Periods in Space Are Not That Different, Though a Bit More Complicated

By PAM BELLUCK  APRIL 21, 2016

With more than 50 women having flown in space over the last 50 years and the ranks of women astronauts growing, one might assume that a basic physiological question has been answered: What’s the best approach to manage menstrual cycles in space?

An analysis published Thursday in the journal “npj Microgravity” reports that many women astronauts might choose to pause their periods while in space, especially as missions get longer, and discusses ways to do that. Using long-acting contraceptive methods, like implants or intrauterine devices, may be best, the authors say — not only for the women but for reasons of convenience and cargo.

The authors, Dr. Varsha Jain at King’s College London, who has been
described as a **space gynecologist**, and Virginia E. Wotring at Baylor College of Medicine, who might be considered a **space pharmacologist**, write that menstruating in space is safe. (The old myth that zero gravity would cause “retrograde” menstrual flow, causing blood to accumulate in the abdomen and cause infections, has been shown to be baseless.)

In a NASA oral history, Dr. Rhea Seddon, an astronaut who flew on three **space shuttle** missions in the 1980s and 1990s, said, “I’m not totally sure who had the first period in space, but they came back and said, ‘Period in space, just like period on the ground. Don’t worry about it.’”

Sally Ride, who in 1983 became the first American woman in space, said in another oral history that engineers were “trying to decide how many tampons should fly on a one-week flight; they asked, ‘Is 100 the right number?’” She replied: “No. That would not be the right number.” When the engineers told her, “Well, we want to be safe,” she said she answered: “Well, you can cut that in half with no problem at all.”

But having a period in space can be a logistical challenge.

“The waste disposal systems onboard the U.S. side of the International Space Station that reclaim water from urine were not designed to handle menstrual blood, thus idealizing the minimization of breakthrough bleeding during menstrual suppression,” write the authors, whose review included discussions with the astronauts Dr. Ellen Baker and Serena Aunon, among others. Also, “the practicalities of personal hygiene while menstruating during spaceflight could be challenging, e.g., limited wash water supply or the task of changing hygiene products in microgravity.”

The authors write that **birth control** pills that “terrestrially” are taken for 21 days followed by seven days of placebo, have long been adapted by women in space, who skip the placebo week and take the real pills continuously in order to halt menstruation. But as spaceflights get longer, there are things to consider, including that taking a pill every day on, say, a three-year mission,
would require about 1,100 pills, the authors wrote.

“Drug stability has not been tested for hormonal medications over such a long time in space or with the impact of deep-space radiation,” the analysis says. Plus, think of all the blister packs. They increase “upmass,” the weight of stuff carted along from Earth, and they add to waste disposal.

The authors also suggest areas for further investigation with long—term birth control. With injections, which last three months, some studies have found a reduction in bone mineral density, and it is unclear how space travel would affect that.

The researchers examined hormonal I.U.D.s, which are currently licensed for five years, and implants, which last up to three years. Both, they wrote, look like a pretty good bet, they write, but they flag one potential issue with implants: Might the tiny match stick inserted under the skin of the upper arm “rub or catch on specialist equipment or attire such as the Neutral Buoyancy Laboratory diving suit or the extra-vehicular activity suit?” Terrestrial women don’t typically have such wardrobe issues.

Also the authors include this fun fact: Because women these days start menstruating sooner, give birth later, have fewer pregnancies and live longer, “Modern women living in an industrialized country have more menstrual cycles compared with women of prehistoric times.” How many more? Nearly three times as many: “There are an estimated 450 ovulations per lifetime now, compared with 160 ovulations” for prehistoric women. That’s a lot more periods, period.

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