to fix to it, a process that can take months. Then after successful bio-integration the nose is surgically removed from the forearm and carefully attached to the face. Matt said, “Although my part’s a small one, it’s an important part.” Getting the nose accurate for people is very important so the detail of the mould had to be just right. A lot of the patients lose their nose through cancer and other illnesses.

*“Although my part’s
a small one, it’s an
important part.”*





Losing something so central to the face can bring a loss of identity and self esteem, so this process allows patients to get back the important body part as well as their confidence. Since that first nose Matt has gone on to make a lot of different moulds for noses, ears and even voice boxes. He said, “Each nose job was completely different. I remember one particular nose I needed to re-create had a real bend in it and I suggested straightening it out to which I was met with ‘no thanks, that’s what makes my nose unique’.”

“Each nose job was completely different. I remember one particular nose I needed to re-create had a real bend in it and I suggested straightening it out to which I was met with ‘no thanks, that’s what makes my nose unique’.”



The research around this type of surgery is still on going and Matt’s skills are still requested from time to time, but his next project is away from the medical field in macro glass sculpture. He added, “My father said to me... the best job in the world is the one that’s different every day. If that’s true, then I guess I have the best job in the world.” Matt’s creative input opened doors for researchers that were previously closed. He researched, experimented and created moulds that were simple in production but detailed in execution giving patients the confidence to once again be comfortable in their own skin. An artist working in glass may be the last person you would associate with the medical industry but researchers may now increasingly look to local craftsmen to play a vital part in the process, acknowledging that problems sometimes need that external creative input to reach the desired outcome. ■

www.mattddurran.com



A man with grey hair, wearing a dark blue button-down shirt, blue jeans, and brown shoes, stands on stone steps leading up to a rustic building. The building features large, arched wooden doors and a stone wall. The man is leaning his right arm on a wooden railing. The scene is lit with warm, golden light, suggesting late afternoon or early morning.

MARC KOSKA

Marc has been credited with saving the lives of over nine million people worldwide. His single-use syringe has prevented the spread of blood-borne infections and his charity SafePoint is dedicated to educating the world about the dangers of syringe re-use.

THE SYRINGE GURU

In the last ten years Marc Koska has been to India 43 times, travelled to 64 developing countries, battled with the World Health Organization and been awarded an OBE. So getting a moment with him was a real privilege.



Marc sits opposite and opens his laptop. On the screen is a picture of a monk, who is glancing out of the frame with his orange tunic held together by a bulldog clip. Marc tells us that the monk is from a village called Roka in Cambodia. “He has become our poster boy for unsafe syringes. He’s 82, celibate and is the spiritual leader of the whole valley with approximately 1,000 people and he’s HIV positive. How? Because the local doctor was using the same syringe over and over again whilst treating patients.” Earlier this year Marc travelled with the BBC to Roka, a remote village in Cambodia where 272 residents contracted HIV because of the re-use of syringes spreading the disease.

Left:
An HIV-positive monk, who was infected by the use of a dirty needle in Roku, Cambodia

Right:
Marc with the K1 Syringes that auto disable after one use and have saved the lives of over nine million people worldwide



“I got there in ’82 and HIV was identified in ’81. All the media could talk about was this new killer disease that was going to wipe out the planet.”



This is exactly the sort of thing Marc has worked most of his life to stop. It was in 1984 when he was working on a Caribbean island as a forensic model maker that an idea came to him. “I arrived there in ’82 and HIV was identified in ’81. All the US media could talk about was this new killer disease that was going to wipe out the planet. Every restaurant changed to plastic cutlery, there were ‘sprays’ in every toilet for the seats, no-one really knew what was going on.” It was on the island that he read a story in The Guardian about how one day syringes would be a huge transmission route for HIV and other viruses. “I knew then exactly what I wanted to do. I read everything I could about the disease and spent the next three years finding out about the problem.” Those three years were spent back in England where he worked as a painter and decorator and then spent all his spare time in a library, or meeting syringe manufacturers, finding out about pricing structures, travelling to immunisation camps, factories, warehouses.



