

F-9

Effects of exercise, age and gender on SIgA in elderly

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Objective: The influence of age and gender on salivary secretory immunoglobulin A (SIgA) in response to moderate exercise training was studied in 158 elderly subjects. **Methods:** Subjects were assigned to an exercise training group (EXC: 51 males, 74 females) or a non-exercise control group (CON: 11 males, 22 females). The subjects in each group were separated into four age-gender subgroups (60–69-yr-old males, over 70-yr-old males, 60–69-yr-old females, over 70-yr-old females) and compared by age and gender. Subjects in EXC participated in exercise sessions 5-days a week for 6 months. Saliva samples were collected both before and after the study period. **Results:** The SIgA secretion rates were significantly increased after training ($p < 0.05$) in all the age-gender subgroups of EXC (60–69 males: 41%, over 70 males: 55%, 60–69 females: 40%, over 70 females: 38%); no age- or gender-related differences were observed. On the other hand, all the age-gender subgroups of CON did not show significant changes in SIgA secretion rate; also, there were no age- or gender-related differences. **Conclusions:** Enhancement of the mucosal immune function following regular moderate exercise training occurs in the elderly in their 60's and over 70, and in both males and females.