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MENSTRUATION IN SPACE

Abstract

When in space, the human body undergoes numerous modifications. It loses bone density and muscle mass because it is no longer working against gravity. The cardiovascular system becomes sluggish, and the body's balance control mechanisms must entirely retrain to reach a new baseline. The female menstrual cycle, on the other hand, remains unchanged. According to studies, women can have periods in space just like they do on Earth. The weightlessness we experience in space has no effect on menstrual blood flow, so it doesn't float back in — the body knows it needs to get rid of it. When it comes to menstruating in space, female astronauts have a limited number of options. Some astronauts choose to have periods in space, while others chose to take a pill or use menstrual suppression. Long-acting reversible contraceptive (LARC) agents, which are implants that are commonly placed under the skin or within the uterus to progressively release menstruation-suppressing hormones, have recently been studied and may be more convenient. Recent research has found no evidence that the massive acceleration pressures on the body experienced during launch or landing might harm these gadgets. However, we still don't know how the implant would perform when worn under close-to-the-skin diving or spacewalking gear. Despite advancements in space-based studies, there is still much we don't understand. One concern is the impact of certain contraceptives on bone mineral density. The absence of minerals in our bones increases the risk of osteoporosis and fractures. Astronauts lose bone at a considerably faster pace than people on Earth, and there's some indication that certain contraceptives, such synthetic progestogen injections, may exacerbate this. However, additional research is required before we can completely comprehend the dangers. The focus of this paper will be the impact of long-term Contraceptive use, as well as menstruation suppression in space(microgravity, martian gravity and lunar gravity), on the astronaut's physical health and reproductive health. One of the approach we will be using to study the impact under lab-simulated conditions. This paper will also include a research paper on a new medicine that has a lower impact on the skeletal and reproductive systems (bone density, bone mineralization etc). We'll expand on this conversation to include additional options for long-term space travel, such as a Mars mission or space tourism.