The Effectiveness of Manual Circumlaryngeal Therapy in future elite vocal performers: a Pilot Study
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Purpose
The purpose of this study is to investigate the impact of a single session of Manual Circumlaryngeal Therapy (MCT) on the objective and subjective voice quality of future elite vocal performers (musical students).

Hypothesis
MCT might maximize vocal capacities as a result of a maximal relaxation of the laryngeal and perilaryngeal musculature, and an optimal position of the larynx in the neck. An immediate increase of the vocal quality and vocal performance is hypothesized.

Voice assessment protocol

- Videostroboscopic evaluation
- Objective measurements
  - Maximum Phonation Time (s)
  - Voice Range Profile
    - Highest, lowest frequency (Hz)
    - Highest, lowest intensity (dB)
  - Acoustic measurements: (Isolated vowel /a/)
    - Fundamental frequency (Hz)
    - Jitter (%)
    - Shimmer (%)
    - Noise to harmonic ratio

Dysphonia Severity Index

Future elite vocal performers

- Elite vocal performers
  - Voice users for whom even small vocal difficulty would prevent adequate job performance.
- Future elite vocal performers
  - Poor vocal quality (Traunmüller et al., 2002)
- Musical students
  - Combination of singing, acting, dancing
  - High physical and vocal load
  - As they are absolutely depending on their voice quality and vocal capacities for their studies and their future profession, an optimal voice coaching is very important.

Manual Circumlaryngeal Therapy

- The hyoid bone
  - was encircled with the thumb and index finger, which were worked posteriorly until the tips of the major horns were felt.
- Thyroid cartilage
  - the circular movement procedure was repeated beginning from the thyroid notch and working posteriorly. The posterior borders of the thyroid cartilage, just medial to the sternocleidomastoid muscles, were located and the procedure was repeated.
- Total larynx
  - with the fingers over the superior borders of the thyroid cartilage, the total larynx was worked downward, and moved laterally at the same time.

Manual Circumlaryngeal Therapy

<table>
<thead>
<tr>
<th>Sensations larynx throat</th>
<th>n</th>
<th>%</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open</td>
<td>0/6</td>
<td>5/6</td>
<td>37.5</td>
<td>62.5</td>
</tr>
<tr>
<td>Same</td>
<td>0/6</td>
<td>5/6</td>
<td>37.5</td>
<td>62.5</td>
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<tr>
<td>Easier</td>
<td>0/6</td>
<td>5/6</td>
<td>37.5</td>
<td>62.5</td>
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Discussion:
- The results of this pilot study prudently suggest that MCT is not only effective in patients with functional voice disorders (MTD), but can also improve vocal capacities in healthy trained voices of future elite vocal performers.
- The results of the control group indicate the absence or a minimal impact of a learning effect of the two successive measurements in these musical students.
- Before performing MCT, clinicians should be aware of the possible sensations experienced by the subjects during the therapy and the possible hazards, particularly in vulnerable subjects. Especially, they should be cognizant of the proximity to the carotid sinus during massage, kneading, and stretching of the perilaryngeal or adjacent musculature.
- Future studies with larger study groups will have to confirm these preliminary results.