Sources

Nasa portal data

Spaceflight alters molecular pathways; insights help develop personalized medicine for Earth and future astronauts

Nasa portal data

- NASA researchers are studying health threats in microgravity (e.g., vision loss, immune suppression) to design better medical protocols.

Nasa portal data

This article explains that microgravity lets researchers “remove gravity” so that processes masked by gravity (like convection, sedimentation) become clear. They talk about colloids, fluid motions, capillary behaviors, and how some experiments yield insights not possible on Earth. NASA

Nasa portal data

This article describes experiments (PWM-5/6) doing passive, no-moving-parts watering systems in microgravity using capillary and surface tension phenomena for hydroponics (plant watering systems) aboard ISS.
NASA Science

NASA library space commercialization

- *Commercial Uses of Space and Space Tourism* – Includes policy aspects that could touch on in-space manufacturing and medicine.

Another helpful sourcrs

- [1]: https://pubmed.ncbi.nlm.nih.gov/39521498/?utm_source=chatgpt.com "3D bioprinting meniscus tissue onboard the International Space Station - PubMed"
- [2]: https://www.nasa.gov/directorates/esdmd/hhp/pharmacotherapeutics/?utm_source=chatgpt.com "Pharmacotherapeutics - NASA"
- [3]: https://pubmed.ncbi.nlm.nih.gov/39043673/?utm_source=chatgpt.com "Expiration analysis of the International Space Station formulary for exploration mission planning - PubMed"
- [4]: https://www.nasa.gov/reference/risk-of-ineffective-medications-and-toxic-byproducts/?utm_source=chatgpt.com "Risk of Ineffective Medications and Toxic Byproducts - NASA"

Helpful sources

- [5]: https://pubmed.ncbi.nlm.nih.gov/21479701/?utm_source=chatgpt.com "Evaluation of physical and chemical changes in pharmaceuticals flown on space missions - PubMed"
- [6]: https://pubmed.ncbi.nlm.nih.gov/37147378/?utm_source=chatgpt.com "The effect of long-term spaceflight on drug potency and the risk of medication failure - PubMed"
- [7]: https://pubmed.ncbi.nlm.nih.gov/40382322/?utm_source=chatgpt.com "The long-term stability of solid-state oral pharmaceuticals exposed to simulated intravehicular space radiation - PubMed"
- [8]: https://spaceref.com/space-stations/redwires-biofabrication-facility-set-to-bioprint-first-human-knee-meniscus-on-international-space-station/?utm_source=chatgpt.com "Redwire's BioFabrication Facility Set to Bioprint First Human Knee Meniscus On International Space Station - SpaceRef"