Asteroid Project

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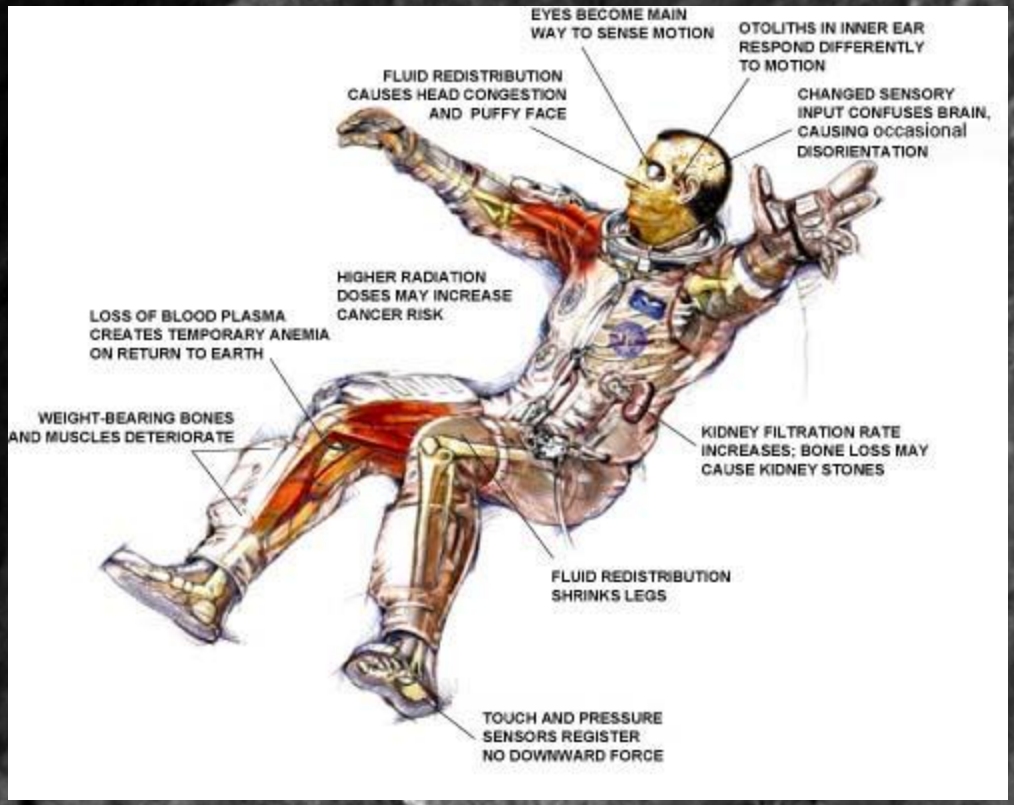
Purpose of the Mission

- We want to go onto the asteroid DA-14 because it will be a golden opportunity to make the country wealthy. It is the perfect opportunity with the asteroid at only 27,000 km away from earth next year.
- Earth's key elements might run out in the next 50-60 years, but fortunately asteroid mining could be a solution.
- Asteroids have been found to hold many minerals, including iron, nickel, titanium, platinum, cobalt, gold, manganese, rhodium, ruthenium, tungsten, and even diamonds.
- By traveling to DA-14, scientists could better understand asteroids, and see if others pose a threat of crashing in to the earth.

Gravitational Effects

- Gravity is an important issue, because if we don't address this issue, all of the astronauts would die and we won't have anybody to explore the asteroids.
- The body tremendously changes in space.
- The change in gravity could affect the astronauts' minds, which would not enable them to accomplish anything on their mission.
- Not feeling gravity changes how much blood flows through your body, and the blood could be unequally distributed causing serious side effects.



Gravitational Effects: The Symptoms

- Some things that happen to the body due to gravitational effects are flooding of blood in the head, causing it to be puffy and swelled because of the redistribution of fluids, and changes to the sensory nerves' ability to register touch.
- Pressure nerves no longer detect any downward force, causing the brain to get confused.
- Since there is no need for weight bearing bones in space, the bones will begin to disintegrate.
- This also leads to calcium, vitamin C, and vitamin K deficiency.
- The loss of vitamin K would also quicken the breaking down of an astronaut's bones.
- The amount of bone mineral density (BMD) that astronauts loose in the spine, femoral neck and trochanter, and pelvis is 1.0-1.6% per month.

Gravitational Effects: The Solution

- One way to avoid these problems would be to take a heavy intake of calcium and vitamins D & F.
- The astronauts mustn't stay in space for too long of a period of time, or these symptoms will start to appear.
- Aside from taking heavy doses of vitamin D & F, and calcium, the astronauts could take other agents that also strengthen the bones and do not cause sickness or anything that would affect them in a negative way. The astronauts could also do exercises that would strengthen their bones and muscles.

Water

- Everybody in the world needs water, especially those in space
- The easiest way to generate drinkable water would be use hydro electricity. This means that the capsule could also have electricity, while getting water
- Hydrogen is a really easy way to generate electricity
- After electrolysis, hydrogen is combined with oxygen to create electricity and water
- This process is all done in fuel cells.
- Hydrogen electricity provides clean energy that is friendly for the environment

Water: The Negative Things

- The only problem with hydrogen cells is that they are extremely explosive
- The capsule and the astronauts themselves are in danger of the capsule exploding
- This is especially dangerous when heading into the atmosphere, when the temperature of the capsule can get over 3000 degrees Fahrenheit (1650 Celsius)
- The hydrogen cells would have to be kept in a safe area, nowhere near the outside of the capsule.
- The hydrogen would have to kept at -250 Celsius

Water: The Positive Things

- We can use this water for drinking, because, if kept in appropriate containers, it will be perfectly clean
- Even if the option of keeping the water clean is impossible, the astronauts will still be able to use a filter in order to make the water drinkable.
- There are no emissions, because gas doesn't go into the air, water vapor/steam does.
- Hydrogen is all over the solar system
- As the capsule is in space, the astronauts will be able to get hydrogen in space

Conclusion

- The two main things to work on for a project like this are water and gravitational effects.
- Water is essential for the human body to survive, and being so far away from water and gravity would definitely be issues.
- However, if the plan just mentioned is initiated, there will be no problem.
- As humans continue to thrive, we are hungry for another huge leap for mankind: into the asteroids.

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