

M-7 The influence of skin pressure by clothing on digestive activity

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The experiment aimed at knowing the effects of the skin pressure by the clothing on the digestive activity. Six female young adults, who were healthy and nonconstipated, served as the participants. The transit time of the markers from their oral intake through digestive tract to excretion and the amount of the feces were studied with/without wearing the girdle. The skin pressure applied by the girdle was 16.6 mmHg at waist, 17.1 mmHg at abdomen and 12.6 mmHg at hip region. The results are summarized as follows: 1) The transit time was significantly delayed with wearing the girdle. 2) The amount of the feces was significantly smaller with the girdle. The reason for these finding was discussed in terms of reduced activity of parasympathetic nerves system due to the skin pressure by clothing. It was concluded that the skin pressure applied to the abdomen, waist and hip area could inhibit the digestive activity.

M-8 The Psychophysiological Responses Related Comfortable by Tactile Stimulation with Fabrics

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When the humans feel comfortable, are there any physiological changes? To study this theme, we stimulated the forearm with fabrics it was a stimulus, which made the subjects, feel comfortable. In this research, we made the physical characteristics of fabrics obvious (evaluated by Kawabata Evaluation System: KES) which relates "feeling comfortable," and the changing of the physiological state during the experiment. When we stimulated the right forearm, there are close relation between the ANS (Autonomic Nervous System) responses and comfortability, and when we stimulated the left forearm, there was a close relation between the characteristic of the fabrics and comfortability.

M-9 The Effect of Bathroom Lighting on Body Temperature Change

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The purpose of this study was to examine whether a different color temperature (3000K, 5000K, 7500K) of lighting in bathing gave to body temperature change under a constant color temperature (5000K) condition after bathing. This experiment was done in winter, from December in 1998 to February in 1999. Eight healthy male subjects, aged from 22 to 25 years old, participated in this study. We measured rectal temperature and skin temperatures (7 points) throughout experiment. The increase in rectal temperature just after bathing was the greatest under the bathroom lighting of 3000K, and the higher value was kept after bathing. The decrement of skin temperature of dorsal hand after bathing was greater with the bathroom lighting of 3000K. It seemed to suggest that the heat radiation could be inhibited. From the point of view of bathing in winter, it was considered that the bathroom lighting of 3000K was effective to keep higher body temperature after bathing in winter.

M-10 Comparison of Consumed Volume and Comfort Between Two Use Styles of Shower Head

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The present study investigate some effects of shower head style on shower consumption, and physiological and subjective responses. In the experiment sixteen female students participated as subjects in winter. Two kinds of shower head were examined, i.e., (A) a fixed type on the wall ; (B) a hand-operating type. Heart rate significantly increased after shower for (B), which showed (B) gave more physical load on subjects than (A) during shower. There were shown no differences for types in the change of systolic blood pressure. No differences were shown in shower consumption and preferred water temperature between types. Uncomfortably warm sensations for head were observed in (A) after shower while uncomfortably cool were for leg in type (B) .

M-11 A Study on the Factors to Affect the Physiological Responses for Children during the Immersion of their Legs in a Hot Water Bath

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The objective of this study is to investigate the effects for children's thermoregulatory responses by the followed factors(F): F₁; sex, F₂; doing any sports or not, F₃; the use frequency of the air cooling system to three years old. Sixteen boys and fifteen girls were served as the subjects in this study (6-10 years old). They were divided into two groups by the above factors. Boys were significantly greater in development of sweat glands than girls. Activity group had advantage in hot environment. Used-air-cooling-system group was significantly greater in skin blood flow of forearm than control group. Therefore, it was suggested that the above factors influence their thermoregulatory responses.

M-12 EFFECT of SHOWERING to WHOLE BODY on a HUMAN

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There is a possibility that showering got less physiological cost than bathing, for no water pressure. Then this study aim to investigate the physiological cost of showering to whole body on a sitting human, comparing with bathing in sink tub. The conditions for experiment are as follows. Oral temperature, skin temperatures, respiratory frequency, cutaneous blood flow volume, heart rate were measured, in conditions of showering or bathing for 8 min, using the warm water at 41°C. Herein, the size of bath room was 1100mm × 1600mm, and flow volume of shower was 9 liter/min.. As a result, oral and skin temperature increased similarly in showering and bathing. Though respiratory frequency before and during showering showed a almost constant value, respiratory frequency in bathing was much more times than before. Heart rate after bathing was higher than showering. After all, it was clarified that showering to whole body on a sitting human got warm as same as bathing, got less physiological cost than bathing.