



## One Giant Step for Menstruators

Sally Ride was the first woman to go into space. Before launch, NASA scientists asked if she needed 100 tampons for a one-week trip. Since, other menstruators have ventured into the outer reaches of our atmosphere.

**Narration:** Welcome to Feeling My Flo...a podcast where we see menstruation as an event that happens to all types of bodies. I'm Kamilah Kashanie...my pronouns are she and her.

This story starts with a woman named Sally Ride, pronouns she and her.

[Archival NASA Tape: T minus ten, nine, eight, seven, six...we go for main engine start...we have main engine start, and ignition...and lift off! Lift off of STS-7...](#)

**Narration:** Sally was one of six crew members on the U.S. Space Shuttle Challenger STS-7.

It was 1983, fourteen years after Apollo 11...the first NASA mission to bring three male astronauts to the Moon in 1969.

The Challenger mission was famous for a few different reasons. President Ronald Reagan sent the astronauts up with his favorite jelly beans...making them [the first jelly beans in space.](#)

Sally Ride wasn't the first woman in space. [That was Russian cosmonaut Valentina Tereshkova in 1963.](#) But Sally Ride was the first American woman in space.

Before Sally, there were a lot of questions and speculation about women becoming astronauts and traveling to space. But Sally said her gender didn't affect how she did her job. [Here she is in an interview...a year after she went to space.](#)

**Sally Ride:** I really don't think that there — there is, um, any aspect of the training or of the flight where it's made any difference that there have been women astronauts on the crew or not. Our training is, uh, really asexual, you know? The women and the men go through exactly the same training. The women and the men do exactly the same jobs on orbit. And weightlessness is a great equalizer. You don't need to be strong to do things up there, and it's, uh — there is really no difference.

**Narration:** But the story behind sending women astronauts to space is actually pretty complicated. We called in some experts to tell us the story.

**Dr. Margaret Weitekamp:** Sally Ride helped change the conversation about women in space and menstruation in that she demonstrated for the Americans that it could be done, that a woman could go into space just as successfully as a man could.

**Narration:** That's Dr. Margaret Weitekamp.

**Margaret:** I use feminine pronouns. She and her. I am the department chair and a curator at the Smithsonian's National Air and Space Museum. I work with our space memorabilia and science fiction objects. But I started my career as a women's historian and actually spent three years teaching women's studies before I came to the museum.

**Narration:** Margaret says that before human beings went into space, scientists worked to find out more about how their bodies functioned in extreme conditions...like in zero g. That's what astronauts call zero gravity.

**Margaret:** There were real concerns with the very first human space flights done with men that the size and shape of the eyeball, without the pull of gravity on it, could change so much that you wouldn't be able to see. They worried a lot about whether digestion would work, whether you could really eat or drink without the aid of gravity pulling things through your system.

**Narration:** Male astronauts Neil Armstrong, Buzz Aldrin, and Michael Collins landed on the Moon in 1969. But it took almost fifteen years for an American woman to go into space after them.

**Margaret:** Now, the trick is actually menstruation as was a part of that conversation from the beginning 'cause there's a real suspicion in the medical community about women's bodies because they have these cycles. And they're different at different times of the month, and they don't know exactly how different women's bodies are at various points in their monthly cycles. And so one of the solutions in the medical community was simply to exclude women. Women were not included in most medical testing.

**Narration:** In the 1970s, scientists started to think more seriously about what it would mean to send women into space. They were still really worried about what would physically happen to a menstruator in zero g.

**Professor Amy Foster:** We certainly hadn't had a woman have her period in space before.

**Narration:** That's Professor Amy Foster. She uses she/her pronouns. Amy's an associate professor of history at the University of Central Florida. That isn't too far from the Kennedy Space Center at Cape Canaveral.

**Amy:** So there were, there were lots of concerns about, you know, retrograde flow. Would the menstrual blood actually flow backwards toward the ovaries because gravity wasn't there to help the process along? There were real concerns because those are lots of unknowns.

**Narration:** Amy was a preteen when Sally Ride first went into space. It was actually Amy's birthday June 18th, 1983.

**Amy:** These women were my heroes...every time one of them flew, I cut out the newspaper article and I had that up on my bedroom wall.

**Narration:** As a kid, Amy dreamed about being an astronaut. Instead, she became a space historian...and her career allowed her to interview women in NASA's astronaut corps.

**Amy:** I think they had the time of their lives. Um, you know, these, these were all women who, um, had backgrounds in science. So the first six women, there was an astrophysicist, a marine geologist, an electrical engineer, a surgeon, um, an ER doctor and a biochemist. They all either had their PhDs or MDs. So these were really smart, really talented women.

