Variation in Weight and Hydration of College Wrestlers During and After a Competitive Season

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Background: Weight cycling among wrestlers occurs as weight is lost before competition and then rapidly regained afterwards, with most of the loss occurring through dehydration methods.

Purpose: To compare weight and hydration changes throughout a college wrestling season to determine if “cutting weight” is done at the expense of hydration.

Methods: NCAA Division II male wrestlers (n=10, age = 19-22 yrs) volunteered to be measured on 4 separate occasions. Only starters were used since these athletes have to “make weight” before competition. Eight subjects had to “cut weight” while 2 others did not. Weight and hydration were measured on the day of a match (T1), the day after the match (T2), one week after the completion of the season (T3), and three weeks after the season (T4). At T1, urine samples were collected about two hours prior to competition. The specific gravity (USG) of the samples was measured using a refractometer. A digital scale was used to measure weight. The official weigh-in one hour before competition was used as the wrestlers' weights for T1. T2 was measured about 20 hrs after the match. T3 and T4 were measured one week after the last match and 3 weeks after the season ended.

Results: There were significant differences (p<0.05) in weight between T1 (73.5 ± 12.6 kg) and all other time periods and between T2 (75.2 ±12.5 kg) and T3 (76.9 ± 12.2 kg) and T4 (77.3 ± 12.2 kg). With all subjects included, there were no significant differences (p>0.05) in hydration across the 4 trials. With only the 8 weight-cutting subjects included, there were significantly (p<0.05) lower hydration levels between T1 (1.035 ± 0.0041 g/cc) to T3 (1.019 ± 0.011 g/cc) and T1 to T4 (1.024 ± 0.005 g/cc). Weight-cutting subjects were dehydrated (USG>1.020 g/cc) on the day of the match while non-weight-cutters were hydrated (USG<1.020).

Conclusions: Most wrestlers became more hydrated from the day after a match to the season's end. Most subjects gained a substantial amount of weight following the match and continued to gain weight at a slower rate after the season. Therefore, many wrestlers seemed to lose weight by methods of dehydration.

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