

Breaking NEW ground



Explorer Sir Ranulph Fiennes has a special bond with one of the world's top cardiac surgeons. **Sarah Brealey** caught up with them both in the lab



At 71, Ranulph Fiennes shows little sign of slowing down. Last April, he completed the Marathon des Sables, running 156 miles through the Sahara Desert in searing temperatures of up to 50°C (122°F). He's preparing for another challenge this year, which is still top secret but is likely to be another first for humankind.

Sir Ranulph was recently appointed a Research Ambassador for the BHF, the latest event in a long connection with our work. In 2003, he suffered a **heart attack**^o while waiting to take off at Bristol airport and had to be resuscitated from several **cardiac arrests**^o. The surgeon who saved his life and performed his emergency heart **bypass**^o was Gianni Angelini, BHF Professor of Cardiac Surgery at the Bristol Heart Institute.

Just three months after his surgery, Sir Ranulph ran seven marathons in seven days, on all seven



Even after heart surgery, Sir Ranulph has completed extreme missions for charity



Sir Ranulph and Professor Angelini still stay in touch

■ I wouldn't be around if it wasn't for him"

the need for a mechanical pump to power the heart and lungs. It's less traumatic for the body and patients generally recover more quickly; Sir Ranulph is one of the people who have benefited from this.

Not only did he save Sir Ranulph's life, Professor Angelini also helped the explorer carry on doing what he does best. Sir

Ranulph says: "Three months after the operation when I was going to do the seven marathons, my wife brought me back to see Gianni. I think she assumed he would cover himself by telling me I couldn't do that. But he didn't.

"After my wife died and I remarried, my second wife also brought me back to Gianni with the same intention. You assume nowadays everyone covers their back so they don't get insurance claims. I am very lucky."

But Professor Angelini says he takes a wider view of being a surgeon. "The aim of doing the operation is not just to prolong people's life but to give them a good quality of life, and for Sir Ranulph that is to be able to do what he has done all his life."

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Sir Ranulph is now a BHF Ambassador and regularly raises funds for us

Many people with a heart condition would not be able to do what Sir Ranulph has done (and seeking medical advice first is always essential), but in his case "his heart had recovered; there was no damage," says Professor Angelini. "To tell him that he shouldn't do anything would not have been doing him much of a service."

However, the professor did advise Sir Ranulph to prevent his heart rate rising much above 130 beats per minute. This led to him abandoning his Everest attempt. "Gianni said I had to follow his advice, even if I was near the top," he says. "I was 300m from the summit and I had to turn back. I was getting pain in my chest; it was probably only *angina*^p, but it was the same sort of pain as a heart attack, like someone sitting on your chest.

"The heart attack I had in 2003 was much more serious, but I don't remember any of it, so for me this was infinitely more frightening.

"It struck me that it was not sensible, after I had a heart event, to continue in spite of bodily warnings. That is why for the first time I thought: 'I will give it a miss this time and have another go next time'. I am grateful for the negative advice from Gianni."

Sir Ranulph went on to conquer Everest on his third attempt in 2008, one of more than 30 expeditions that have helped him raise £19m for charities.

Although his heart is doing remarkably well for someone who had a bypass 12 years ago, Sir Ranulph still tries to follow his surgeon's advice. "In April, in the Marathon des Sables, the organisers have camels at the back to remove geriatrics like me who aren't doing it fast enough. I was looking back at the camels and also trying to keep an eye on my heart rate – the 'Gianni factor' as I call it," he explains. "You are continually losing footing and slipping backwards in the sand dunes."

The intense heat caused some problems; he had to stop and lie down at times during the last stage to avoid overexerting his heart. He describes it as "hellish... But we finished it, which was important as we were raising money for charity."

Photography: Getty

continents, to raise money for the BHF. In 2005, he climbed Everest, getting within 300m of the summit when chest pains forced him to abort the mission. He still raised £2m for the BHF, though.

Special bond

Sir Ranulph and Professor Angelini stayed in touch. "I wouldn't be around if it wasn't for him," Sir Ranulph says. "From day to day, month to month, year to year, that is at the back of my mind."

Recently, Sir Ranulph visited the lab in Bristol to see the latest research the BHF has helped to fund.

Professor Angelini has pioneered the technique of 'beating heart surgery', which allows bypass surgery to be carried out while the heart is still beating, removing

Cutting-edge research

At the lab in Bristol, Sir Ranulph watched work to build bio-engineered blood vessels that could one day be used as grafts to treat babies born with heart defects.

"A blood vessel is complicated; it has multiple layers of cells," explains Professor Angelini. "It has to withstand high blood pressure without bursting and be able to expand and contract."

The resulting bio-engineered graft is a living structure in which the stem cells (obtained at birth from the child's umbilical cord or placenta) grow as multiple layers and can grow with the baby. Currently the work is being done in pigs, but researchers are preparing to move into humans. "I would say we are 18 months to two years from giving it to patients," says Professor Angelini.

Sir Ranulph also met Professor Costanza Emanuelli, the BHF's newest Professor of Cardiovascular Medicine, and heard about her research into incredibly tiny particles released by cells. Her findings could predict and prevent damage to the heart and other organs.

Sir Ranulph said seeing research that could one day help other heart patients was "wonderful... There have been huge steps since I was here as a patient," he says. "The fact that they are trying to grow parts, that one day may be used to help repair babies' hearts – you can't believe it. This has been fantastic." **HM**

Go the extra mile for the BHF

You don't have to do the kind of superhuman feats that Sir Ranulph is famous for to raise funds for the BHF

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It's incredibly flexible. Choose where, when and how far you walk. So whether it's a solo effort or you and your friends are walking together, fundraising has never been so easy or fun. We'll send you a free Just Walk fundraising

pack including lots of tips and advice – you'll even get a T-shirt and bag for you to use on the day. Sign up today and you can start planning your life saving walk straight away. Visit bhf.org.uk/justwalk, or call **0300 330 3322**.

If, like Sir Ranulph, you want to really push yourself, you could register for one of our organised overseas treks. Why not climb Kilimanjaro in September 2016, enjoying



the spectacular views of Tanzania along the way? Or take on the brand new 100km London to Oxford Trek? We've also filled our

calendar with adventures in Peru, China, and around the UK. Choose your challenge at bhf.org.uk/trek or call **0845 130 8663**.

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- Discover Professor Emanuelli's research on page 34.
- Go online to see our video of Sir Ranulph visiting Professor Angelini's lab and photos from the day. Visit bhf.org.uk/ranulph.