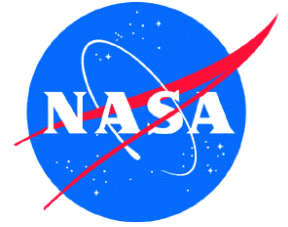


NASA INFORMATION

National Aeronautics and
Space Administration

Lyndon B. Johnson Space Center
Houston, Texas 77058
281/483-5111



Kidney/Renal Stones

Renal stones, or kidney stones as some call them, are very painful. The condition can sometimes place crewmembers on bed rest, and it also can negatively impact mission goals.

On Earth, the stones disrupt daily life and result in costly medical treatment. About 10 percent of the U.S. population will be afflicted with kidney stones, with a 75 percent recurrence rate if the stones are left untreated.

Better understanding of the causes and treatment of renal stones will improve health and quality of life on Earth and in space. Recently renal stone experiments have been conducted in space to determine if the risk of developing kidney stones, especially calcium-based stones, increases with the duration of the spaceflight.

Researchers also assessed the effectiveness of potassium citrate, a proven Earth-based therapy for reducing calcium-based stones. Experiments conducted in space allow researchers to take a closer look at how diet may contribute to renal stone formation.

The U.S. and Russian crewmembers of the International Space Station have different dietary habits. Scientists examined diets by using logs kept by the crew, and compared the diets with the results of the urine chemistry analysis. Doing this possibly isolated dietary components that contribute to increased stone risk.