

HOW DO ASTRONAUTS MAINTAIN *THEIR HEALTH IN SPACE*

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and Zarina

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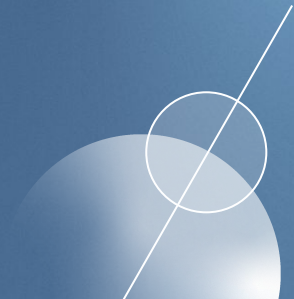
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BIBLIOGRAPHY



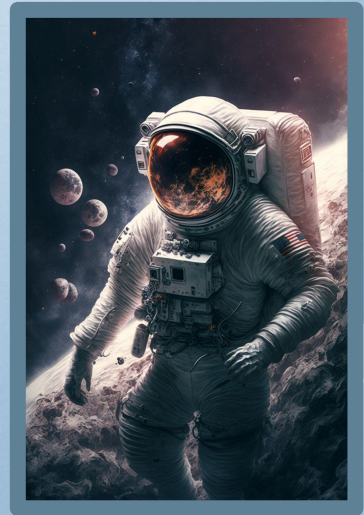
01

INTRODUCTION



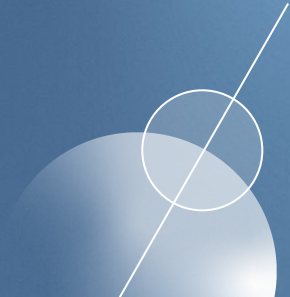
INTRODUCTION

An astronaut's job is really interesting and fun but one of the biggest challenges is maintaining their health. Being an astronaut can be a hard because the needs on earth and space vary. If you have some guilty pleasures on earth it would be fine but in space that would be a really big issue.



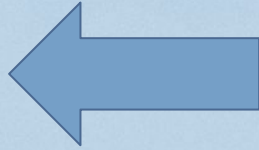
HOW ASTRONAUTS SLEEP IN SPACE?

02

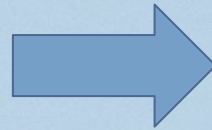


HOW ASTRONAUTS SLEEP IN SPACE

- For astronauts to sleep they do the steps before bed and get inside their so called “sleeping quarters”
- The sleeping bag will be attached to the spacecraft wall so that way the astronauts don't float around while asleep. They just get inside the sleeping bag and try to relax. There's no gravity which means there is nothing supporting astronauts so they don't need anything supporting the parts of their body.
- There are 16 sunrises and sunsets in 1 day which could mess with their body clock so the time they snooze there could be extreme light which make sleep harder along with the background noise.
- They use sleep masks and earplugs to help them sleep and block out noise and light.



Earth Style
Bedtime

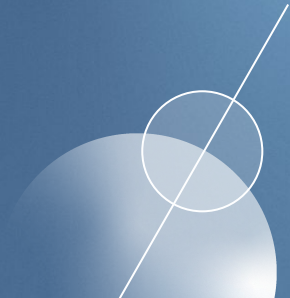


Space style
Bedtime




03

HOW DO ASTRONAUTS
ADAPT TO THE SPACE
ENVIRONMENT WHILE
SLEEPING



HOW DO ASTRONAUTS ADAPT TO THE SPACE ENVIRONMENT WHILE SLEEPING?

- While sleeping it's quite complicated to adapt to an environment with no gravity like space but astronauts no choice! Its their job to study space!
 - An astronaut has to adjust their body clock accordingly because in space there is no night and day schedule so they have to have their slumber on a fixed timing.
 - There are some ways that help astronauts adjust to the environment like adjusting the lighting feature to help them sleep and wake up, sleeping pills, sleep therapy and more.
 - But to make sleeping easy in space astronauts do have training on how to fall asleep so it's not very complicated.
- 



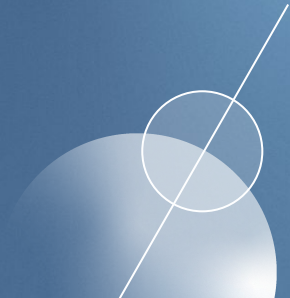
They can take these to help fall asleep



They can also dim the lights to fall asleep like this bedroom.

