

Deep space travelers could face 'significant' gastrointestinal damage from radiation

Deep-space travel could even cause significant gastrointestinal (GI) damage to astronauts, according to one new study.

Researchers at Georgetown University Medical Center (GUMC) have exposed mice to radiation to simulate how galactic cosmic radiation (GCR) in deep-space will affect future astronauts. Their results suggest that the radiation could cause serious GI damage. Their study even raises concerns about how this radiation could possibly cause stomach and colon tumor growth.

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Every three to five days, the top layer of cells in our GI tract is replaced with brand new cells. This process is part of healthy GI function. When this replacement process is disturbed, it can change how we absorb nutrients and even lead to cancer, according to Albert Fornace Jr., co-author of the study.

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Additionally, the research team found that the mice exposed to iron radiation produced more senescent cells, which are a type of cell incapable of regular cell division. These cells can slow down the replacement of GI cells, therefore slowing down GI function, cause oxidative stress and even cause serious GI damage.

This harm caused by the radiation appeared to be permanent, according to the statement.

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Once they understand the risk better, [researcher Kamal] Datta said, "the goal is to develop protection measures whether we can test some drug or medicine that can prevent all the changes we observe."

Read full, original post: [Deep-Space Could Seriously Damage Astronaut GI Tracts, a New Study Finds](#)