

# MILD DEHYDRATION DOES NOT ALTER ACUTE CHANGES IN SWEAT ELECTROLYTE CONCENTRATIONS DURING EXERCISE

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FOR MORE INFORMATION, SEE THE PAPER ON WHICH THIS INFOGRAPHIC IS BASED, FOUND IN THE FOLLOWING REFERENCE:  
[Link to Full text](#)

**STUDY PURPOSE:** To determine the effect of hydration status on the change in sweat electrolyte concentrations during exercise-heat stress.

## PARTICIPANTS



**15** recreational to moderately-trained exercisers



9 male



6 female

## TYPES OF EXERCISE/CONDITIONS



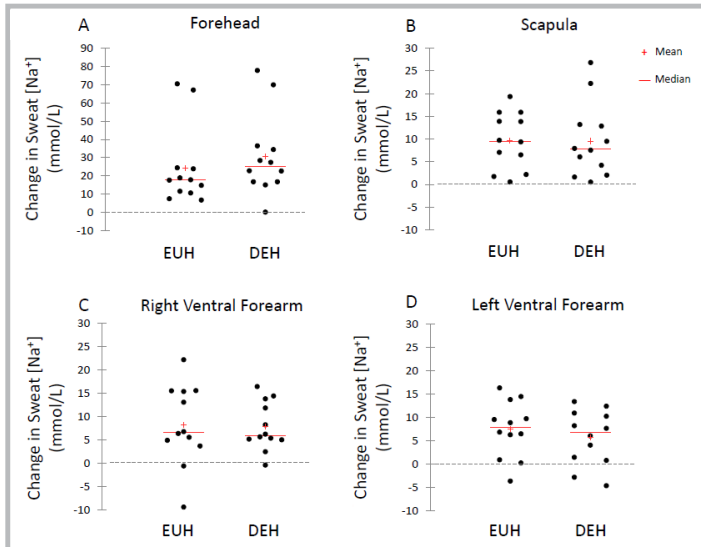
Two 90-minute cycling trials in a heated chamber (~33°C, 42% rh, 2.2 m/s)

- 1) with fluid replacement to maintain euhydration or
- 2) without fluid to dehydrate to ~2-3% of body mass loss

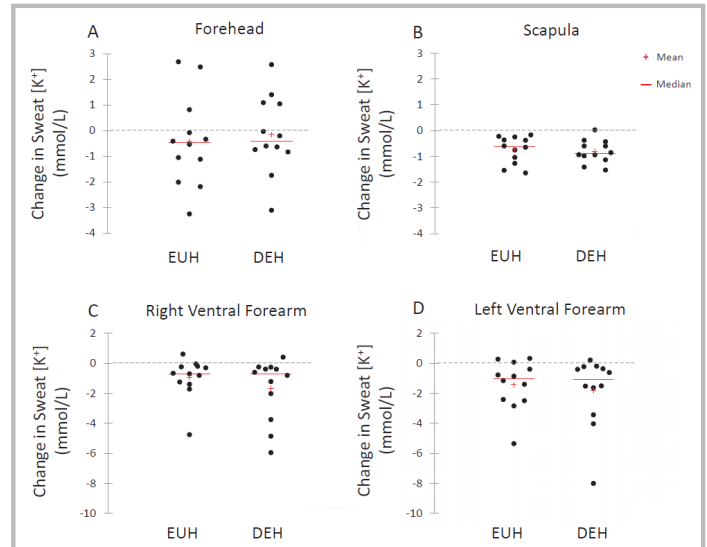
## RESULTS



Sweat Na<sup>+</sup> concentration increased and sweat K<sup>+</sup> concentration decreased from the beginning to the end of exercise, but the changes did not differ between euhydrated and dehydrated conditions.



Change in sweat sodium concentration (mmol/L) from the beginning to end of exercise at the Forehead (A), Scapula (B), Right Ventral Forearm (C), and Left Ventral Forearm (D) during the euhydration (EUH) and dehydration (DEH) trials.



Change in sweat potassium concentration (mmol/L) from the beginning to end of exercise at the Forehead (A), Scapula (B), Right Ventral Forearm (C), and Left Ventral Forearm (D) during the euhydration (EUH) and dehydration (DEH) trials.

## CONCLUSION



Changes in sweat electrolyte concentrations are not influenced by hydration status during exercise in the heat. These results suggest that sweat electrolyte concentrations may not be a useful biomarker for detecting dehydration during exercise-heat stress.

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