The reading passage brings up some problems associated with human travel to Mars that should be solved to make such a mission possible. However, the lecturer states that a human-mission to Mars is challenging, but scientists have proposed some practical solutions for the problems mentioned by the author.

First and foremost, the author explains that a trip to Mars will take about two years that it would be difficult for the spaceships to carry enough oxygen, food, and water since their cargo capacity is limited. On the other hand, the lecturer brings up the idea that the astronauts on the spacecraft can use a technique to grow plants placing their roots in water instead of soil. In this way, the astronauts can grow plants to use them as food, and recycle wastewater to have clean water to drink. Moreover, the plants absorb carbon dioxide and produce oxygen thus the astronauts can have fresh air to breathe.

Furthermore, the reading claims that since the astronauts will be exposed to zero-gravity conditions for a long time in their trip to Mars, they may experience severe muscle mass and bone density decrease resulting in harsh medical problems. However, the professor asserts that a considerable number of astronauts have spent several months in the same situation in the space stations orbiting Earth. She explains that they could avoid medical problems by doing regular exercise and consuming minerals and vitamins so in this way their muscle mass and bone density were not decreased.

Finally, the author emphasizes that the astronauts will be exposed to dangerous solar radiations during their mission since they are out of the Earth's magnetic field to protect them from those radiations. Moreover, building a protective shield against the harmful radiations would add high amounts of additional weight to the spacecraft. On the other hand, the speaker explains that the sun does not always emit those radiations but only on occasions when it is highly active. Therefore, protective shields can be applied to a small part of the spacecraft and whenever the sensors detect dangerous levels of radiation, the astronauts can take cover in that small shielded area. In this way, no such a significant weight will be added to the spacecraft.

(24 min)