

B02 An effect of permeability of blanket of towel and space between skin and blanket on thermal comfort in bed climate

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This study aims to study an effect of water vapor permeability of blanket of towel and air space between skin and blanket, which will cause air current in bed climate, on thermal comfort in bed climate at a hot and humid environment in summer. Subjects were 5 female students. Subjective feeling, R-R interval of heart rate, Heat flux, temperatures and humidity of skin and bed climate were measured. Though it is guessed starch on blanket affect cool feeling, this effect was not seen at 28°C, 75%RH. An blanket with no water vapor permeability made a subject very hot, discomfort, humid. To move and exposure of limbs were effective to lighten above feelings.

B03 Study of the sweat rate in a hot environment

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This study was conducted to investigate the thermoregulation of boys in comparison with that of men. Ten boys and eight men first rested in a thermoneutral room, they were then exposed to a hot room (35°C, 70%) next door for 90 min. The wind was blown to the front side of the subject during the last 30 min. The air velocity was about 1m/s. The rectal temperature, skin temperatures at 9 points, total sweat rate, local sweat rate at back and arm, NA concentration, heart rate and metabolic rate were measured and thermal sensation was recorded. There were no significant difference in sweat rate and rectal temperature between boys and men. Na concentration in the sweat for the boys was significantly lower than that of the men. Average total sweat rates for boys and men under the wind were about twice those in the hot environment.

B04 Skin Temperature, Clothing Microclimate and Comfort of Young and Old Female During Walking with Environmental Temperature 20°C
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We studied comparison between young and old females skin temperature, clothing microclimate and comfort in a climatic chamber with temperature 20°C. Subjects were four old females and four young. The experiments of eight times were given on paired young and old. They wore same blouses and long skirts or long pants. They walked three times during 120 minutes and they wore leg warmer at final time. After walking toe skin temperature of young was lower than before. Young felt hot and uncomfortable and old felt warmer and more comfortable than before walking.

B05 Forest Sounds and Physiological Response(1)
 -Changes in Cerebral Blood Flow-

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It is known that we feel natural stimuli through five sense organs when we are in the forest. Forest sounds, e.g., the sounds of birds, small streams, the wind, etc., give us a comfortable feeling. This phenomenon has attracted much interest, but little information is available on its effects. To present substantial data, we carried out experiments in a controlled setting room to investigate the effect of listening to forest sounds on cerebral blood flow and sensory evaluation, using 12 male students as subjects. The results indicated that: 1) listening to various forest sounds and pure tones gave a "refreshing feeling" and "non-refreshing feeling", respectively and 2) listening to forest sounds caused a reduction of cerebral blood flow. It was concluded that listening to forest sounds gave a "refreshing feeling" psychologically and caused a reduction in cerebral blood flow.

B06 Variation of CBF by NIRS monitor system
 -In Sleeping Time-

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NIRS (Near InfraRed Spectroscopy) monitoring get attention, because it's non-invasive and simple method. By NIRS monitor, we can know the quantities of hemoglobin per organization. The principles of NIRS monitor system are Beer's law and hemoglobins' characteristic spectroscopy in near infrared. The results of NIRS monitor show variation of CBF (Cerebral Blood Flow).

I measured the subject, one young and well man, in sleeping time by NIRS monitor. At the right of frontal, CBF varied during sleeping. According to Tamura et al., monkey's CBF increases in REM (Rapid Eye Movement) sleeping. The variation of CBF in this measurement seems to be related with sleeping stages.

B07 The effects of stimulus variation on CNV
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Present study aims to examine the appropriate presentation method of stimuli for obtaining a contingent negative variation (CNV). The experiments were conducted using visual and auditory tasks under six different conditions of inter-stimulus interval (ISI) (fixed ISI: 1000, 2000 and 3000ms) and randomized ISI (1000, 2000 and 3000ms). Subjects were seven male students. As a result, the amplitude of early component of CNVs with auditory task under randomized ISI condition were significantly larger than under fixed ISI condition. With visual task, the amplitude of early component of CNVs under randomized ISI condition were significantly larger than under fixed ISI condition. It was suggested that visual task caused distractions under randomized ISI condition.