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D2.S1.3(3). Training and recovery strategies to minimise performance decrement in multi-round competition performed within and on consecutive days: practice and perspectives of coaches, and practitioners

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To contest for medals in the final of major sporting championships, athletes must progress through preliminary rounds of competition, potentially requiring repeated maximal performances separated by minutes to hours. With the difference between medalling and non-medalling performance often <1%, ensuring athletes optimise recovery between bouts of competition to attenuate declines, maintain, or enhance performance is imperative. However, little evidence exists examining the use of recovery and training strategies to attenuate declines or enhance performance in multi-round competitions. Importantly, as this information has not been detailed in the literature, how athletes train for multi-round competition, what recovery strategies they use, and why, remains unknown.

Therefore, the aim of this project was to identify current practices and perspectives of high-performing coaches and practitioners when preparing athletes for multi-round competition that involves multiple performances within a day and/ or on consecutive days. Following institutional ethical approval, a survey was conducted with coaches and practitioners supporting athletes classified as \geq tier 3 (McKay et al., 2022. *IJSPP*, 17, 317-331). Using an on-line platform (QualtricsSM, <https://www.qualtrics.com/uk>), participants were asked a series of questions regarding typical time-frames between rounds of competition, implementation of specific training and recovery strategies to enhance multi-round competition, sources of information, perceived efficacy, as well as gaps in knowledge.

Respondents (n=36) were currently, or had previously, supported athletes competing at continental or global championships (97%), with the majority supporting athletes competing both within and on consecutive days (51%), within only (29%) or on consecutive days only (20%). Race/ event specific training (percent of respondents who utilise strategy/ percent of respondents who perceive the strategy to positively impact multi-round performance: 100%/100%), periodisation (97%/94%) and strength/ resistance or plyometric training (94%/92%) were the most commonly employed training strategies. Small-sided games (16%/20%), altitude (52%/64%) and heat (56%/72%) were the least commonly employed. Strategies focussing on nutrition (within day [WD]:100%/97%; consecutive days [CD]:100%/100%), fluid (WD:100%/97%; CD:97%/100%) and active recovery (WD:90%/86%; CD:94%/90%) were the most commonly employed recovery strategies. Electrostimulation (WD:8%/13%; CD:10%/13%), heat application (WD:8%/10%; CD:11%/10%) and contrast bath/ shower (WD:30%/21%; CD:38%/ 30%) were the least commonly employed. Some strategies (i.e. stretching, compression garments, foam rolling, massage) had greater rates of use than perceived efficacy, suggesting strategy implementation despite a lack of perceived impact. Respondents felt more information is required on how to implement training (97%) and recovery (89%) strategies effectively, including optimal dose, timing, and strategy combinations, as well as more sport-specific research to optimise approaches.