

Cardiorespiratory Recovery Positions After Intense Exercise

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ABSTRACT

In sports, athletes have a limited amount of time to recover. Finding the optimal recovery position is valuable knowledge for players to allow them to return to play quicker. **PURPOSE:** The purpose of this study was to examine the effect of body position, hands on head (HH) or hands on knees (HK), on heart rate, VO₂ and VCO₂ after high intensity exercise, to determine if there is an optimal recovery position.

METHODS: 17 males and females 18 years of age or older who currently exercise at a moderate or vigorous level, three or more times a week participated. After determination of participants maximal heart rate, participants performed four 30 second cycling intervals with ten seconds rest between each. HR, VO₂, and VCO₂ were continuously measured. Immediately after the intervals, participants were instructed to assume the designated recovery position for 3 minutes. The same steps were repeated for the other recovery position.

RESULTS: After high intensity exercise, heart rate decreased more rapidly in the HK position (36.6%) than in the HH position (30.7 %) ($p=0.002$). No statistical difference was found between position group means for VO₂ (HH: 3.8 L/min; HK: 3.9 L/min; $p=0.877$) and VCO₂ (HH: 4.3 L/min; HK: 4.6 L/min; $p=0.177$). **CONCLUSION:** These results indicate that HK allowed for the quickest heart rate recovery, but no differences existed between groups in respiratory data. Heart rate recovery differences could be due to body position effects on stroke volume. These results indicate that the athlete may be able to return to play at a lower HR if they recover in the HK position. Since perceived exertion is correlated with HR, this could be beneficial for performance when returning to play. Findings from this study will aid in athletes' recovery by providing them with knowledge about the optimal cardiorespiratory recovery positions.