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A single blinded study, examining effects of thoracic spinal mobilization on exercise capacity in asymptomatic individuals

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Current evidence supports changes in heart rate (HR) and respiration after thoracic mobilization, however, there is a minimal research, investigating any potential impact on activity tolerance. The purpose of this study was to examine effects of Grade V thoracic mobilization (TM) on exercise capacity of asymptomatic individuals through metabolic analysis during a 6 minute walk (SMW) test. Thirty-one volunteers (age range 21-27) were randomly assigned to a control group (CG) or an intervention group (IG). Participants underwent baseline trial on day 1 by resting supine 5 minutes prior to SMW test. Researchers, blinded to subject group, recorded metabolic output, HR and respiratory rate (RR) during a SMW test. On day two, participants in the IG underwent 4 posterior-anterior HVLA (high velocity-low amplitude) TM. Immediately after intervention participants resumed day one protocol. The CG repeated day 1 protocol only. Statistical significance was detected within the IG mean difference using a paired t-test for HR, ($p=0.0141$), and for (RR) ($p=0.0452$) comparing day 1 with day 2, and for mean difference (between groups) value using a two-sample t-test for mean highest VO2 ($p=0.0423$). Statistical significance was detected in the IG suggesting an association between Grade V HVLA TM and lowered HR and RR. Clinical relevance is that, improvements in exercise capacity post-mobilization directly relate to physical tolerance to sub-maximal activity.

Biography

Steve Bitticker has completed his Physical Therapy Training at The Ohio State University. He has more than 30 years of experience combining clinical practice, teaching and research. He presently teaches at the Doctor of Physical Therapy Program at Gannon University. His interests include study of clinical effects of selected musculoskeletal interventions.

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