04

LENGTH OF AN ASTRONAUTS SLEEP



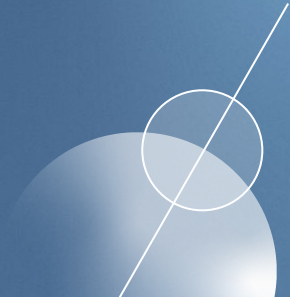
HOW LONG DOES AN ASTRONAUT SLEEP?

- For astronauts their sleep schedule is very disturbed because of the environment they are in. On average an astronaut sleeps for 6-8 hours.
- This can vary from time to time and one of the main reasons is that it is hard for them to adjust their body clock.
- Other factors that can affect their sleep are sleep disorders such as insomnia, sleep apnea and even how long they stay up to work, how much exercise they do, their diet and more.



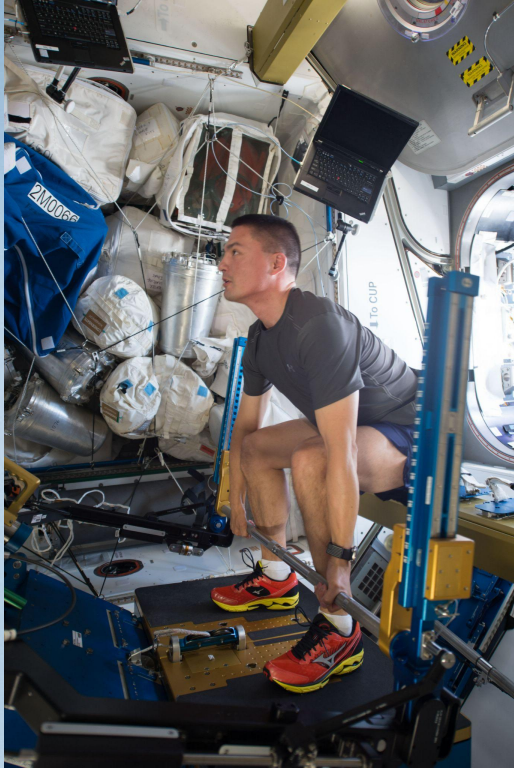
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HOW DO ASTRONAUTS WORK OUT?



HOW DO ASTRONAUTS WORK OUT?

- In space there is no gravity which causes astronauts to lose a lot of weight.
- The weightlessness of astronauts cause their body parts like their bones and muscles they start to fade away.
- To keep their body parts from fading they need to work out for a while. In the space gym they have 3 pieces of equipment a treadmill, stationary bicycle and ARED machine.
- Since there is no gravity up in space each exercising equipment has something to hold the astronauts to the equipment so they don't fly away like shoe clips on the ARED machine and stationary bicycle and a bungee on the treadmill.



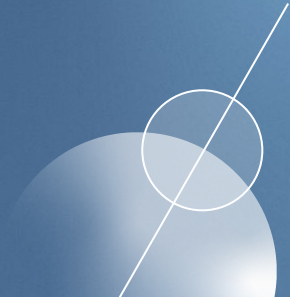
This is an ARED machine



This is a space style treadmill

06

HOW LONG DO ASTRONAUTS
WORK OUT?



HOW LONG DO ASTRONAUTS WORK OUT?

- On average astronauts work out for 2-3 hours in one day
- They have some choices for equipment to work out on but most of the time it is spent on the treadmill so that way when the astronauts come back to earth they remember how to walk
- On earth here we have gravity which pulls us to the surface so the most simple things like sitting or walking need bone strength and when you do those activities you exert a bit of force on your muscles that prevents our strength from fading.
- However up in space there is no gravitational pull so activities like walking or sitting have no effect on our muscles and bones so their density lessens and eventually start to fade.

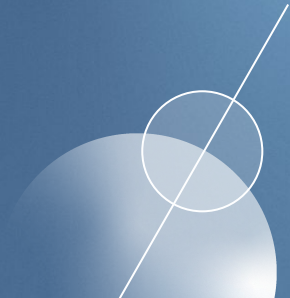


Why you should maintain your bone density




07

HOW DO ASTRONAUTS EAT?



