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Al Neyadi part of breakthrough diabetes research on foot ulcers

Maleth experiments on ISS using skin tissue samples from Malta, Saudi Arabia

DUBAI

BY SAJILA SASEENDRAN Senior Reporter

AE astronaut Sultan Al Neyadi yesterday announced his participation in a breakthrough diabetes research project in space.

The Government of Dubai Media Office tweeted a video in which Al Neyadi explained the details of the Maleth project that aims to advance medicine for treating type 2 diabetes, in a collaborative effort between international entities, including the Mohammad Bin Rashid Space Centre (MBRSC).

With this experiment, Al Neyadi said, "the scientists aim to improve the efficiency of treating diabetic foot ulcers and make a real difference in the lives of people affected by this condition".

Human skin microbiome

The study aims to identify important biomarkers found in the human skin microbiome that can potentially be targeted for therapy. "Skin tissue samples of patients from both Malta and Saudi Arabia populations are integrated in this experiment here in the ICE Cubes facility in the European Columbus module," Al Neyadi said.

Europe's commercial research facility on the ISS, called ICE Cubes or International Commercial Experiment Cubes service, offers 'plug-and-play'



Sultan Al Neyadı in the ICE Cubes facility of the ISS' Columbus module where he installed the Maleth experiment cubes.

DIABETIC FOOT ULCER

It is a wound or breaking of the skin that sometimes occurs on the feet of diabetics. If the ulcer gets infected, it could lead to gangrene and require amputation in extreme cases.

Diabetic patients often have a slower healing rate. which makes it important to treat the foot ulcer quickly.

installation for cube-sized experiments in microgravity. In the video, Al Neyadi can be seen installing Maleth experiment cubes in the ICE Cubes Facility.

What is Project Maleth?

Project Maleth is led by Professor Joseph Borg, a molecular geneticist and biomedical laboratory scientist from the University of Malta.

The Maleth experiment is



Watch how Emirati astronaut Sultan Al Neyadi 'juggles' his work in space

led by biomedical scientists at the University of Malta, in collaboration with scientists from King Faisal Specialist Hospital and Research Centre in Saudi Arabia, Weill Cornell Medicine in the US, and MBRSC.

Two experiments have already been conducted on the ISS. In 2021, Project Maleth sent skin samples from patients with diabetic foot ulcers (DFUs) to be cultured on the ISS. In 2022, Maleth II conducted additional studies on yeast cells to observe how they would react to the space environment.

Maleth III will also sequence the full genomes of human DNA and microbes in partnership with Weill Cornell Medicine.