

BIOTECHNOLOGY: Staying Healthy in Space

The lack of gravity has negative effects on human bones and muscles, but organizations are working to counteract these results.

In an effort to quickly find a solution for this, NASA has also issued the Vascular Tissue Challenge. This challenge offers a \$500,000 prize to be divided among the first three teams that successfully create thick, metabolically-functional human vascularized organ tissue in a controlled laboratory environment.

Another solution that could help astronauts and future space travelers is 3-D Bioprinting organs. Russia's space agency has tested this and was successful in printing human cartilage and mouse thyroid glands.



"In space, astronauts can lose up to 10 percent of their bone mass in three months," says Lowell Misener, Project Manager at Systems Technologies

"IF THE TECHNOLOGY IS SHOWN TO PREVENT AND REDUCE THESE DAMAGES, THIS COULD HAVE A TREMENDOUS IMPACT ON FUTURE SPACE TRAVEL, ALLOWING TO PRESERVE AND ENHANCE THE HEALTH OF ASTRONAUTS,"

- ARIK EISENKRAFT, DIRECTOR OF HOMELAND DEFENSE PROJECTS AT PLURISTEM

