

# Ad Astra Per Aspera: Getting Ready for a Career in Space Nursing

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In 1959, Dee O'Hara became the first nurse to work with NASA astronauts and helped with the Mercury, Gemini, and Apollo missions. Doctors, nurses, and support personnel have cared for pilots and astronauts over many years. However, in this new day and age, where high-tech billionaires are foretelling of future human colonies in space, could space nursing be an actual job opportunity?

To look at the research, you would think so. NASA's Human Research Program has identified the most pressing health concerns for humans from prolonged exposure to microgravity. These risks include radiation exposure, bone density loss, vision problems from fluid shifts to the head, and muscle atrophy among other issues. Some organizations are interested in issues that can arise over time from prolonged deep space travel, such as effects of isolation from family, effects of zero gravity on brain chemistry and cognition, as well as reproduction in space. Currently, the space industry priorities are either research or space travel, which means that NASA is mostly looking for STEM degrees and pilots. Our degrees are too "clinical". To quote the director of an aerospace medicine program I spoke to recently, "The industry doesn't know they need us yet."

Due to the lack of information and opportunities, many nurses do not see it as a viable career option and it shows. Searches for "space nursing" yield very few results, and websites for space nursing organizations have not been updated in at least 10 years. However, we are in a period of time when the options are there, if not slightly hidden. As the space industry turns towards the private sector and more rockets are launched, there will be a higher demand for Analog Astronauts - individuals who train in austere environments to simulate deep space missions on earth. Some analog astronauts have participated in studies living anywhere

from the deep sea to the desert.

If your goal is to work as a space nurse, my advice to you is to network. Use sites like LinkedIn and send messages with your specific questions to people in the space medicine industry. Find out what they did and do it. LinkedIn connected me to a senior nurse at NASA with an advanced certification in occupational health nursing that allowed her to help astronauts before and after their missions. She also suggested joining the Aerospace Medicine Association, which has an affiliate group for nurses and allied health professionals.

As of right now, "clinical" positions are reserved for flight surgeons, as are most of the medical fellowships at NASA. There are few degrees in aerospace medicine for non-physicians, but they do exist if you look, and I have been told that more and more universities have plans for programs in the future. "Aerospace Physiologist" is a career that is mostly found in the military. However, I have found a few openings in the private sector.

Did you love microbiology and chemistry while taking your prerequisites? Are you going to get your PhD anyway? Consider getting your doctoral degree in the life sciences! If you are a student, whether undergraduate or graduate, NASA has an internship for you. There are no nursing specific internships that I have found, but NASA Gateway Program has a database that you can search for internships that include communications, education outreach, and biomedical research. Use your other interests and skills and write a killer cover letter. Getting the coveted logo of NASA on your resume will separate you from your peers. As a graduate student, I was able to apply as a research fellow for a space research organization. If you are post grad, consider research as a viable option for entry into space medicine. There are free online courses on the research process for those that want to learn how to write and submit proposals for research. Research is usually not called "space medicine", instead look for "human factors" in space.

Though the future of space travel is bright, it is still uncertain. New presidential administrations have widely differing priorities when it comes to space. Overall, the current mood seems positive, and generally, where the money goes, innovation follows. ■

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