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*I have known Vincenzo Vanni for a number of years, and was excited to hear of his plans to develop a new “Master in Aerospace Medicine and Resuscitation” degree course and to write a manual on the same subject for Italian speakers.*



*Following on from a general introduction, the manual covers a very broad range of topics, both looking backwards from the early human spaceflight programs to current and emerging plans, including commercial spaceflight activities and eventual human missions to Mars.*

*In addition to examining the challenges around performing cardiopulmonary resuscitation in microgravity and hypogravity conditions, the manual considers the important related issues of available medical support and training, including the management of acute emergencies such as cardiac events and trauma. Coverage of such emergencies is provided in the context of both Low Earth Orbit and on the surface of Mars.*

*The reference to management of physical trauma is supplemented by sections on the effects of spaceflight on the musculoskeletal system, how this can be mitigated, preparation for spaceflight, and rehabilitation after spaceflight.*

*The central theme of cardiopulmonary resuscitation (CPR) is supplemented by a section on the effects of spaceflight on the cardiovascular system and available countermeasures.*

*In order to perform effective CPR, it is necessary to have a well-trained and rehearsed team that is cognitively capable of reacting and performing in a timely fashion. This guiding concept can be linked into sections on the effects of spaceflight on the nervous system and psychological wellbeing, and mitigation techniques.*

*It has been postulated that exposure to increased amounts of cosmic radiation outside the protection of the Earth's magnetic field may contribute to cognitive decrements, and the manual also examines radiation as a hazard.*

*Many helpful illustrations and tables are included throughout.*

*Over the decades since humans first took to the skies, and then to space, the discipline of aerospace medicine has become increasingly important. Both government astronauts and commercial spaceflight participants are supported, with the aim of maintaining optimal good health and wellbeing, by a highly trained team of health professionals.*

*Although the sector takes great pride in having avoided any significant health emergencies in space to date through rigorous screening and preventive health measures, with more and more humans travelling to space, especially more 'ordinary people' who may have pre-existing health issues, the risk of emergencies occurring can only increase.*

*Both the manual and the corresponding post-graduate degree course recognise the importance of being adequately prepared and trained to deal with medical emergencies during space missions, and examine the unique challenges posed by the space environment.*

*Cardiac arrest is a leading cause of death worldwide, and CPR has been proven time and time again to be an effective technique that can save lives. Having an effective system for performing CPR in space, and managing cardiac events during space missions, will be essential to provide the best chance of survival.*

*Vincenzo is to be commended for developing these initiatives and taking the lead in educating others about emergency healthcare on a new frontier in space.*