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## **HONG KONG**

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## Astronauts unpack new spacewalk suits, supplies

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The Shenzhou XX mission crew members on board China's orbiting Tiangong space station have completed several tasks in recent days. including unpacking and testing two new spacewalk suits, according to the China Manned Space Agency.

The agency said that the crew mission commander Senior Colonel Chen Dong and crew members Colonel Chen Zhongrui and Colonel Wang Jie - moved the suits, which were transported to Tiangong by the Tianzhou 9 robotic cargo ship, into the spacewalk preparations quarters and performed functional checks on them.

The suits will replace the current ones, which have been used on 21 Chinese spacewalks.

Compared with the first generation of extravehicular suits that have been retired, the second generation features a longer service span and a higher level of safety and reliability, and is easier to operate and maintain, according to designers.

In addition to work related to the suits, Chen Dong and his teammates conducted multiple experiments.

They initiated a scientific study using organ-on-a-chip technology to investigate how the space environment affects the human blood-brain

barrier and brain function at cellular, tissue and organ levels. The research aims to predict health risks and develop countermeasures for long-duration space missions.

The astronauts also conducted research on bone metabolism and flora-nutrition metabolism, with commander Chen Dong using a Raman spectrometer to detect urinary metabolites.

They also collected throat swabs from each other to study how respiratory microbes in the space station environment impact respiratory health. These samples were frozen for later return and analysis.

For spacecraft technology, they tested cabin microbial control by checking bacteria levels before and after disinfection, installed equipment for an advanced material-energy conversion system to verify microbial fuel cell-based wastewater purification, and replaced burners in combustion science experiments.

Besides the science and technology tasks, the crew initiated a trial run of an in-orbit mixed reality training device and installed and tested a special refrigerator in the Wentian lab module.

The three orbital travelers have been aboard the station for over three months since their arrival on April 25.