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A career in Emergency Medical Care:

How advances in simulated training are saving real lives

When real crisis situations occur, students know how to deal with them

The brisk air betrays the onset of autumn. Recent rains add to the cold and in the early-morning darkness, visibility is virtually zero. About 15m below the edge of the Kingfisher hiking trail, a 19-year German tourist lies with his pelvis splintered, his body temperature plummeting and his level of consciousness slipping. The place where he has fallen is so narrow and difficult to access that there is only space for two people to be lowered into it: a rescue technician and emergency care practitioner Robert Westwood.

At the time, Westwood is 27 years old and has only recently graduated with his Bachelor of Health Sciences degree in Emergency Medical Care (EMC) from the University of Johannesburg (UJ). Throughout his degree, thorough and extensive training, including advanced simulation training, has prepared him for exactly this kind of situation. As he works to locate, treat and rescue the young man who lost his footing while hiking in Wilderness in the Western Cape – a process that takes from 9pm on the day of the accident until 6am the following morning – Westwood puts his years of training into practice.

From simulation to success

Simulation training – the process of recreating all the conditions of a rescue or medical scenario so that students can gain first-hand experience – is an integral part of UJ's educational approach. "Simulation training instils confidence in



Robert Westwood (27) has obtained his Bachelor of Health Sciences degree in Emergency Medical Care from the University of Johannesburg. Photo: Supplied

our students," says EMC lecturer Andrew Makkink. "The high-fidelity scenarios we create help them to be better prepared."

In 2016, UJ, together with the Durban University of Technology, the Free State College of Emergency Care and various international schools, organised a week-end of simulation training at Gariep Dam.

"The Gariep training excursion, which has grown exponentially every since, involves a combination of aviation and small boat rescue and is entirely simulated from start to finish," says Westwood, who was part of the first cohort. The South African National Defence Force is on hand, as are helicopter services, and a fully-equipped

temporary hospital is set up for the students to run and use.

"The hands-on medical and rescue experience you gain is invaluable," he adds. "You're also taught how to work with others and how to use the resources available to you." It was at Gariep that Westwood learnt how to build the high-angle system he used in Wilderness to lower himself and his partner down to the injured hiker. A few years later, he was using it in a real emergency.

But that's not where UJ's simulation practices end. As technology improves in the wake of the fourth industrial revolution (4IR), so are the devices and training methods available to EMC students. "Drones, GoPros and our high-tech mobile command posts are all part of the day-to-day now, and help us to teach our students to be experts in what they do," says Connor Hartnady, EMC lecturer and head of rescue.

Although they have been around for some time, the technology involved in the mannequins used by the EMC department is nothing short of state-of-the-art. The mannequins breathe, bleed, cry and vomit, vibrate if they are experiencing a seizure, and respond immediately to any real medication the students administer intravenously.

"The extensive simulation training we receive limits the risk of human error in real-life situations," says Westwood. "By the time you're on a mountain the middle of the night dealing with a seriously injured and hypothermic patient, you've done the training, and you know what to do."

For more information on a career in Emergency Medical Care, visit www.uj.ac.za

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