Evaluating Voice Therapy Effectiveness and Efficiency Using Transnasal Flexible Laryngoscopy: A Randomized Controlled Trial

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Introduction

Please join us for the UW Voice Conference Fall 2009!
Transnasal Flexible Laryngoscopy (TFL) in Voice Therapy

- Research for TFL in voice therapy
- Applications
  - Assessment of physiology
  - Therapy tool
- Therapy tool
  - Prognostic indicator
  - Patient information tool
  - Visual biofeedback tool

Aims of the Study

- Can TFL be used as a voice therapy tool?
- Is TFL-assisted voice therapy effective?
- Is TFL-assisted voice therapy more time efficient than traditional voice therapy?

Study Design

- Selection criteria:
  - Referral from general ENT clinic
  - GRBAS “grade” of at least “2”
  - Muscle tension dysphonia
  - No history of psychological voice problems
  - Over 16 years of age
  - Onset within last 12 months
  - Signed consent form
- Randomly assigned to TFL treatment group or Traditional treatment group

Outcome Measures

- Package of outcome measures:
  - Perceptual evaluation of voice
  - Patient questionnaire measure
  - Instrumental acoustic analysis
  - Therapy documentation
Therapy
- Same expert voice clinician
- Documented therapy time in 5 minute intervals
- Discharge criteria

Results
- 50 subjects
  - 26 in Traditional treatment group
  - 24 in TFL treatment group
- Effectiveness
  - Pre-post change in all outcome measures within subject
- Efficiency
  - Total time taken in therapy across both treatment groups

Effectiveness: Perceptual Evaluation

Effectiveness: Patient Questionnaire
Effectiveness: Instrumental analysis

- Median scores
- Wilcoxon Signed Ranks test
- $p<0.01$ for jitter in both groups
- $p<0.01$ for shimmer in both groups

Efficiency

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Median (mins)</th>
<th>Range (mins)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Traditional</td>
<td>26</td>
<td>182.5 (3 hours 3 mins)</td>
<td>50-380</td>
</tr>
<tr>
<td>TFL</td>
<td>24</td>
<td>62.5 (1 hour 3 mins)</td>
<td>20-290</td>
</tr>
</tbody>
</table>

Conclusions

- The use of TFL - assisted voice therapy is effective
- The use of TFL - assisted voice therapy improves efficiency of treatment

Further Research

- Which TFL therapeutic application is more effective / efficient?
- Repeat the study with a different treating clinician
- Which clients are likely to respond best to this approach?
- Repeat study using one of the more “physiologic” voice therapy approaches
References

Rattenbury, HJ; Carding, PH; Finn, P

“Evaluating the Effectiveness and Efficiency of Voice Therapy using Transnasal Flexible Laryngoscopy: A Randomized Controlled Trial”

Journal of Voice, vol.18, No 4, 2004

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