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This week management of the Mars500 experiment, a 520-day simulation of a trip to the red plane management sealed six men inside windowiess modules in a Russian laboratory. The crew dealt with fake emergencies and communications blackouts, and finally suited up to "land" on a fake Martian landscape. NPR's Nell Copyright © 2011 National Public Radio®. For personal, noncommercial use only. See Terms of Use. For other uses, prior permission required.

SCOTT SIMON, host: Six men in Moscow are readjusting to life on Earth today after enduring a long simulated mission to Mars. They spent 520 days locked inside a fake spaceship. The hatch was opened yesterday.

NPR's Nell Greenfieldboyce reports that this pretend trip involved real psychological challenges that may still persist.

NELL GREENFIELDBOYCE: Any future mission to Mars would mostly likely be international, so this crew had three members from Russia, one from China and two from the European Space Agency, including Diego Urbina. Back in June of 2010, a little over a week into the fake voyage, he made a video tour of their new home. It was just a few bus-sized modules.

DIEGO URBINA: This is the living room where we spend a lot of our leisure time.

GREENFIELDBOYCE: The small wood-paneled room had a rug, a TV for watching videos, a bookshelf, but no windows to look out at the warehouse they were in. Any contact with the outside was indirect, through video or email. Sometimes, to mimic a Mars mission, there'd be a 20minute delay, or days with no communications at all.

URBINA: Here we have an airlock to which we pass the samples to scientists around the world.

GREENFIELDBOYCE: Blood and urine samples, to test things like stress hormones.

(SOUNDBITE OF AN ALARM)

GREENFIELDBOYCE: He made other video diaries, like one during a fake emergency that shut off the lights and ventilation.

URBINA: Everything is very dark. We hope it won't be too long.

GREENFIELDBOYCE: Other sources of stress: boredom, plus no escape from seeing the same people day after day after day.

The European Space Agency says the crew performed as a team with, quote, "no significant conflicts."

DR. CHRISTIAN OTTO: But that doesn't mean that there weren't personal challenges.

GREENFIELDBOYCE: Christian Otto is a physician who works with NASA to study the effects of long-duration missions.

OTTO: I think the 520 day study went a remarkably long way in mirroring what a long-duration space flight would be like - is it a hundred percent? No.

GREENFIELDBOYCE: The crew couldn't float in microgravity. They didn't have the thrill of truly walking on Mars, or the fear of real accidents. But just getting through it was an accomplishment. Otto has done yearlong stints in Antarctica, and says sensory and social isolation is powerful.

OTTO: These experiences in isolation change us.

GREENFIELDBOYCE: He says, the psychological effects linger even after the isolation is over.

The day before the hatch opened, Urbina reported on Twitter, quote: "Amazingly intense and very surreal hours, preparing to enter the most alien of worlds." He seemed to be referring not to Mars, but to the world outside his capsule, right here on Earth.

Nell Greenfieldboyce, NPR News.

(SOUNDBITE OF BELLS)

SIMON: This is NPR News.

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