

## 下肢切断アスリートの夏季活動現場における 体温変化の実態調査と身体冷却の有効性

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### **Investigation of Body Temperature Changes of Lower Limb Amputated Athletes at Summer Activity Site and Effect of Body Cooling**

by

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#### ABSTRACT

There are increasing opportunities for people with impairments to enjoy sports, but there are reports of heat stroke accidents. Understanding of the thermoregulatory mechanism of individuals with spinal cord injuries is progressing, on the other hand, there are many unclear points about lower leg amputees. The purpose of this study is to investigate changes in core body temperature during adapted sports at the summer activity site of lower leg amputation athletes and to clarify the effectiveness of body cooling using ice slurry. The main result was that the core body temperature of the lower limb amputation athletes rose to about 39°C during the adapted sports and

observed that the dehydration rate was high after the sports. In addition, we could not show that body cooling will reduce the rise in core body temperature, but protective efficacy of the high dehydration (heat exhaustion) is expected by body cooling because a dehydration rate was reduced. It was suggested that I helped understanding the risk of the heat stroke and practical measures against heat in the lower limb amputation athletes by this investigation.

## 要 旨

障がい者がスポーツを楽しむ機会が増えているが、熱中症事故の報告もある。脊髄損傷者の体温調節機構の理解が進む一方で、下肢切断者については不明な点が多い。本研究の目的は下肢切断アスリートの夏季活動現場における障がい者スポーツ中の体温変化を調査し、アイススラリーを用いた身体冷却の有効性を明らかにすることである。主な成果は障がい者スポーツ中の下肢切断アスリートの体温は約 39℃ まで上昇し、スポーツ後の脱水率が高い症例を観察した。また、身体冷却によって、体温上昇を抑える効果は示せなかったが、脱水率が軽減したため、高度脱水（熱疲労）の予防効果が期待される。本研究により、下肢切断アスリートにおける熱中症の危険性の理解と実践的な暑さ対策の一助になることが示唆された。