Effects of Bolus vs. Metered Rehydration Rates on Fluid Retention and Hydration Efficiency using 150% Fluid Replacement.

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Purpose: This study assessed differences in urine production using bolus vs. metered ingestion fluid consumption during post-exercise rehydration. **Methods:** Using light to moderate activity in an environmentally controlled chamber (35°C), 9 male subjects were dehydrated by ~ 2% body weight. Following dehydration, counterbalanced rehydration trials (water) were performed in which two different methods of rehydrating; metered consumption (18.75% of total volume every 30mins for 4 hours) and bolus consumption (150% of total volume within 1 hour) were utilized. Urine production was evaluated and reported each hour during an eight-hour period following exercise to evaluate net fluid balance and hydration efficiency (fluid consumed vs. fluid retained). **Results:** Paired samples T-test revealed no significant differences (p=.94) between the two rehydration methods for hydration efficiency (bolus 41.5% vs. metered 42%) or net fluid balance (mean urine production: bolus 1347ml vs. metered 1337ml). **Conclusions:** Previous research using 100% fluid replacement (water) has revealed that metered consumption improves hydration efficiency and net fluid balance. However, the current findings suggest that any advantages gained through varying fluid consumption rates may be nullified by larger total rehydration volumes (150%).