**Narration:** Okay, so — reverse blood flow was a concern for scientists who didn't know much about how the female body worked. (For the record, we know now that menstrual blood doesn't reverse-flow in zero g.)

But it's true that going to space was risky business. There was so much that scientists didn't know. A lot of planning had to go into preparing for every flight. Every single pound that went into space really mattered.

**Margaret:** One of the things is you have to understand that when you build a spacecraft, every pound of payload that you have at the top of that rocket takes a certain amount of fuel to launch it off of the launchpad, to lift it. Every pound that you add to the top of that whole launch vehicle requires a proportionate amount of fuel added to the launch vehicle and then an additional amount of fuel to launch that additional fuel to lift it off the launchpad.

**Narration:** Before Sally Ride's Challenger mission, there were lots of discussions about what the astronauts should carry with them in their PPK...or their personal preference kit. NASA really likes acronyms. Here's Sally in an oral history interview for NASA.

**Sally:** You know, it's actually kind of funny, because...there was actually a reasonable amount of discussion of the engineers at NASA, in their infinite wisdom, decided that women astronauts would want makeup. And so they designed a makeup kit. So you know, engineer — you know, a makeup kit brought to you by NASA engineers. [Laughs.] And so...

**Speaker:** Great Ebay item..

**Sally:** [Laughs.] Um, so I actually didn't spend very much time on that at all. But, uh, but there were...a couple of um...other astronauts — some of the other female astronauts, who were given those jobs of determining what should go...in the makeup kit, and you know...uh, how many tampons should actually fly as part of a flight kit. Here again is something brought to you by NASA engineers, right? They're deciding, you know, how many tampons should fly on a one-week flight; and they thought, "Is 100 the right number?" [Laughs.]

I said, "No. That would not be the right number." [Laughs.]

They said, "Well, we want to be safe."

I said, "Well, you know, you can cut that in half with no problem at all." [Laughs.]

**Narration:** 100 tampons! 100 tampons for a one-week flight! [A typical menstruator will bleed up to six tablespoons during their cycle.](#) So 100 tampons is waaaay too many for one menstrual cycle.

NASA engineers were mostly cisgender men...who don't menstruate. Back then, they didn't know much about periods. They thought of things like a shaving kit for the male astronauts. But they had never thought about what grooming or hygiene tools a female astronaut might need.

And it wasn't just periods that worried them. They also had questions about vaginal discharge.

**Amy:** The concern was would these, you know, thicker substances, be it menstrual blood or be it mucus during ovulation...is that going to basically clog up the equipment? And it, it seemed to the women astronauts that these engineers thought we would be producing cupfuls of mucus on a regular basis and this was going to be a major problem.

And the women just kind of laughed and said, 'Uh, so yeah, there's mucus. Um, but you know, it's, it's probably not nearly as much as you think.'

**Narration:** We've talked about vaginal discharge on Feeling My Flo before. And we know that producing cupfuls just isn't a thing.

So why were NASA engineers so clueless about women's bodies?

**Amy:** I will say when NASA engineers had to start thinking about women being astronauts...um, that was a challenging situation for them because a lot of those engineers were men.

And even though many of them were married, it wasn't a conversation they necessarily had with their wives. And it certainly wasn't a conversation they had with their daughters 'cause that was their wife's job. Um, so dealing with, uh, the female anatomy was something they were very uncomfortable with.

**Narration:** How did women astronauts manage menstruation while they were in orbit?

**Margaret:** Generally, astronauts who are preparing for a space mission will often plan their cycles using birth control pills so that they don't have to worry about menstruation, um, on orbit if they're going to be going for a defined week or a defined period of time and they have the option to simply stay on a cycle of pills that will allow them not to menstruate. That's the easiest way to handle that.

**Narration:** Out of 550 space travelers from our planet, 60 have been women. We've come a long way since the days of Sally Ride and 100 tampons. [In 2019, Jessica Meir and Christina Koch completed the first all-woman spacewalk at the International Space Station, to replace a power controller.](#)

And even though periods are only one part of the conversation, Amy says we'll still have to talk about them when preparing for longer flights.

**Amy:** As we're looking for a longer duration space flight, 'cause we're looking to go back to the moon...um, and then we're looking to go to Mars...and those are long trips, multiple months. You know, we've had women now spend multiple months up on the space station and clearly that hasn't been a problem.

**Narration:** Feeling My Flo wants to help you start important conversations at critical moments...like when you're preparing for a trip into outer space!

Special thanks to Harsha Nahata for her research into this amazing topic.

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This episode was produced by Mia Warren. She's our executive producer. It was mixed by Kojin Tashiro. Our lead producer is Cedric Wilson. I'm Kamilah Kashanie.



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