



FRIDAY

APRIL 25, 2025
SHAWWAL 27, 1446

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UAE to advance diabetes care in space

BURJEEL STUDY DUBBED 'SUITE RIDE' AIMS TO EVALUATE MANAGEMENT OF DISEASE IN MICROGRAVITY

ABU DHABI

BY SAJILA SASEENDRAN
Chief Reporter

In a historic collaboration that could redefine both space medicine and diabetes care, a UAE study led by Abu Dhabi-headquartered Burjeel Holdings is set to blast off to the International Space Station (ISS) aboard Axion Mission 4 (Ax-4), launching on a SpaceX Dragon spacecraft in May.

The mission marks a groundbreaking attempt to explore how astronauts with diabetes might one day participate in long-duration space missions.

"This research opens the door for astronauts with diabetes and other chronic conditions to participate in future human spaceflight missions," said veteran astronaut and Ax-4 Commander Peggy Whitson.

The study dubbed 'Suite Ride' aims to evaluate diabetes monitoring and management technologies under microgravity conditions aboard the ISS.

Real-world benefits

"Studying glucose metabolism in space provides critical insights into insulin sensitivity, metabolic adaptation, and remote monitoring. At Burjeel Holdings, we are committed to transforming these findings into innovative treatments for our patients," said Dr Mohammad Fityan, chief medical officer at Burjeel Medical City and clinical lead of the study.

The technology and protocols used in space could eventually enable remote monitoring and care for individuals in extreme Earth environments, from oil rigs to arctic expeditions, and



■ A delegation from Burjeel Holdings during a visit to the Axion Space Centre in Houston to review preparations for the Suite Ride research project as part of the upcoming AX-4 mission.

FOCUS ON CONTINUOUS GLUCOSE MONITORS

The research will test blood glucose monitoring technologies, including glucometer readings and the calibration of continuous glucose monitors (CGMs), as well as explore insulin stability in space. Data will be transmitted in real-time to medical teams on the ground, enabling comprehensive post-mission analysis.

One of the important aspects of the experiment will be testing the performance of CGMs — now standard in diabetes care — within a space environment. The goal is to verify their accuracy in microgravity and confirm whether commercially available insulin pens remain effective in space, as demonstrated in a recent precursor test aboard Galactic 07.

even patients managing chronic conditions at home.

According to the International Diabetes Federation, diabetes will affect approximately

783 million people by 2045, a 46 per cent increase from current figures. In the Mena region alone, cases are projected to surge by 87 per cent.

Previous research in space has contributed to significant insights in protein crystallization and cellular aging, which are advancing the development of new treatments.

Scientific leadership

Dr Shamsheer Vayalil, Founder and Chairman of Burjeel Holdings, stated: "The findings from this study have the potential to not only benefit future astronauts, but also translate into meaningful advancements in patient care here on the ground. We look forward to the impact this research will have on shaping the future of health care."

Commander Whitson also commended the UAE's role in enabling scientific progress.

"The UAE's commitment to advancing space science and health care provides a unique platform for young scientists and healthcare professionals to make significant contributions," she said. "To the aspiring astronauts and researchers in the UAE—your curiosity and dedication are the driving forces behind the future of exploration and innovation."

From stars to the streets

Dr Fityan added: "For us, space is a proving ground, as this diabetes research aims to provide invaluable data that will directly benefit underserved communities.

"By leveraging the advancements in monitoring and treatment technologies, we are poised to revolutionise healthcare delivery, ensuring that individuals in remote locations receive the quality care they deserve."

783m

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Studying biological processes in microgravity offers unique opportunities to understand diseases in ways that are impossible to replicate on Earth.

Why a space study?

The absence of gravity alters cellular behaviour, enabling deeper insights into conditions such as Alzheimer's, Parkinson's, and cancer.