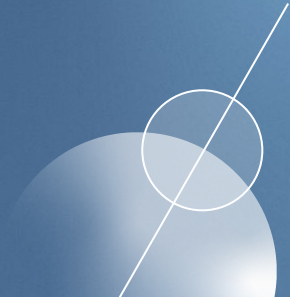
HOW DO ASTRONAUTS EAT?

- Space food is specially cooked for proper usage in orbit
 - Sometimes food in space is dehydrated because they are freeze-dried so for them to be eaten they need to be rehydrated for at least 20-30 minutes in a forced air-conventional oven.
 - Once the food is ready they take their food container and attach it to a tray with fabric fasteners to prevent the container from drifting away.
 - Astronauts use normal cutleries like us on earth so they pick up the food and it drifts away so they try to catch it with their mouth.
- 



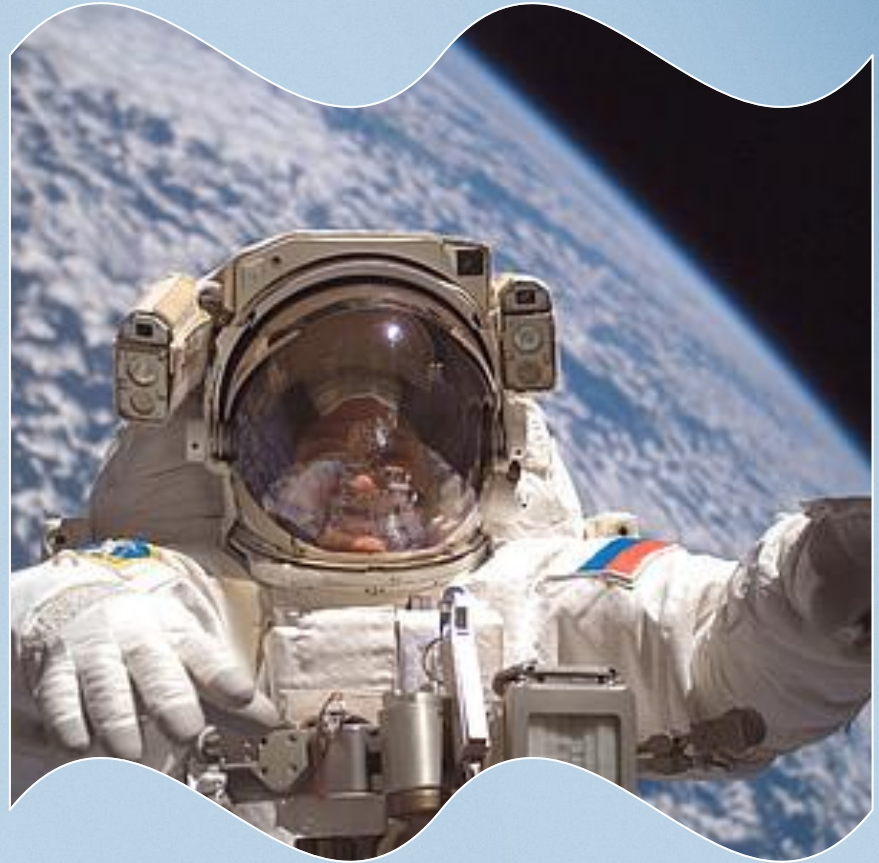
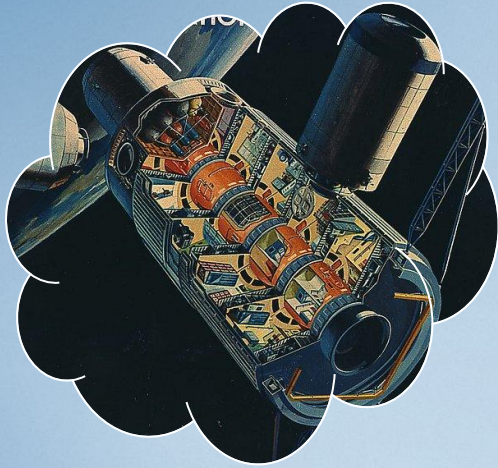
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WHAT DO ASTRONAUTS EAT?



