

# Sonography in space

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Astronauts on extended space missions can get injured or develop diseases, necessitating immediate diagnosis and treatment. Research conducted on the International Space Station (ISS) ensuring that astronauts could accurately perform remotely-guided sonograms was published in the November/December 2008 issue of the *Journal of Diagnostic Medical Sonography* (published by SAGE).

In 2001, NASA integrated a Sonography machine into the Health Research Facility on the International Space Station. In the study, a ground-to-space two-way communication system was set up between the astronauts and the radiologists at Mission Control and the operating astronauts were guided in performing sonograms for trauma, as well as ocular and musculoskeletal exams. The research found that Sonography examinations were successfully performed within that microgravity environment.

The astronauts in the study were introduced to the basics of Sonography and then the radiologists provided guidance, in real time, successfully supplementing the inadequacies of the astronaut's scanning abilities. The study found that the operating astronauts were able to identify and image normal anatomy, but whether they would be able to remain calm enough to scan adequately during a stressful, traumatic situation still remains to be answered.

"NASA's intent to prove that remotely guided sonograms could be work within a microgravity environment was achieved," writes author Kendell Cole. "As more trial sonograms are conducted on the ISS, NASA may

push the bounds of Sonography and uncover other potential uses. There are sure to be many more trial sonograms to be conducted in space, but it is amazing to consider that eventually, a Sonography machine may reside on Mars."

The Journal of Diagnostic Medical Sonography article, "Sonography's Expansion Into Space," written by Kendell Cole, BSRT, of the University of Oklahoma Health Sciences Center and Midwest Regional Medical Center, is freely available for a limited time at [jdm.sagepub.com/cgi/rapidpdf/8756479308327062v1](http://jdm.sagepub.com/cgi/rapidpdf/8756479308327062v1) .

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