

# Crew Health Care System (CHeCS)/ Integrated Medical System

The Crew Health Care System (CHeCS)/Integrated Medical System is a suite of hardware on the ISS that provides the medical and environmental capabilities necessary to ensure the health and safety of crewmembers during long-duration missions. CHeCS is divided into three subsystems:



Leroy Chiao uses RED.



Crew uses medical restraint and defibrillator.

soyuz ..... service module ..... fgb ..... node/airlock ..... u.s. lab



Water Sampling and Analysis



Treadmill Vibration Isolation System (TVIS)



Blood Sample Reflotron



Saliva Sample Kit



Bonner Ball Neutron Particle Detector and Phantom Torso for radiation measurement experiments.



Resistive Exercise Device (RED)



CHeCS Rack



Volatile Organics Analyzer (VOA)



Water Samples (taken for ground analysis of contamination)

**Countermeasures System (CMS)**—The CMS provides the equipment and protocols for the performance of daily and alternative regimens (e.g., exercise) to mitigate the deconditioning effects of living in a microgravity environment. The CMS also monitors crewmembers during exercise regimens, reduces vibrations during the performance of these regimens, and makes periodic fitness evaluations possible.

**Environmental Health System (EHS)**—The EHS monitors the atmosphere for gaseous contaminants (i.e., from nonmetallic materials off-gassing, combustion products, and propellants), microbial contaminants (i.e., from crewmembers and Station activities), water quality, acoustics, and radiation levels.

**Health Maintenance System (HMS)**—The HMS provides in-flight life support and resuscitation, medical care, and health monitoring capabilities.



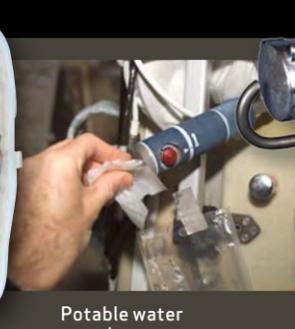
CardioCog



Velo-Ergometer



Acoustics measurement kit.



Potable water sampler.



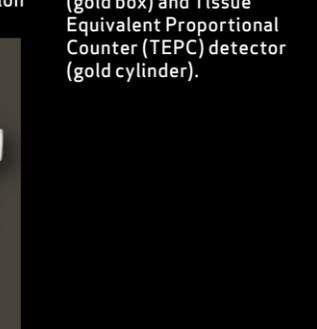
Atmosphere Grab Sampler Container.



Crew Medical Restraint System (CMRS).



Microbial air sampler.



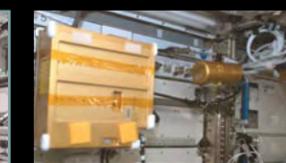
Defibrillator.



Microbial Surface Sampling



Cycle Ergometer with Vibration Isolation System (CEVIS)



From left to right: Intravehicular Charged Particle Directional Spectrometer (IV-CPDS) (gold box) and Tissue Equivalent Proportional Counter (TEPC) detector (gold cylinder).