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Influence of Recovery Positions on Cardiovascular Recovery

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Eliciting quicker cardiovascular recovery between bouts of exercise or after exercise could enhance the individual's subsequent exercise performance or restoration of homeostasis. **PURPOSE:** To investigate the effects of different recovery positions on heart rate (HR) and blood pressure (BP) recovery after a submaximal treadmill run. **METHODS:** Thirteen male subjects (age: 21.1 ± 1.4 yrs, mass: 92.3 ± 18.6 kg, height: 183.5 ± 8.0 cm) completed three sessions of testing. The first session consisted of a VO_{2max} test which was used to determine running speed for the following two exercise test sessions. The following two exercise test sessions consisted of a warm-up followed by a 10-minute submaximal run at a pre-determined speed equivalent to 70% of the individual's VO_{2max} . After the submaximal run, subjects were randomly assigned to one of the two recovery positions; 1) active recovery at 3.5 mph walking on the treadmill (ACT) or 2) supine position with legs elevated (SP). All subjects completed both recovery testing sessions. During testing, subjects' HR and BP were measured at rest, after exercise, and 1-min and 5-min post exercise. A two-way ANOVA with repeated measures was used to compare two recovery conditions at multiple time points. **RESULTS:** Significant differences were found in 1-min post exercise HR between SP and ACT conditions with HR being significantly lower in SP condition (SP: 97.6 ± 16.6 vs. ACT: 126.4 ± 19.2 bpm; $p < 0.05$). At five minutes into recovery, SP condition showed a significant ($p < 0.05$), fastest HR recovery to 89.5 ± 13.9 bpm (52% drop from end exercise HR), while ACT condition reduced the HR to 118.7 ± 19.3 bpm (24% drop from end exercise HR). Although a significant drop in BP was seen during both recovery conditions (SP: 149.4 ± 24.3 to 131.0 ± 23.4 mmHg, $p < 0.05$ vs. ACT: 151.6 ± 23.4 to 131.9 ± 21.4 mmHg, $p < 0.05$), the two recovery positions did not reveal a significant difference in recovery BP (SP: 131.0 ± 23.4 vs. ACT: 131.9 ± 21.4 mmHg; $p > 0.05$). **CONCLUSION:** These findings suggest that SP recovery position can accelerate HR recovery and provide evidence to further the advancement of athletics while helping athletes perform their best on their subsequent event.