

SPACE LIFE SCIENCES SYMPOSIUM (A1)  
Medical Care for Humans in Space (3)

Author: Dr. Igor Fierens  
United Kingdom

MEDICAL CARE FOR TEENAGERS IN SPACE: VIEW FROM THE FLIGHT PAEDIATRICIAN

**Abstract**

We expose children to radiation on transatlantic flights and by giving them mobile phones. We don't question the impact of g-forces during a roller coaster ride.

One day humanity will want to take youngsters into space. Even better, adventurous teenagers themselves will come up with the idea. They won't be a flight operator. However as a passenger of a commercial suborbital or orbital space flight they will be confronted with physiological constraints during the way towards space and during the stay in microgravity circumstances. Being a paediatrician the author positions himself as the advocate of the young. Being a neonatologist the author is used to work at the edges of what is possible and ethically allowed. An overview will be given of literature about medical research (physiological parameters and cases of fatalities) on youngsters during roller coaster rides allowing to compare the impact of g-forces. Motion sickness and spatial disorientation in the young will be discussed, as well as the choice of anti-emetic drugs. The impact of radiation needs to be worked out by using an adaptation of the human torso model. In view of the high mitotic index in the cells of the pre-pubertal epiphyseal plates the author suggests using the ALARA principle and especially setting the limit for any (minimal) exposure from the age of post-puberty onwards. It is well known that not all astronauts don't really fancy the two hours of cycling and other physical exercises as part of their osteoporosis countermeasure programme. Teenagers are expected to be much more willing to be dealing with this training in a competitive way. The uniqueness of a teenager in space is comparable with the peculiarity of a child on stage at Junior Eurosong contest. Taking care of the psyche of these kids with proper psychological coaching strategies will be a necessary part of the support. Showing the paediatric attitude of being the advocate of the young putting cautionary principles first will enable us to take up teenagers in space in a safe way.