

Poles apart - Alumnus assists in world-first medical evacuation



The middle of a frozen continent, in the middle of winter, in the dark, with not one but two sick patients in need of evacuation – could there be a worse combination of factors in a medical emergency?

Otago alumnus Dr Hamish Wright says his training and experience proved invaluable during the first ever medical evacuation of two patients from the South Pole in extreme conditions in the middle of winter this year.

A 2009 Otago Medical School graduate, Dr Wright is one of 48 residents spending 10 months at the Amundsen-Scott South Pole Station, Geographic South Pole, working for the United States Antarctic Program. As the station's only physician "wintering over", Dr Wright and an assistant are required to provide pharmaceutical, X-ray, laboratory, and general and emergency medical services.



In June, as temperatures neared -60degC and the Antarctic was in darkness 24 hours a day, he was unexpectedly required to call on his training when it became apparent that two sick workers required medical evacuation.

He says that his study at Otago and subsequent practical experience as an Intensive Care Registrar prepared him for the extraordinary scenario.

“The experience I gained through my [Postgraduate Diploma in Aeromedical Retrieval and Transport](#), and my work as an Intensive Care Registrar in the Wellington Life Flight and Otago Rescue Helicopter retrieval services were instrumental in helping plan the logistic and in-flight considerations needed for such an austere medevac,” he says.

In addition to his main roles of patient care and in-flight planning during the medevac, he also co-ordinated treatment details with medical specialists in the US and New Zealand, and gave opinions on logistics and feasibility of various scenarios for transporting the patients.

“It was the first time someone has been ‘medevaced’ in the middle of winter. Two previous medevacs had occurred in March and September when there was light and warmer conditions.”

The medevac was a huge logistical effort, which involved multiple parties in the US, and assistance from British, Australian and New Zealand Antarctic programmes, he says.

The only planes capable of flying in such low temperatures – Twin Otters – had to be flown from Calgary, Canada, and took more than a week to reach the Antarctic. The planes had extra auxiliary fuel tanks fitted in their cabins to extend their range.

The aircraft were delayed from reaching Antarctica when storms made crossing the Drake Passage from Chile to the Antarctic Peninsula too dangerous. Once on the ice and refuelled at the British Antarctic Survey’s (BAS) Rothera Station, a single plane flew a further 10 hours south to the pole.

The other stayed at Rothera station in case it crashed and search and rescue capability was required.

After a 1,500km flight the plane landed at Amundsen-Scott base using skis on a groomed snow skiway that was specially prepared for the retrieval operation.



“The flight came in right on the winter solstice – the midpoint of six months of continuous darkness. The last time we had seen sunlight was three months earlier, and the sun’s return is not due until the end of September – the skiway had to be marked out with burning barrels of jet fuel.”

The temperatures on the day were around -60degC to -65degC and the aircraft parked on bamboo mats to prevent its skis freezing to the ground. Fuel for the return flight had to be warmed from around -65degC to 20degC because unheated fuel could damage the plane’s engines, or turn to jelly, in the extreme cold.

“It was a fascinating process to be involved with and thankfully both patients remained stable during the prolonged staging and medevac process. They are now doing well, following input of higher levels of medical care back in the US that we were not resourced to provide in Antarctica.”

Dr Wright is planning on continuing dual specialty training in Intensive Care and Internal Medicine when he returns to New Zealand in November.

Alumnus details: Studied medicine at Otago (2004 to 2009), and spent clinical years at the University's Christchurch campus. He also gained a Diploma of Paediatrics (Auckland), a Postgraduate Diploma in Aeromedical Retrieval (PGDipAeroRT – Otago) and a Diploma of Tropical Medicine and Hygiene (London School of Hygiene and Tropical Medicine). Dr Wright is a keen photographer; his timelapse images of the aurora australis or “Southern Lights” won the 2016 New Zealand Geographic timelapse photographer of the year category. [View the award winning images here.](#)

