

Does sodium-bicarbonate ingestion improve simulated judo performance?

[Artioli GG](#), [Gualano B](#), [Coelho DF](#), [Benatti FB](#), [Gailey AW](#), [Lancha AH Jr.](#)

School of Physical Education and Sport, University of Sao Paulo, Brazil.

The aim of the present study was to investigate whether preexercise sodium-bicarbonate ingestion improves judo-related performance. The study used 2 different protocols to evaluate performance: 3 bouts of a specific judo test ($n = 9$) and 4 bouts of the Wingate test for upper limbs ($n = 14$). In both protocols athletes ingested 0.3 g/kg of sodium bicarbonate or placebo 2 h before the tests. Blood samples were collected to determine lactate level, and levels of perceived exertion were measured throughout the trials. The study used a double-blind, counterbalanced, crossover design. Ingestion of sodium bicarbonate improved performance in Bouts 2 and 3 of Protocol 1 ($P < 0.05$), mean power in Bouts 3 and 4 of Protocol 2 ($P < 0.05$), and peak power in Bout 4 of Protocol 2 ($P < 0.05$). Ingestion of bicarbonate increased lactate concentration in Protocol 1 ($P < 0.05$) but not in Protocol 2. Ratings of perceived exertion did not differ between treatments. In conclusion, sodium bicarbonate improves judo-related performance and increases blood lactate concentration but has no effect on perceived exertion.