

The Influence of Kinesiology Tape on Posture and Breathing Mechanics in Healthy Individuals



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INTRODUCTION

- Kinesiology Tape (KT) reportedly improves posture, range of motion, muscle activation, and muscle strength.
- Few studies have investigated the effect of KT on respiratory function.
- Studies reported KT could improve rehabilitation of individuals with deficits in posture, lower trunk range of motion, and overall muscle function.
- These factors could have positive effects on respiratory function for individuals with lung pathology.

PURPOSE

The purpose of this study was to investigate the effect of different taping methods on posture and breathing mechanics in healthy individuals. KT on respiratory performance

HYPOTHESIS

KT will significantly decrease tragus and acromion-to-wall distances, increase chest wall expansion, and increase maximal inspiratory pressure.

METHODS

Subjects

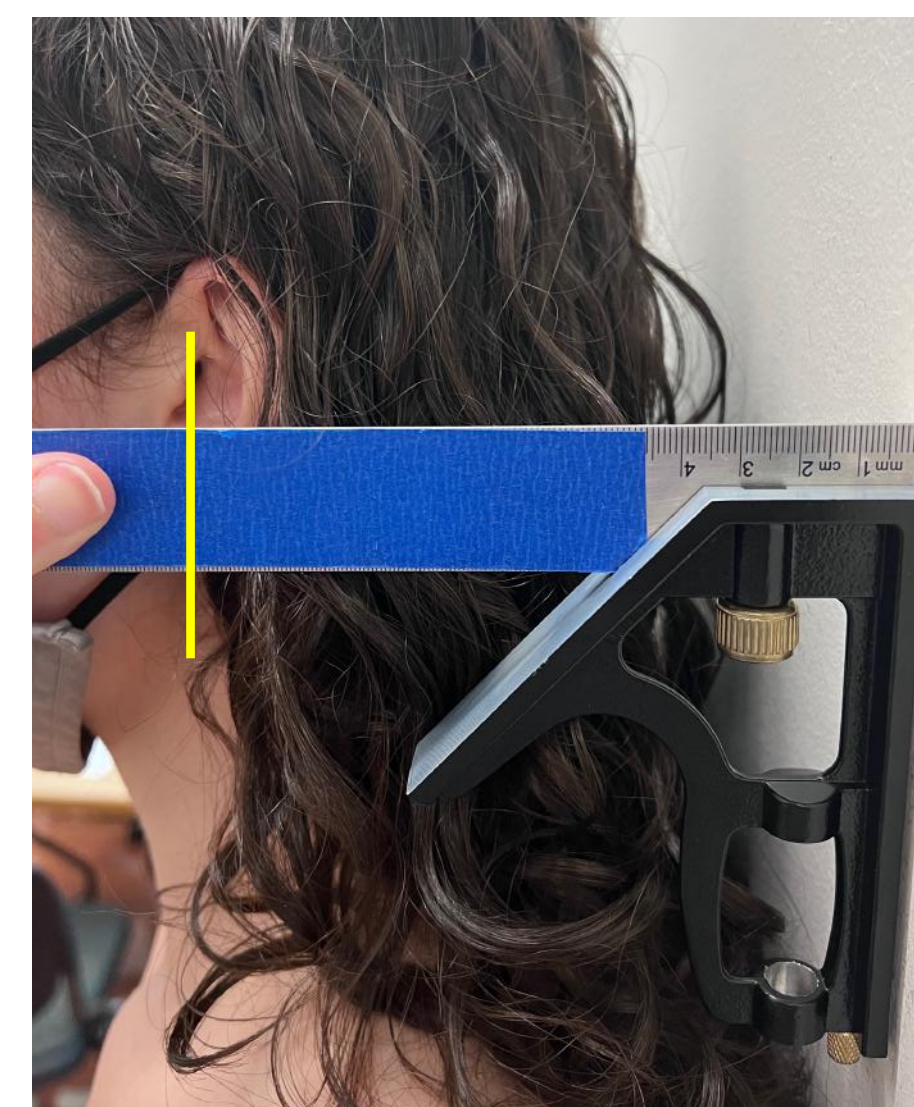
- 90 total subjects will be recruited
- Convenience Sampling – general university population
- Randomized block design

Exclusion Criteria

- Individuals with ...
- Current lung pathology
 - Acute respiratory illness
 - Disorders that alter mobility of the ribs
 - Severe skin sensitivity to adhesives

Research Protocol

1. Informed consent and demographic data collected.
2. Chest wall expansion (CWE) was measured in centimeters with tape measure at the level of sternal angle and xiphoid process.
 - 3 trials of CWE with 30 second rest between measurements
3. Tragus wall distance (TWD) and acromion to wall distance (AWD) was measured in centimeters with caliper
 - 3 trials at each location
4. Subjects demonstrated correct breathing technique (maximal exhalation then maximal inhalation) with verbal cueing.
 - Maximal inspiratory pressure (MIP) measured using a spirometer.
 - 3 trials of MIP with 1 minute rest between measurements
5. Application of KT or sham taping (ST), or no tape (C) was applied.
6. All measurements repeated 10 minutes after taping.
7. All measurements repeated 48 hours later with tape intact.



TWD
Measurement



AWD
Measurement



Taping
Intervention



MIP Measurement

STATISTICAL ANALYSES

- Repeated Measures ANOVAs will be used to determine influence of taping of CWE, AWD, TWD, and MIP at baseline, immediately post-taping, and 48 hours post-taping between ST, KT, and C groups
- Paired T-tests will be used for all post hoc testing of significant findings. Alpha level was set a priori at $p \leq 0.05$.

RESULTS

- 53 participants have completed data collection thus far
 - Average Age: 19 years old
 - No dropouts have occurred
- Data collection expected to be completed by end of July 2022

CLINICAL RELEVANCE FUTURE WORK

- KT may be a tool available to improve respiratory function and posture in healthy individuals.
- Future research is needed to identify the effect of KT on breathing mechanics in older populations, over a longer period of time, or with different taping methods.

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