Long-Term Space Travel Could Pose a Major Cancer Risk

New research suggests a manned mission to Mars might not yet be safe for astronauts.

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As NASA, SpaceX and other tech companies race to get the first manned mission to Mars, cancer researchers are taking a step back and warning that long-term space travel could pose a major cancer risk. In fact, a new study published in the Proceedings of the National Academy of Sciences suggests far more cancer research may be needed before astronauts head to the Red Planet, a recent summary reports.

In the paper, researchers from Georgetown University Medical Center write that radiation from space could seriously affect gastrointestinal tissue over time, resulting in a major risk for gut cancer. The study concludes with a stark warning to anyone planning on sending humans on long-haul space missions in the future to perform their due diligence before deploying anyone.

So how does space travel pose a major cancer risk? This latest study focuses on the affects of the interaction of heavy radiation (prevalent in space) with living tissue— particularly that of the stomach and colon, which are especially vulnerable to disruption. By exposing mouse small intestine to the level of radiation astronauts would experience in space (during a mission to Mars, for example) they found that the risk of tumor development in the gastrointestinal tract dramatically increased.

For those of us on Earth, our planet's magnetic field does a good job of protecting us against the bombardment of harmful ions. But so far, no one has devised a suitable solution for protecting astronauts long-term against cosmic radiation above our planet's atmosphere.

"With the current shielding technology, it is difficult to protect astronauts from the adverse effects of heavy ion radiation," said Karmal Datta, PhD, a coauthor of the study. "Although there may be a way to use medicines to counter these effects, no such agent has been developed yet."

Will NASA soon be adding cancer prevention to its long technological to-do list? It's unclear. But for astronauts and future Mars colonists, it's a problem in need of a solution.
