

The Effects of an Acute Bout of Self-Myofascial Release on the Physiological Parameters of Running

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Self-myofascial release (SMR) is an ergogenic aid which has grown in popularity with endurance runners. SMR uses an instrument to provide soft tissue mobilization which releases adhesions in the fascial tissue. There has been a limited amount of research as to whether SMR tools can improve the physiological parameters of running performance when SMR is used prior to an endurance event. **PURPOSE:** To examine changes in the physiological parameters of running performance when self-myofascial release was used prior to a submaximal run. **METHODS:** A total of 16 male recreational runners, between the ages of 18 and 55 volunteered for the study. The subjects were required to have completed a running event equaling a 10K or longer in the past 12 months as well as achieving a peak oxygen consumption of $45 \text{ ml} \cdot \text{min}^{-1} \cdot \text{kg}^{-1}$. The subjects took part in two 40 min treadmill runs at 75% of their $\text{VO}_{2\text{peak}}$, one session used a SMR kit prior to the run while the other session required subjects to rest for 20 minutes. Prior to and during the run measurements of heart rate, blood lactate concentration, ventilatory efficiency, RPE, and running velocity were assessed. A two level repeated measures analyses of variance (ANOVA) was used to analyze the dependent variables of heart rate, ventilatory efficiency, lactate and rate of perceived exertion. A paired samples t-test was used to analyze the dependent variable of running velocity at 75% of $\text{VO}_{2\text{peak}}$.

RESULTS : There was no interaction or treatment effect ($p > .05$) when SMR was used prior to the 40 min treadmill run for heart rate ($p = .93$), ventilatory efficiency ($p = .36$) and RPE ($p = .37$). Lactate also did not have an interaction or treatment effect ($p > .05$) when SMR was used prior to the 40 min run ($p = .06$). The subjects were kept at 75% of their $\text{VO}_{2\text{peak}}$ for 40 min and the velocity at which the subject ran was averaged over the 40 min. The mean velocity for the run with no SMR was $12.47 \text{ km/hr} \pm 1.70$. The mean velocity for the run with SMR was $12.57 \text{ km/hr} \pm 1.69$. No significant differences existed between the two running bouts ($t(15) = -.838, p > .05$). **CONCLUSION:** No improvements in the physiological parameters of running performance were found, however there was also no decrease in these physiological parameters suggesting that the use of SMR prior to running does not hinder performance.