

## Development of medical and biological aspects in space flights

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Theoretical researches in the field of space equipment and designing of aircraft strongly stimulated the development of many sciences, including new branch of knowledge - space biology<sup>[1]</sup>. The basic problems in space biology and space medicine included: possible noxious effects of cosmic factors on organisms and their prevention and life preservation during space flight, (e.g. air regeneration; selection and training of astronauts). First of all, the choice of the corresponding support system of the astronaut is defined by duration of space flight. Space flights are inevitably connected with number of factors impact on a human body. The factors caused by dynamics of flight (acceleration, vibration, noise, zero gravity). The factors characterizing a space as habitat (high degree of a sparseness of the atmosphere, ultra-violet and infrared beams, radio and the microwave radiations, ionizing radiation, etc.). The factors connected with long stay of the crew in cabins limited on volume of spacecrafts (isolation as a part of small collectives, the artificial gas environment, the changed biological rhythm, etc.).

Without scientific justification of possibility of space flight of the person and ensuring its safety it was impossible to speak seriously about flight of the person in a near-earth space, and furthermore about interplanetary travel<sup>[2]</sup>. We can only artificially create room of the spacecrafts which gives to the human chance to live and work in space flight. But in attempt to solve this problem it is necessary to answer number of difficult questions. With the development of outer space technologies, the safety of space flights becomes main priority of astronautics<sup>[3,4]</sup>.

The reported study was partially supported by the Russian Foundation for Basic Research (Research project No. 14-07-00564-a).

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