

Space Station Astronaut Records Muscle Activity for Study

August 3 2005

Expedition 11 NASA ISS Science Officer John Phillips conducted his fourth session of the Foot/Ground Reaction Forces during Spaceflight, or FOOT experiment. Phillips wore the instrumented Lower Extremity Monitoring Suit, or Lycra cycling tights, which measured his joint angles, muscle activity and forces on the feet during a typical day on the Space Station.

The human body is designed to bear weight. Without the stimulation caused by placing weight on lower extremities, whether due to the microgravity environment or lack of use on Earth, bone will lose mass and muscles will lose strength. FOOT will characterize the load placed on lower extremities during daily activities on the Space Station, and then examine how an in-flight exercise routine could prevent muscle atrophy and bone loss associated with space flight.

Focused human physiological and biological Space Station research on astronaut health and the development of countermeasures to protect crews from the space environment will allow for long duration missions to explore beyond low Earth orbit.

NASA's payload operations team at the Marshall Center coordinates U.S. science activities on Space Station.

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