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Back on their own two feet again

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Interview with test subjects of the bed rest study at the Institute for Aerospace Medicine

After three weeks of strict bed rest, test subjects Tim Hilchner and Joachim Rawert took their first steps. They were participants in a study on the effects of weightlessness carried out by the DLR Institute of Aerospace Medicine (Institut für Luft- und Raumfahrtmedizin). They had to spend three weeks in bed with their heads positioned lower than their feet. The body reacts to this position similarly to the way it would react to weightlessness, by moving fluids around and reducing bone and muscle mass. When the participants were back on their feet after three weeks of being horizontal, their physical reactions provided important data to the researchers running the study. Some of the test subjects were given a special nutritional supplement to reduce the effects on bone and muscle mass.

"The three weeks of bed rest passed without any complications for the test subjects or for our data gathering," says project leader Petra Frings-Meuthen. "Even though it got boring and uncomfortable from time to time, we were able to get through with the help of conversation and jokes." Information about the effects of the nutritional supplements will only be available at the end of 2010, after the subjects have run another series of tests in the summer.



Joachim Rawert undergoes a stress test

Question: You've been back on your feet for three days now – how are you feeling?

Joachim Rawert: I was a little wobbly, but the researchers were almost disappointed that we weren't worse off! It took no more than ten or fifteen minutes before we felt normal again.

Tim Hilchner: At the beginning we had pins and needles in our feet. Our first steps were pretty uncoordinated, but it's not as if we were falling over our feet. The next day our calves were aching.

Joachim Rawert: Yes, that was pretty severe. When I first got up, I almost walked into a table, I started moving to the right when I was led to the tilting table. That was the first experiment, in which we tested how long the circulation stays stable when blood is sent into the legs all at once. After that, we had a balance test, walking tests, and the thickness of our bones was measured. Then, we did a muscle-strength test and our bodies' water and fat content was measured.

Question: The study was about bone and muscle loss, and fluid displacement in the body. After three weeks of lying down, can you feel the effects?

Tim Hilchner: Two days ago I came across a photo in which you can see my calves very clearly. They're like this matchstick here... That's a big difference from how I was before, and it's going to take a long time before I get them back. My legs are thinner, that's for sure. And apparently I've lost a kilo of fat. Otherwise, I can't feel any difference.

Joachim Rawert: I've lost weight too – 600 grams of fat and one kilo of muscle.

Tim Hilchner: But since I've been back on my feet, I've put on a kilo again.

Question: Did it seem like a long three weeks?



Tim Hilchner

Tim Hilchner: No, it went really fast. It felt nothing like three weeks. It just zipped past – I never expected that. I really expected it to be boring, but it wasn't.

Joachim Rawert: The Internet was a big help. I phoned a lot of people outside. It wasn't boring for me either.

Question: What did you miss most?

Joachim Rawert: Coffee!

Tim Hilchner: I thought a lot about what I was going to miss, at the beginning. But I really only missed my girlfriend. Otherwise I could have happily spent another three weeks in bed. When you're in the hospital you always feel you want to get back home as quick as possible. But this time I knew exactly when I was getting out, so there wasn't any pressure.

Question: The whole experiment is going to be repeated this summer. Are you going to take part?

Joachim Rawert: Of course. It's going to be much more interesting, because I can understand what's going on much better.

Tim Hilchner: Absolutely. Even if you're pretty hemmed in here. For instance, if you really want to have something special to eat, you just can't get it. Or if you want to train in the gym. But honestly, I didn't think about these things over the last three weeks.

Joachim Rawert: It's interesting to see how much you can adapt to, actually. Our routine was completely different for the last three weeks, but no-one had any problems with it.

Question: What's the first thing you're going to do when you get out in a couple of days?

Joachim Rawert: It'll be my birthday! My sister is picking me up and she's taking me for coffee. In the evening we're going to an all-you-can-eat Chinese meal with my family. And the next day I'm going to have a good sleep – and there won't be anybody knocking on my door at six in the morning to wake me up!

Tim Hilchner: Four days after I get out, I'm going on a training camp with my football team. It'll be interesting to see how that works out!

Interview conducted by Manuela Braun.

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