

# Does the Recording Medium Influence Phonetic Transcription of Cleft Palate Speech?

## Abstract

*Background:* Although speech is not a linear sequence of discrete sound segments, phonetic transcription is useful when analysing disordered speech. It makes it possible to analyse the separate units of speech in a linear sequence, and in later stages of analysis to identify and prioritize which aspects of speech need to be focused on (Heselwood and Howard 2008). In recent years, analyses of cleft palate speech based on phonetic transcriptions have become common. However, speech results vary considerably among different studies (e.g. Klintö *et al.* 2014). In an unpublished study, there was a trend for ratings based on video recordings to be more critical regarding speech consonant characteristics, hypernasality and nasal turbulence than ratings based on audio recordings (Sell *et al.* 2002). It cannot be excluded that differences in assessment methodology including recording medium influence the results.

*Aims:* To compare phonetic transcriptions from audio and video recordings of cleft palate speech by means of outcomes of per cent correct consonants (PCC) and differences in consonant transcriptions.

*Methods & Procedures:* 32 children with cleft palate were audio and video recorded at age 3 years while performing a single word test by picture naming. The recordings were transcribed according to the International Phonetic Alphabet. The transcriptions from the audio and the video recordings were compared regarding differences in PCC, PCC adjusted for age (PCC-A), the use of phonetic consonant symbols, and the use of diacritic signs. Statistical analysis was performed.

*Outcomes & Results:* PCC was higher when the calculation was based on transcriptions from audio recordings than from video recordings, but no such difference was seen in PCC-A.

Consonants were not excluded as often in the transcriptions from video recordings as compared to the transcriptions from audio recordings, and more consonants were transcribed as dental/alveolar in the transcriptions from video recordings and palatal/velar/uvular in the transcriptions from audio recordings than the reverse. Further, interdental articulation, linguolabial articulation, and audible nasal air leakage were more common in the transcriptions from the video recordings than from the audio recordings. All these differences were significant.

*Conclusions & Implications:* Phonetic transcription is to some extent influenced by visual cues. However, as long as age-appropriate articulatory and phonological simplification processes are not scored as incorrect and there is no specific interest in nasal air leakage, the recording medium does not seem to matter when transcribing speech of young children born with cleft palate.

#### References:

Heselwood, B. and Howard, S., 2008, Clinical phonetic transcription. In M.J.Ball, M. Perkins, N. Mueller, and S. Howard (eds), *The handbook of clinical linguistics* (Oxford: Blackwell), pp. 381-399.

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