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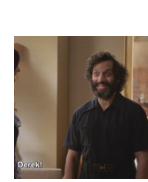
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# NASA IS BRINGING CRYOSLEEP CHAMBERS OF FICTION AND INTO SCIENCE



Contributed by

Elizabeth Rayne @quothrave...

May 23, 2018

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You probably thought it was infinitely cool when Ripley and the crew of the Nostromo first emerged from their cryosleep chambers in *Alien*, but now that slice of sci-fi could become a reality in our lifetime.

NASA and SpaceWorks Enterprise are currently developing a stasis chamber (as opposed to individual pods like those in the movie) that could induce an extended state of torpor, or metabolic inactivity medically brought on by lowering body temperature to the point of mild hypothermia, that could allow astronauts to snooze for at least two weeks on end during longer missions. Also unlike *Interstellar*, in which everyone is temporarily in freeze-frame until the ship arrives at its destination, the crew would rotate cryosleep shifts so there is always someone conscious in case something goes awry where no one can here you scream.

SpaceWorks' objective is to "place crew and passengers in a prolonged hypothermic state during space-mission transit phases (outbound and Earth-return) to significantly reduce the system mass, power, habitable volume, and medical challenges associated with long-duration space exploration," [as explained](#) on their website.

The sci-fi technology behind the chamber is based on the emerging medical practice of [therapeutic hypothermia](#). Astronauts' body temperatures would gradually be lowered to 89.6 degrees Fahrenheit and sedate them so they wouldn't realize they were being frozen to sleep. While artificial hypothermia that nearly sends your metabolic rate into suspended animation might sound dangerous, it actually counteracts potential injury to bodily tissues that could otherwise result from [hypoxia](#). Such a chamber could also prevent the harmful side effects of microgravity exposure and keep killer space radiation out.

While in this hypothermic sleep, astronauts would receive [total parenteral nutrition \(TPN\)](#) intravenously through a catheter, and additional catheters would be used for waste disposal. Leave that to the imagination. [NASA also notes benefits](#) that go beyond the chamber itself. Launch costs and consumables would be significantly reduced, which would give the space agency a greater budget to use towards safety enhancements such as radiation shielding and increased mass margins. When your crew is inert, you can eliminate the need for a galley, cooking and eating supplies, exercise equipment and entertainment normally needed to keep someone alive and relatively sane in space. Think entertainment is unnecessary anyway? Just imagine being en route to Mars for months without Netflix.

Future Mars missions could be much more efficient with the advancement of a technology once thought impossible. NASA has already been sending lander after lander to the Red Planet, but it's the human factor that makes a manned mission that much more complicated.

"Anytime you introduce humans [to a mission], it's an order of magnitude or two more challenging," [said](#) former NASA chief technologist Dr. Bobby Braun.

Unfortunately, science will probably not have figured out how to induce a state of suspended animation by the 2030s, so the first crews to Mars may have to deal with day after day of seeing nothing but the star-flecked blackness of space. At least they will probably have wifi.

(via [NASA/Secret](#))

Science News NASA Space Mars

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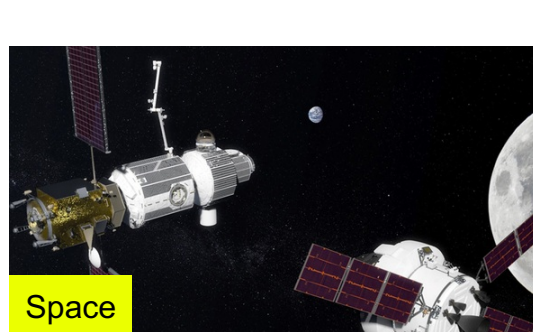
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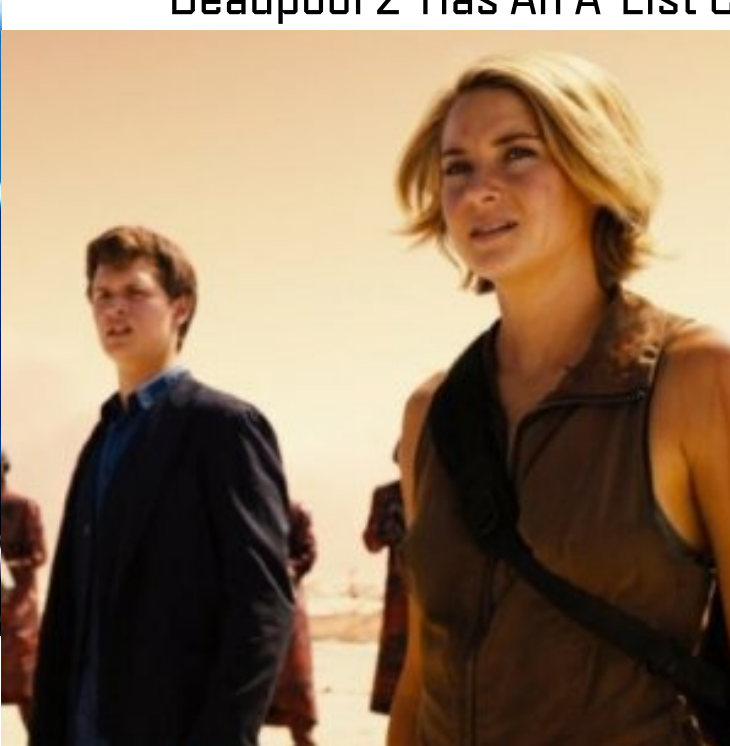
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