Above:
Marc in Cape Town, South Africa, speaking to school children in a project they set up called Project Playground

Left:
Marc in a hospital in Tanzania on a trip raising awareness of safe injections

He said, “I made sure I knew as much as possible that there was to know about the syringe and what it had to do.” He concluded that the solution to the problem of a multi-use syringe had to be simple, made on existing machinery and importantly, sold at the same price. He spent the next few years sourcing manufacturers, searching out funding streams and making his idea a reality. Eventually he designed a syringe (K1) that could be made on existing equipment but with a small, very important modification... it would fall apart after one use. However it took 14 years more to sell his first syringe. The reason for this Marc explains is that “Manufacturers make money. Syringes are a commodity. They weren’t interested in making safer syringes because there was no guarantee that they would sell.” The turning point however, was his first sale to UNICEF in 2001. They started to use the auto-disable syringes and that gave great credibility to the product.

During those frustrating 14 years Marc travelled the world witnessing bad practice again and again. This gave him the focus to keep going and bring the syringe to market to help stop the spread of Aids and other serious diseases. He moved back to his laptop and showed us a video filmed on a hidden camera in a hospital in Tanzania. A teenager walks into a small room, the hidden camera pans and we see the nurse

looking at his notes. Marc informs us that this young man has HIV and syphilis. The nurse takes a syringe from the tray and administers the drug. “You can see she has trouble penetrating the patient’s skin because the needle has been used numerous times before,” he tells us. The teenager gets up and leaves. The nurse returns the syringe to the tray. Moments later a mother turns up with her one-year-old daughter. The nurse turns and picks up the same syringe and uses it on the child. Watching the video we find ourselves shouting at the nurse not to use the syringe, but this happens daily in many hospitals around the world, according to Marc. “What is really odd in places like India and Africa, is that there are lots of precautions people take with regard to matters of hygiene that they wouldn’t dream of transgressing. For example, a mother wouldn’t offer her drinking cup to her child, and they wouldn’t dream of sharing a toothbrush. So why share a syringe?”



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Above:
Marc in Cape
Town, South
Africa, speaking
to school children
in a project
they set up
called Project
Playground

Marc knew that to effect change, cultural shifts had to be made which was why in 2005 he founded SafePoint, a registered charity dedicated to educating the public about the dangers of reusing needles. One of the trust's first campaigns was in India, but the minister of health, Dr Anbumani Ramadoss had refused to see him. He informed the media and national newspapers who led with the headlines 'Ramadoss refuses to see Syringe Guru.' More than 240 newspapers printed the story within five days. TV and radio were also asking 'who is this syringe guru?' and 'why will the minister not meet him?' This exposure helped Marc spread his message of 'One Injection, One Syringe' and people listened. At the same time they released a video to back up the campaign and this culminated in a meeting with Dr Ramadoss, who then made a landmark announcement to put a policy in place for the recommendation of auto-disable syringes in government hospitals and health centres throughout India.

"I explained to her exactly how we could effect change and save millions of lives each year through the use of single-use syringes. I said to her that if you write the policy, I'll make this whole thing work."

Another huge success was with the World Health Organization (WHO). After years of lobbying Marc recalls, "I was at a conference with Margaret Chan the director general of the World Health Organization. I wouldn't leave her alone for two days until she agreed to see me for a formal meeting. I explained to her exactly how we could effect change and save millions of lives each year through the use of single-use syringes. I said to her that if you write the policy, I'll make this whole thing work." Following the discussion WHO started a global campaign in 2015 to eradicate the dirty needle. The new guidelines stipulated that every injection must come under scrutiny and be safely engineered. The consequences of this over time will be huge, preventing great misery, savings millions of lives as well saving billions of dollars throughout the world.

Marc has sold more than six billion single-use syringes since the first sales back in 2001, he has opened the eyes of governments around the world and influenced the World Health Organization but he is still not satisfied, mainly because of the inertia of global medical businesses to fully embrace the concept. Through his inventions, his persistence and his dogged determination he has saved the lives of millions and before we left he shared with us his latest projects, the next generation of syringes, needles and bottles that will be easier to make, store and transport, saving time, money and most importantly lives. ■

www.safepointtrust.org

