

Use Of The International Space Station As An Exercise Physiology Lab

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The International Space Station (ISS) is now in its prime utilization phase with great opportunity to use the ISS as a lab. With respect to exercise physiology there is considerable research opportunity. Crew members exercise for up to 2 hours per day using a cycle ergometer, treadmill, and advanced resistive exercise device (ARED). There are several ongoing exercise research studies by NASA, ESA and CSA. These include studies related to evaluation of new exercise prescriptions (SPRINT), evaluation of aerobic capacity (VO₂max), biomechanics (Treadmill Kinematics), energy expenditure during spaceflight (Energy), evaluation of cartilage (Cartilage), and evaluation of cardiovascular health (Vascular). Examples of how ISS is used for exercise physiology research will be presented.