

Right Stuff, Wrong Sex: NASA's Lost Female Astronauts

- By [Brandon Keim](#) from an article in [Wired Science](#). To see original article, click [here](#).
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Imagine if the first person on the moon had proclaimed, “That’s one small step for woman, one giant leap for mankind.”



It could have happened. In the late 1950s, the United States government contemplated training women as astronauts, and newly released medical test results show that they were just as cool and tough as the men who went to the moon.

“They were all extraordinary women and outstanding pilots and great candidates for what was proposed,” said Donald Kilgore, a doctor who evaluated both male and female space flight candidates at the Lovelace Clinic, a mid-century center of aeromedical research. “They came out better than the men in many categories.”

The clinic’s founder, Randy Lovelace, developed the health assessments used to select the Mercury 7 team, and thought that women might make competent astronauts. It was a radical idea

for the era. Women’s liberation had just begun to stir, and only a quarter of U.S. women had jobs.

But Lovelace was practical: Women are lighter than men, requiring less fuel to transport them into space. They’re also less prone to heart attacks, and Lovelace considered them better-suited for the claustrophobic isolation of space.

In 1959, Lovelace collaborator Donald Flickinger, an Air Force general and NASA advisor, founded the Women In Space Earliest program in order to test women for their qualifications as astronauts. But the Air Force canned it before testing even started, prompting Lovelace to start the Woman in Space Program.

Nineteen women enrolled in WISP, undergoing the same grueling tests administered to the male Mercury astronauts. Thirteen of them — later dubbed the Mercury 13 — passed “with no medical reservations,” a higher graduation rate than the first male class. The top four women scored as highly as any of the men.

“They were all motivated to a degree you could not measure. They knew they were ideal candidates, but NASA regulations kept them out of the game,” said Kilgore.

The results of the women’s tests are described for the first time in an article published in the September *Advances in Physiology Education*, and show just how capable they. One set of results, from the sensory deprivation tests, are especially striking.

“Based on previous experiments in several hundred subjects, it was thought that 6 hours was the absolute limit of tolerance for this experience before the onset of hallucinations,” write Kilgore and his co-authors. “[Jerrie] Cobb, however, spent 9 hours and 40 minutes during the experiment, which was terminated by the staff. Subsequently, two other women (Rhea Hurrle and Wally Funk) were also tested, with each spending over 10 hours in the sensory isolation tank before termination by the staff.”

During the test, the women were immersed in a lightless tank of cold water. By contrast, John Glenn’s memoir recounts being tested in a dimly-lit room, where he was provided with a pen and paper. Glenn’s test lasted just three hours.

The would-be Mercury 13 astronauts would ultimately be held to a different standard than their male counterparts. Some NASA officials speculated that female performance could be impaired by menstruation. Others wanted pilots who had already flown experimental military aircraft — something only men could have done, since women were barred from the Air Force.

In August 1961, WISP was cancelled. It was not until 1995, when [Eileen Collins](#) piloted the STS-63 shuttle around the MIR space station, that the Mercury 13 met again. Collins was the first woman to become a space pilot, but not the first woman who deserved to.

“They knew it was a long shot, but they were willing to take it,” said Kilgore. “They were very special people.”

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Brandon Keim’s [Twitter](#) stream and [reportorial outtakes](#); Wired Science on [Twitter](#). Brandon is currently working on a book about ecosystem and planetary tipping points.

Photos: Jerrie Cobb on a tilt table (page 1) and beside a Mercury capsule (page 2), from [Advances in Physiology Education](#).