

LUCAS[®] CHEST COMPRESSION SYSTEM

CASE STUDY

LUCAS[®] Chest Compression System and LIFEPAK[®] 15 Monitor/Defibrillator – A Lifesaving Combination for Huddersfield Royal Infirmary



Sean Doyle, Patient at Huddersfield Royal Infirmary

Patient History

Forty-four-year old Sean Doyle was an avid runner and member of one of the biggest running clubs in Yorkshire. He had just completed the Blackpool marathon in 3 hours 29 mins and had been training for the upcoming Huddersfield Parkrun (5K) regularly running around 40 miles a week. Sean had been suffering noticeable chest pains in the months leading up to the event but his general practitioner was confident it was nothing serious and allowed Sean to continue training.

Four days before the Huddersfield Parkrun, Sean developed shoulder pain on his right-hand side, which he treated with an anti-inflammatory spray. He had also noticed some blood stains on his pillow and around his mouth. Sean had been coughing up blood a couple of days before the event.

Sean suffered the first of two sudden cardiac arrests just before the start of the run he'd been training for. He received initial lifesaving care from two medical professionals that were attending the event. The starting line of the run was situated close to an ambulance station where paramedics were able to assist with immediate lifesaving care. He suffered a second cardiac arrest whilst he was being treated at Huddersfield Royal Infirmary.

LIFEPAK and LUCAS Devices Central Role in Sean's Treatment

Sean, a sales and technical manager from Huddersfield, has almost no recollection of the minutes leading up to his cardiac arrest. "On the day of the race, when I collapsed, I don't remember too much about it other than saying goodbye to my nine-year-old son," he recalled. "I don't remember driving to the event or doing the warm-up lap."

Eyewitnesses to the incident recall Sean collapsing in front of one of the running club members, who happened to be a nurse. She immediately started CPR. Along with help from other medically-trained bystanders, Sean was treated on site by the paramedics stationed at the event. At the core of the lifesaving equipment used

by the ambulance crew was the LIFEPAK 15 monitor/defibrillator. The team was able to utilize a key feature of the 15 that permits the escalation of energy up to 360 Joules. Despite this advantage, Sean's situation remained precarious and required the full utilization of the device functionality and clinical efficacy to stabilize his condition. "When they attempted to get my heart going they were already at the maximum on the fourth attempt," said Sean. "However, they kept going and it eventually took six attempts to bring me back."

"I wonder why it took so many attempts to start my heart! I'm so glad it did though and the team kept faith with the technology and carried on."

LUCAS and LIFEPAK Devices – Working Together for a Successful Outcome

Sean was immediately taken to the Huddersfield Royal Infirmary. Whilst there, he suffered his second cardiac arrest and the LUCAS Chest Compression System took over from manual compressions and staff used the LIFEPAK 15 monitor/defibrillator to shock him three times (this was achieved whilst the LUCAS device was fully operational). This happened over the course of two hours and the consistency and effectiveness of chest compression depth over this time meant that the LUCAS device was not only adequately perfusing Sean's heart but also his brain. With the LUCAS Chest Compression System essentially keeping him alive, Sean has nothing but praise for the LUCAS product. "For me, my doctors believe it was the difference between waking up with neurological damage and waking up with all my faculties intact."

"I am 100% where I was before the accident. It's invaluable that you've got something there that can work like that."



"According to Doctors, the supply of oxygen to the brain that LUCAS supports can be the difference between waking up with neurological damage and waking up with all your faculties intact."

Sean later returned to the hospital to see how the devices that helped save his life operate and also discovered that Huddersfield Royal Infirmary had only received the LUCAS devices on a trial two days before he was admitted. Despite this close call, as a patient and survivor, Sean felt more assured that the LUCAS device contributed to his recovery and called for more hospitals to equip their staff with this lifesaving equipment.

“The LUCAS and LIFEPAK devices are obviously high-technology, but seem relatively easy to use. I can’t understand why hospitals don’t have more of these devices for patients because they are essentially lifesaving equipment.”

“Why can’t other people benefit from them? There is much more payback to this kind of equipment. It should sell itself.”

Sean was then transferred to ITU where he was cooled to prevent brain damage by the low cardiac output, and he was placed in a medically-induced coma. “The plan was to bring me around slowly over two to three days,” said Sean. “However, I came round within the hour.”

On the Road to Recovery

Against the odds, where Sean suffered two cardiac arrests and was placed in a medically-induced coma, he has since made a remarkable recovery. Despite suffering some soreness on the ribcage, Sean says there’s no pain when he’s standing or walking.



“I’m on six Paracetamol a day. But I’m not complaining considering the alternative!”



“The LUCAS and LIFEPAK products are obviously high-technology, but seem relatively easy to use.”

It’s a small price to pay for Sean, who said: “Given the choice of being six feet under in a box or living at the end of the day you’ve got to be out of your mind if you think a bit of bruising is an issue.”

Sean is also hoping to be able to get back to work just over a month after the attack and was able to exercise lightly within two weeks. Since his heart scare, Sean’s progress has been remarkable. With the supervision of his consultant, he is now running 25-30 miles a week and cycling up to 1.5 hours per day. Sean has also participated in charity races.

In reflecting on his experience Sean is both reflective and grateful. “I treat the whole incident like I’m reborn again and I want to do the same stuff that I used to do. I’m thinking on the positive side of life.” “Everything within the chain of treatment, from the off-duty people there to the paramedics, to the resuscitation team, A&E, and the care that I received in ICU. All involved were first class and I’ve come out of my experience in first-class condition. I’m very appreciative to all those and the technology involved in saving my life.”

Statements attributed to individuals in this case study reflect the opinion of the individual and do not necessarily reflect the opinion of Physio-Control. For information about specific product claims and labeling, refer to the device operating instructions.

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