

The application of kinesiology tape as a tactile feedback for management of lower larynx position: a pilot study

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Introduction:

Kinesiology tape (KT) therapy has successfully been incorporated into speech pathology clinical practice for treatment of myofunctional orofacial disorders [1]. The elastic property of the tape allowed for support without hindering movement range [2]. Subjects with hyperfunctional voice disorders often present with a high held larynx position [3]. Therefore, the aim of this study is to assess the possibility of using an adapted application of KT as a tool for the management of the vertical larynx position (VLP).

Method:

Twenty-eight normophonic individuals were submitted to acoustic, auditory-perceptual and electroglottographic analyses (EGG) of voice pre and post KT application. Still images were taken to measure changes in the VLP. Sustained vowel [ɜ] and a singing passage (“Happy Birthday”) were used as outcome measures. The KT application was done with the aim to promote a lower larynx position during phonation, mimicking the effects of the laryngeal depressor muscles.

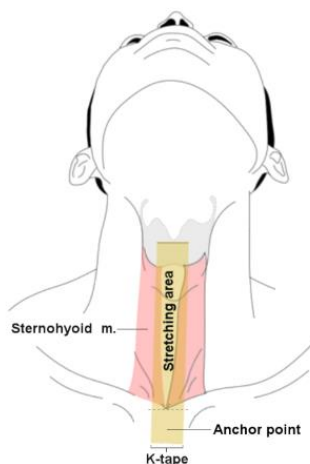


Figure 1: KT application.

Results:

LTAS analysis reviewed statistically significant changes for Total SPL ($p < 0.01$), Speaker's formant ($p = 0.01$), Alpha ratio ($p = 0.04$) and High/Low ($p = 0.02$) between conditions

for the spoken task. No significance was found for the singing task, auditory-perceptual or CQ analyses. Due to the placement of the EGG electrodes the still images were not deemed reliable for assessing of the VLP. Formant analysis using FFT showed an overall drop in all formant frequencies apart from the fifth formant for the KT condition.

Discussion and Conclusion:

Based on the acoustic analysis, the results showed improved outcomes for the KT condition. Changes in VLP were not directly measured, however lower values for formant frequencies may be associated with a lower position of the larynx. Considering the small effect size expected for KT application with normophonics it seems reasonable to conclude that KT is a promising resource for aiding the management of the vertical larynx position. The use of KT as a therapeutic tool is not suggested as a replacement for speech therapy, but rather a possible resource to improve effectiveness of treatment.

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