

New NASA and NSBRI report on sex and gender differences in adaptation to space flight

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In the future, as space exploration takes astronauts on longer missions and more female astronauts participate, "The Impact of Sex and Gender on Adaptation to Space" will become increasingly critical to astronaut

safety and mission success, as explored in a special collection of articles published in *Journal of Women's Health*.

In the [Executive Summary](#), Drs. Saralyn Mark, Graham Scott, Dorit Donoviel, Lauren Leveton, John Charles, and Bette Siegel and Ms. Erin Mahoney from National Aeronautics and Space Administration (NASA), National Space Biomedical Research Institute (NSBRI), and Valador, Inc. provide an overview of six individual articles in the November issue of the Journal derived from the findings of workgroups formed to report on the current research related to sex- and gender-based differences in how humans adapt to spaceflight. Each workgroup and article focuses on a specific type of adaptation: cardiovascular, immunological, sensorimotor, musculoskeletal, reproductive, and behavioral.

In her [Commentary](#), Dr. Mark remarks that in addition to ongoing missions for the purpose of [space exploration](#) and research, "NASA has promoted the development of the commercial [space](#) sector for the transport of payloads and eventually humans." The impact of sex and gender should influence "the development of equipment, machine-human interfaces, and countermeasures including the use of personalized medicine and genomics or -'astro-omics.'"

"Understanding sex and [gender differences](#) in physiological and psychological adaptation to space is increasingly important as the number of female astronauts increases," says Susan G. Kornstein, MD, Editor-in-Chief of *Journal of Women's Health*, Executive Director of the Virginia Commonwealth University Institute for Women's Health, Richmond, VA, and President of the Academy of Women's Health.

More information: The articles are available Open Access on the *Journal of Women's Health* website at <http://online.liebertpub.com/toc/jwh/23/11>.

Provided by Mary Ann Liebert, Inc

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