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## [Intervention Review]

# Interventions for treating functional dysphonia in adults

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## ABSTRACT

### Background

Poor voice quality due to functional dysphonia can lead to a reduced quality of life. In occupations where voice use is substantial it can lead to a loss of employment.

### Objectives

To evaluate the effectiveness of interventions to treat functional dysphonia in adults.

### Search methods

We searched MEDLINE (PubMed, 1950 to 2006), EMBASE (1974 to 2006), CENTRAL (*The Cochrane Library*, Issue 2 2006), CINAHL (1983 to 2006), PsychINFO (1967 to 2006), Science Citation Index (1986 to 2006) and the Occupational Health databases OSH-ROM (to 2006). The date of the last search was 5<sup>th</sup> April 2006.

### Selection criteria

Randomised controlled trials (RCTs) of interventions evaluating the effectiveness of treatments targeted at adults with functional dysphonia. For work-directed interventions interrupted time series and prospective cohort studies were also eligible.

### Data collection and analysis

Two authors independently extracted data and assessed trial quality. Meta-analysis was performed where appropriate.

### Main results

We identified six randomised controlled trials including a total of 163 participants in intervention groups and 141 controls. One trial was high quality. Interventions were grouped into 1) Direct voice therapy 2) Indirect voice therapy 3) Combination of direct and indirect voice therapy and 4) Other treatments: pharmacological treatment and vocal hygiene instructions given by phoniatrist.

No studies were found evaluating direct voice therapy on its own. One study did not show indirect voice therapy on its own to be effective when compared to no intervention. There is evidence from three studies for the effectiveness of a combination of direct and indirect voice therapy on self-reported vocal functioning (SMD -1.07; 95% CI -1.94 to -0.19), on observer-rated vocal functioning (WMD -13.00; 95% CI -17.92 to -8.08) and on instrumental assessment of vocal functioning (WMD -1.20; 95% CI -2.37 to -0.03) when compared to no intervention. The results of one study also show that the remedial effect remains significant for at least 14 weeks on self-reported vocal functioning (SMD

-0.51; 95% CI -0.87 to -0.14) and on observer-rated vocal functioning (Buffalo Voice Profile) (WMD -0.80; 95% CI -1.14 to -0.46). There is also limited evidence from one study that the number of symptoms may remain lower for a year. The combined therapy with biofeedback was not shown to be more effective than combined therapy alone in one study nor was pharmacological treatment found to be more effective than vocal hygiene instructions given by phoniatrist in one study. Publication bias may have influenced the results.

### Authors' conclusions

Evidence is available for the effectiveness of comprehensive voice therapy comprising both direct and indirect therapy elements. Effects are similar in patients and in teachers and student teachers screened for voice problems. Larger and methodologically better studies are needed with outcome measures that match treatment aims.

## PLAIN LANGUAGE SUMMARY

### Interventions for treating functional dysphonia in adults

Functional dysphonia is characterised by an abnormal quality of voice in the absence of an identifiable lesion. People in occupations where voice use is central, like teachers, are more at risk of developing functional dysphonia. The causes of voice disorders are still being debated. There is also no consensus on the best method of evaluating voice, although many consider auditory voice quality assessment as a gold standard measure. Because functional dysphonia is a non-organic voice disorder there is no indication for surgical or medical interventions, and it is treated with behavioural (i.e. voice) therapy. Voice therapy usually consists of a combination of direct and indirect treatment techniques. Direct techniques focus on the underlying physiological changes needed to improve an individual's technique in using the vocal system whereas indirect techniques concentrate on contributory and maintenance aspects of the voice disorder (such as lack of knowledge).

We conducted a systematic search of the literature on treating functional dysphonia in adults. We then appraised the quality of the studies found and combined their results.

A combination of direct and indirect voice therapy is effective in improving vocal functioning when compared to no intervention. The achieved results may still be apparent after a year.

Most of the studies are small and of low methodological quality and further research is warranted.