TeleHealth Applied to Extreme Environments – Facts and Challenges

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The presentation explores the application of telehealth to extreme environments on Earth and in space, such as on the ISS, Mars and the Moon. The adaptation of body systems to different hostile conditions, such as temperature extremes, mountain altitudes, airplane cabins, space missions will first be presented, discussing how body systems function in these adverse situations, including relevant aspects related to the cardiorespiratory, musculoskeletal and neurovestibular systems. The most common medical conditions and emergencies that can affect humans exposed to extreme environments will be presented, considering clinical evaluation, diagnostic procedures and treatment delivery based on the application of telehealth devices, techniques and systems. Facts and challenges regarding the use of telehealth in remote and extreme conditions will be discussed in the light of the state-of-the-art innovations, solutions and high technology of artificial intelligence, and virtual and augmented reality.