

1097 ACUTE PROTEIN SUPPLEMENTATION DOES NOT ALTER POWER OUTPUT, PLASMA AMMONIA CONCENTRATION AND ACID-BASE BALANCE DURING HIGH INTENSITY INTERMITTENT EXERCISE
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Protein supplementation is an ergogenic aid used by many athletes. While there are positive benefits to protein supplementation, potentially negative aspects include increases in ammonia formation and changes to acid-base balance. The purpose of this investigation was to determine whether 7 d of acute protein supplementation altered power output, ammonia (NH_3^+) concentration and acid-base balance during supramaximal exercise. Nine anaerobically trained males ($\text{VO}_{2\text{max}}$, $49.8 \pm 1.5 \text{ mL} \cdot \text{kg}^{-1} \cdot \text{min}^{-1}$) underwent two experimental conditions. During a control condition (CONTROL) subjects consumed their normal daily nutrient intake. During an experimental condition (PROTEIN) the subjects consumed their normal nutrient intake plus a commercial protein supplement equal to $0.5 \text{ g} \cdot \text{kg} \text{ body mass}^{-1}$. Power output was measured on a cycle ergometer during 10 intermittent sprints (15 s work/120 s rest). The initial 5 sprints were performed at a set workload equal to 125% of $\text{VO}_{2\text{max}}$ with a pedal cadence of $80 \text{ rev} \cdot \text{min}^{-1}$. The final 5 sprints were performed at the same workload, with subjects pedaling at their individual maximum speed. Blood was collected pre-exercise, post-sprint 5, and post-sprint 10 and analyzed for NH_3^+ , pH, bicarbonate concentration ($[\text{HCO}_3^-]$), and lactate concentration ($[\text{La}^-]$). Protein consumption was significantly higher during PROTEIN ($1.82 \text{ g} \cdot \text{kg} \text{ body mass}^{-1}$) than CONTROL ($1.31 \text{ g} \cdot \text{kg} \text{ body mass}^{-1}$). No significant differences were observed between treatments for peak or average power output, $[\text{NH}_3^+]$, pH, $[\text{HCO}_3^-]$, and $[\text{La}^-]$. The data indicate that ammonia, acid-base balance and power output during intermittent supramaximal exercise will not be altered by a 7 d increase in protein ingestion.