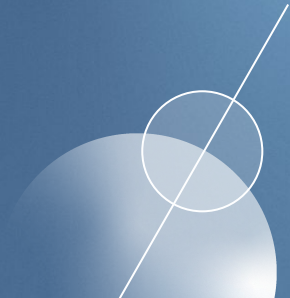
WHAT DO ASTRONAUTS EAT?

- Many people think that astronauts eat special foods up in space but the truth is that they don't.
- They eat the same foods here on Earth but the thing is some of the space food is freeze-dried and needs rehydration to be eaten.
- Some space food is dehydrated so that way it doesn't cause extra weight loss for the astronauts. They can rehydrate their food using water.
- Majority of the foods have slight changes while being prepared so the space environment doesn't affect it or cause health problems
- They do this so that way the food is safe for the astronauts and doesn't cause any health issues in space.



09

DO ASTRONAUTS DO
SELF-CARE IN SPACE?

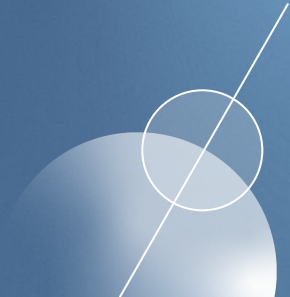


ASTRONAUT SELF-CARE

- Astronaut self-care is important in space because space can dry out your skin when you stay in space for a long period of time.
- Skincare is very crucial to an astronaut's health and wellbeing. Haircare is also very crucial to astronauts like skincare.
- Haircare in space provides the nutrients and moisture to keep the astronauts hair healthy and also so they can overcome the challenges of being in space.
- Showering is also very important but astronauts can't take full showers like we do on earth because water on the space station is very limited and they don't have proper shower products.
- It would also be hard to shower their because there is no gravity which will make the water float everywhere.
- They use only a bit of water and some no rinse shampoo and they have to stick with that for the entire 6 months up in space which gives a basic sponge bath.

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CAN ASTRONAUTS GET
MEDICAL HELP IN SPACE?



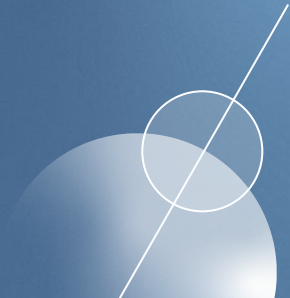
CAN ASTRONAUTS GET MEDICAL HELP IN SPACE?

- When applying to be an astronaut space agencies have to check if you are diagnosed with anything to prevent space emergencies.
- If you are they will ask to start treating it right away so you could go into space as soon as possible.
- In orbit if a medical emergency happens doctors on the ground can send medical help.



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CONCLUSION



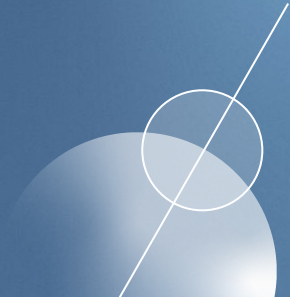
CONCLUSION

Maintaining our health in space and on Earth is crucial to astronauts and people on the ground. It is one of the biggest responsibilities of people. Astronauts undergo extreme training and meticulous planning and take extreme precautions to ensure their bodies are less prone to damage, diseases, and infections on the ground and in orbit. If it does come to the case that something does happen the space agency will treat them and make sure they can withstand all the major problems of being in orbit. Their main essentials of mostly being prone to illnesses are a good night's rest, a nutritious meal, and proper physical activity throughout the day.



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WHY IS IT IMPORTANT?
ZARINA'S OPINION



WHY IS IT IMPORTANT?

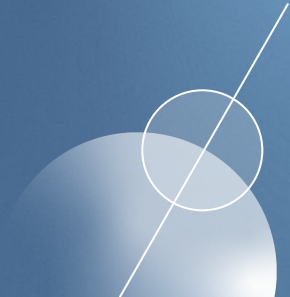
ZARINA'S OPINION

I think it's important is because even if some of us don't want to be an astronaut, it is still important to learn about what astronauts go through to keep themselves in good condition or also know as keeping themselves healthy. I also find it interesting and fun to learn about this.



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WHY IS IT IMPORTANT?
RESHMIKA'S OPINION



WHY IS IT IMPORTANT?

