

Q&A WITH AN ISOLATION RESEARCHER

Researchers spend months cut off from the world to investigate the effects of isolation on astronauts. How can this help us to deal with social distancing?

Where did you spend your year cut off from the rest of the world?

Concordia is one of three permanent all-year research facilities in Antarctica. Jointly operated by scientists from France and Italy, it also hosts European Space Agency (ESA) scientists and is located 3km above sea level on the Antarctic Plateau. I spent 14 months with a crew of 12: a 50/50 mix of scientists and technical teams of different nationalities and backgrounds. This included an isolated nine-month period over winter when we studied with ESA.

What research were you conducting?

I am a medical doctor but my main role for ESA was psychological and physiological research. The base is situated at a high altitude, equivalent to 4,000m at the equator, with very thin air. We measured the crew's blood levels to understand how lack of oxygen affects behaviour. We also studied stress indicators.

The crew's sleep and wake cycle was monitored to focus on how isolation affects sleep patterns, especially during the long polar night. We tested risk-taking behaviour, memory testing and more. The results are being used to introduce countermeasures that target predictable behavioural changes throughout long-duration missions.

What was it like living in extreme isolation?

After I returned from Antarctica, friends asked if I had been lonely. Actually, it was claustrophobic; we couldn't get away from each other and I found that quite exhausting. Privacy was an issue, so our living quarters were sacrosanct.

It was remote. I felt a constant low-level stress, because if something went wrong during the polar winter there was no rescue. I became acutely aware of my mortality.

Sensory deprivation was a risk factor, causing mood changes and depression. There was little colour, smells or sounds and I missed mud on my shoes. The lack of animal and plant life was a disadvantage for everyone. I remember when I first arrived, the chef spotted a stowaway slug on a lettuce leaf – this became his 'pet'!



Were there benefits to isolated living?

It gave me an opportunity to step off life's treadmill. Everything was less rushed so I became more 'present'. I was able to understand the effect of my behaviour on others in a confined space, and I learnt to recognise how their behaviour affected me. If I was upset, my normal response would have been to hibernate and not talk about it, but that would not work at Concordia.

▲ Remote working: the Concordia research facility is situated 1,200km inland in Antarctica. It is completely isolated during the long winter months

How did you pass the time?

It taught me how important it is to keep busy. I had my work, but I also read, exercised and did yoga.

It was also important to keep in touch with home. We had an old-fashioned dial-up internet connection which was often pretty slow, but we communicated with family and friends to avoid homesickness. Although this was vital, I became aware that sometimes this could be seen as excluding other team members. We made sure we dined together and also organised Italian and French-themed nights; anything to provide structure and promote team spirit.

What tips would you give to people self-isolating?

Maintain your own personal routine, whatever it is, especially your sleep/wake cycle, as disruption will induce biological change and mood swings. Plan ahead for future trips so you have a focus when normality resumes. Also, read more and learn something new.

It's important to exercise outside if you can. When inside, keep your private space, however small, and establish boundaries. Have others respect your space and likewise respect theirs. Don't sweat the small things either; focusing on minor issues can lead to pettiness. Slow down, as there is no rush and you will see and hear so much more.

Keep communicating with friends and family outside the home, but don't exclude those around you. Make an effort to be present; dine together; talk more; keep a calendar of things to do and look forward to doing them. Vitally, satisfy that intrinsic human need to connect with nature, by caring for animals, doing gardening, keeping plants and growing seeds. 🌱



Dr Beth Healey is a medical doctor who spent a year working for ESA at Concordia in Antarctica, researching the effects of isolation