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A head-mounted display was used as the three-dimensional image presentation device and "Descent," a free software shooting game, was used as the software. 12 healthy adult male volunteers were used in this experiment after obtaining their informed consent. The oxygen metabolic change in the anterior lobe of the brain was measured by near infrared spectroscopy and recorded on an electrocardiogram. The mental scaling tendency of the object was analyzed using the type A behavior pattern and the Hostility scaling. All measured time series data were kept in the normal range, and no fatal arrhythmia or epilepsy were observed during experiments. In some cases, the brain oxygen metabolism may completely differ for the objects of Type A and Type B behavior patterns. The results in this study suggest that the autonomic function was connected to the mental tendency of the objects. By examining such directivity, it is expected that subjects, which show morbid reaction to an audiovisual stimulation, can be screened beforehand.

P-1 Effect of our Health Prescription Course on the Quality of Life of the Participants (Females)

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We arranged a health prescription course with a small class size for students who had difficulty in taking regular health and sports subjects due to diseases and disabilities, and carried out exercise guidance according to the severity and type of disabilities. The heart rate was recorded during very light sub-maximal exercise of stage 1 or stage 2 on a bicycle ergometer, and the oxygen uptake was estimated from the heart rate, the work efficiency at that stage, and the estimated maximum heart rate. The values of the 10 subjects were so diverse that it was not appropriate to express them as mean values. The exercise prescriptions used in the course have been suggested by many to be unspecific and incomplete for the use in actual exercise guidance. The establishment of specific criteria of exercise intensity for exercise prescriptions is urgently needed. We have carried out health and sports education. In this report, its results, and prospects and the importance of health-promoting sports in the future preventive medicine are discussed.

P-2 The Association between the Incidence of Agitation and Sound Environment in Facilities.

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The purpose of this study was to investigate the incidence of agitation, surrounding noise level and the association between them, among persons with dementia living in the health services facilities for the elderly. Using the Progressively Lowered Stress Threshold model (PLST model; Hall et al,1987), observational data were collected on the A-weighted sound pressure level and agitation of 18 participants in 4 facilities for 2 days. Presence of agitation was measured by Cohen-Mansfield Agitation Inventory (CMAI) Japanese version. As a result, when participants showed agitation, level of A-weighted sound pressure tended to be higher. When they showed agitation such as "cursing or verbal aggression" "screaming" "trying to get to a different place", level of A-weighted sound pressure was significantly higher ($p<0.05$). When they showed agitation such as "pacing", level of A-weighted sound pressure was significantly lower ($p<0.01$). The results suggest that environmental regulation considering temporal pattern, especially level of noise, would contribute for decreasing the incidence of some kind of agitation.

P-3 Differecnes of HDS-R-Stroop Task Correlation between Old People with Dementia and Non-dementia

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In Japan the ratio of elderly population (age 65 and over) has exceeded 20%. The number of the demented elderly has been increasing with the ratio. It is urgent to find people with dementia as early as possible and make them change their lifestyle and rehabilitate intellectually. We investigated the association Stroop task performance with progression to dementia to develop very mild dementia detection system as final purpose. In this study we aimed to evaluate the correlation between HDS-R and Stroop task performance in demented people and non-demented people. 74 elderly people agreed to take part. After subjects underwent HDS-R, they performed Stroop task. Answer times (Tw, Tc, Tcw) were measured for each task and the correlations between HDS-R and them were evaluated. All times in non-demented people were significantly correlated with HDS-R though not in demented. Tcw was significant and the highest correlated with HDS-R. It concluded that CW task was the most suitable for very mild dementia detection.

P-4 The Subjective Experiments on Control Model of Sweating Rate of the Elderly

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Generally, decline of a sweat gland function by aging is seen to the elderly, and the difference of regulation of body temperature response of younger persons and elderly is guessed. We tried to clarify perspiration phenomena that was one of the regulation of body temperature mechanism. We performed subjective experiments to quantify the characteristic

difference between elderly and younger persons. By using experimental results of sweating rate we also tried to improve thermal physiological and psychological prediction computer program. The experimental results showed that there was a great deal of quantity of sweat rate of frontlet of elderly women. Secondly, elderly women had slow physiological response including long sweat latency time. Furthermore, as for the elderly woman, a delay time was observed in psychological response.

P-5 Development of the Seating Buggy and Active Balanced Seating—Standard and Adjustment Range for the Seating -System for Severely Handicapped Patients—

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Custom-molded seats tend to be the seat of choice for wheelchair users who have a severely impaired sitting ability. However, there are some issues regarding the high costs, the amount of time it takes to make an appropriate seat and the special techniques that are required of individuals to adjust their body shape. Seating Buggy is a ready-made wheelchair for people with profound disabilities (S. Nishimura, 1998). It has a wide adjustment range from heights of 120 cm to 170 cm. Its seating support surface is made of a sling-seat with a wide adjustable range in depth. Adjustable iliac and ischial supports are mounted under the sling-seat surface. Various interface materials that can be used in clinical settings are also featured on the Seating Buggy. In addition, the shoulder girdle, neck and head are positioned at the mid-line so that the body of the seated user is placed as close to the support surface as possible. Adaptive seating is defined here as the matching the proper alignment of an individual's neck and head with the function of the wheelchair seating support surface. We proposed it as "the Active Balanced Seating".

P-6 Searching a Fundamental Condition of Technological Adaptability in Wheelchair Seating

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Seating Buggy is a wheelchair specifically intended for the severely disabled with limited sitting ability. To examine the relationship between the postural requirements of the disabled and the Seating Buggy's seating, we measured its seating support surface with TRiDY (JFE techno-research). TRiDY is a non-contact 3D-measurement system. Thirty one subjects with severe disabilities and aged from 17 to 54 sat in Seating Buggy for the purposes of this investigation. Postural adaptation and wheelchair fitting were assessed from the viewpoint of Active Balanced Seating by a seating expert. Subjects fell into one of three categories: 7 for appropriate fitting, 9 for somewhat inadequate fitting, and 13 for ill fitting. The depth of the thoracic release support, thoracic support, illiac support and ischaric support were measured with reference to the 3D graphic of the plane of the seat. The thoracic support depth for those who claimed that it was ill fitting was significantly lower than from those who claimed that the Seating Buggy offered an appropriate fitting. It was suggested that an appropriate head-neck alignment for user of the Seating Buggy should be followed by properly adjusted depth of thoracic support.

P-7 Effects of Knee-Raising Function of Adjustable Bed on Lower Leg Swelling in the Elderly

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This study examined the effects of knee-raising using an adjustable bed on lower leg swelling in the elderly. Eight healthy elderly males (mean age: 65.8 years) participated in this study. After sitting upright for 60 min, the subjects remained supine on a bed for 40 min with three different raised knee positions: raising the knees and heels to the same height (Horizon), raising the knees but not the feet (Mountain), and no knee raising (control). We measured the circumference, impedance, blood flow, and blood volume (hemoglobin content) of the lower legs and recorded the subjective sensation of local pain throughout the experiments. All knee positions caused significant increase in the impedance and decrease in the blood flow while lying in a supine position. The Horizon position caused a significant decrease in circumference, which occurred more rapidly than that under the control condition. However, the Mountain position did not induce a significant decrease in circumference. These findings suggest that the Horizon position is better than the Mountain position for reducing lower leg swelling caused by gravity.

P-8 Daily Physical Activity is Associated with Cognitive Function and the Risk Factors for Hip Fracture in Older Adults

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In this prospective study, we examined the association