RESHMIKA'S OPINION

Like Zarina said, even if we don't want to be an astronaut we should still learn about how they maintain their health because maybe they have some good tips that could help us in the future. I have a good interest in astronomy so it is very fun and interesting for me to see the epic life in space even if it's hard.



BIBLIOGRAPHY



BIBLIOGRAPHY

- [How Do Astronauts Handle Medical Emergencies in Space?](https://www.youtube.com/watch?v=rd92rx6ljSc)
- <https://www.youtube.com/watch?v=Ft5pD9EaehM>
- <https://www.youtube.com/watch?v=AkuLg7W5chw>
- <https://iss.jaxa.jp/kids/en/life/08.html>
- <https://now.northropgrumman.com/how-do-astronauts-handle-medical-emergencies-in-space>
- [How Do Astronauts Eat and Drink in Space?](#)
- [HOW ASTRONAUTS BRUSH THEIR TEETH & POOP IN SPACE #astronaut #nasa #iss #spaceshuttle #spacestation](#)



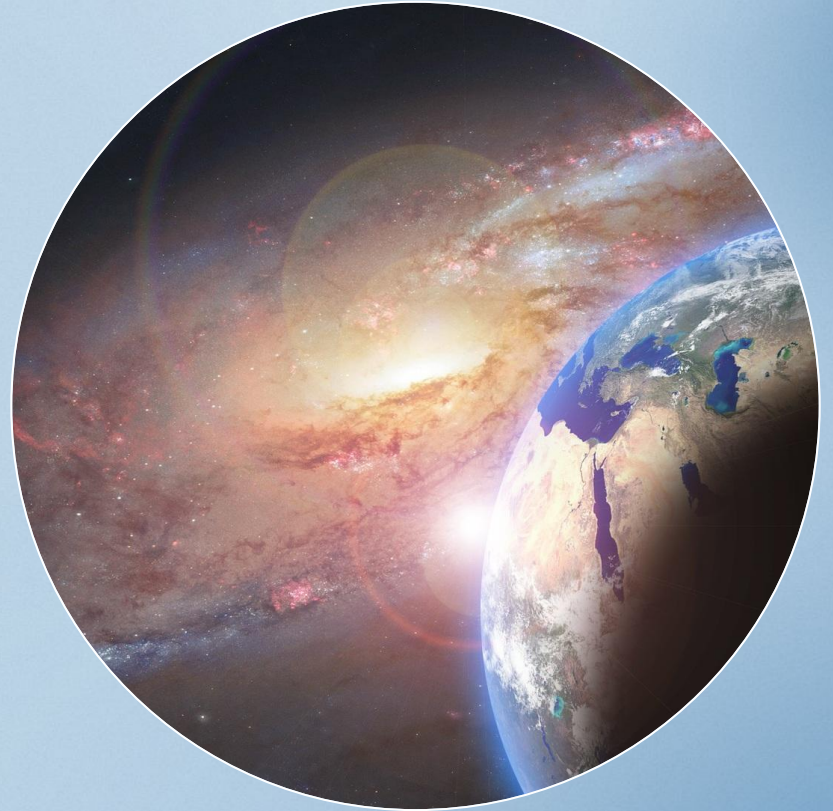
BIBLIOGRAPHY

- <https://www.space.com/cosmology-skincare-as-astronauts-inter>
- <https://sea.mashable.com/tech/19396/your-next-skin-cream->
- <https://www.asc-csa.gc.ca/eng/astronauts/living-in-space/per>
- <https://science.howstuffworks.com/astronauts-eat-in-space>
- https://www.esa.int/kids/en/learn/Life_in_Space/Living_in_sp
- <https://www.youtube.com/watch?v=sBAQRAwMxWg>



BIBLIOGRAPHY

- <https://www.youtube.com/watch?v=baKwIPkx3Ak>
- <https://www.youtube.com/watch?v=UyFYgeE32f0>
- <https://www.sheex.com/community/betw>
- <https://iss.jaxa.jp/kids/en/life/05.html#:~:tex>
- <https://www.youtube.com/watch?v=yNgMzNN23kE>



THANK YOU!!

