

CHANGES IN NEAR VISUAL ACUITY OVER TIME IN THE ASTRONAUT CORPS

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We hypothesized that visual impairment due to intracranial pressure (VIIP) would increase the rate of which presbyopia would occur in the astronaut population, with long duration flyers at an especially high risk. Presbyopia is characterized as the gradual loss of near visual acuity overtime due to a loss in ability to accommodate. It generally develops in the mid-40s and progresses until about age 65. This analysis considered annual vision exams conducted on active NASA astronauts with spaceflight experience currently between the ages of 40 to 60 years of age. Onset of presbyopia was characterized as a shift of at least 20 units on the standard Snellen test from one annual exam to the next. There were 236 short duration and 48 long duration flyers, the majority of whom did experience onset of presbyopia between age 40 and 60. This shift however, did not necessarily come after spaceflight. In comparing the short and long duration flyers the mean age of onset was 47 years old ($SD \pm 3.7$). The mean of onset within the general population is 45 to 47 years old [1, 2]. The mean age of the onset of presbyopia as compared to the general population indicates that space flight does not induce early development of presbyopia.

REFERENCES

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