A SINGLE BLINDED STUDY EXAMINING THE EFFECTS OF THORACIC SPINAL MOBILIZATION ON EXERCISE CAPACITY IN ASYMPTOMATIC INDIVIDUALS

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Background

- Current evidence supports changes in heart rate (HR) and pulmonary function after thoracic mobilization
- Minimal research investigating any potential impact on physiological function.

Purpose of this study

- To examine the effects of Grade V thoracic mobilization (TM) on the exercise capacity of asymptomatic individuals through metabolic analysis during a six minute walk (SMW) test

Participants

- Thirty-one asymptomatic volunteers ranging in age from 21-27
- Randomly assigned into a control group (CG) and an intervention group (IG)

Methods and Procedures

- Day 1:
  - baseline trial six-minute walk (SMW) test
  - researchers, blinded to subject group placement, recorded metabolic output, RR and HR
- Day 2:
  - participants in the IG underwent four posterior-anterior HVLA (high velocity-low amplitude) TM
  - Immediately after the intervention participants resumed the day one protocol
  - The CG repeated day one protocol only

Results

	Day 1		Day 2	
Variable	**CG**	**IG**	**CG**	**IG**
HR	**116.32 ± 13.12**	**114.08 ± 17.37**	**115.36 ± 15.27**	**110.74 ± 16.10**
RR	**18.08 ± 4.81**	**17.21 ± 3.58**	**17.625 ± 5.42**	**16.32 ± 3.60**
VO^2/kg	**14.02 ± 2.28**	**13.49 ± 2.79**	**14.82 ± 1.97**	**13.15 ± 3.14**

p = 0.0141

p = 0.0452

p = 0.0423

Conclusion

- Associations between Grade V HVLA TM and
  - 1) lowered HR,
  - 2) lowered RR and
  - 3) improved VO^2 during sub-maximal exercise were noted in this study

- Limitations
  - Relatively low number of participants in the sample
  - Narrow age range of participants
  - Lack of standardized treatment protocol for TM
  - Researchers were unable to control environmental variables (sleep, nutrition, exercise, stress) which may have influenced participants' cardiac or respiratory systems

Clinical Utility

- Relevance is that improvements in cardiorespiratory function and exercise capacity post-mobilization directly relate to human performance during sub-maximal activity