

Effects of bathing on components of minerals in sea water

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Summary

In order to investigate the effects of the chemical components of sea water on thermoregulatory functions, rectal, skin and mean body temperatures were measured continuously before, during total body bathing as well as during recovery period on land.

Eight healthy young men were subjected in the experiment. Their physical characteristics were in average 19.8 ± 1.0 in age, 169.2 ± 5.0 cm in height, 57.1 ± 3.1 kg in weight and $14.0 \pm 2.6\%$ in body fat fraction, respectively. Each subject bathed in sea water or in tap water for 15 minutes in the long-sitting position at 38.5°C of water temperature during bathing and took recovery on land for 60 minutes. Water bathing was conducted in individual subject with the chemical components of sea water at NaCl, MgCl₂, Na₂SO₄.

The rectal temperature increased during bathing and decreased gradually during recovery period on land. Statistically significant difference ($p < .05$) between control groups and MgCl₂ bathing was detected in the rectal temperature during recovery period. The mean skin temperature showed a continuous increase during bathing and showed a rapid decrease during 20 minutes in recovery, and a gradual decrease after then. Statistically significant difference ($p < .05$) between control groups and NaCl bathing was detected in the mean skin temperatures during bathing period.