

# Cued Speech use with deafblind people



Complete spoken language  
through vision

## Information Sheet 6

Cued Speech has been used successfully with people who are totally blind and profoundly deaf and also with those who are deaf with limited sight.

Cued Speech is used to access spoken language and its use does not exclude other methods of communication.

No two deafblind people have the same needs and Cued Speech can help in two distinctly different ways according to need and the level of blindness:

### Deafblind people with residual sight:

Cued Speech uses only eight quite distinct handshapes in four positions near the mouth to clarify the lip patterns of normal speech. With the help of good lighting and clothing of contrasting colours some deaf people with limited vision can see the cues clearly. It can be especially valuable for those whose loss of peripheral vision limits their access to sign language. For more information see the back page.

### Deafblind people with little or no residual sight:

Deafblind people with no residual sight communicate in a number of ways. These include fingerspelling, hands on signing and Tadoma.

In the Tadoma Method the deafblind person's hand is placed on the speaker's face in such a way that the thumb and fingers can pick up information on the movements of the lips, cheek, throat, and jaw, and the vibrations of the larynx, to produce a form of tactile speechreading.

This method does not clarify every sound. Tadoma users may receive as little as 50% of what is said. The rest must be guessed.

Research shows that a version of Cued Speech used to supplement the Tadoma Method gives 'nearly perfect' discrimination between the sounds of spoken language.

More overleaf.

*Cued Speech is a simple sound-based system comprising eight handshapes used in four positions near the mouth together with the lip patterns of normal speech so as to make all the sounds of spoken language fully comprehensible to deaf babies, children and adults*

### More information?

*Video, booklet and more information sheets available.*

### Learn to Cue

*Regular courses (some residential) are arranged, with low cost or free tuition.*

### Contact us at:

**Cued Speech Association UK**  
Tel, voice and text: 01803 832 784  
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**Call an experienced user now to discuss the benefits of Cued Speech**

# Cued Speech with Tadoma

## For deafblind people who are unable to receive Cued Speech visually

### History

'The first use of Cued Speech with a totally blind and profoundly deaf person was by Judith Lasensky-Curtin (1978). She was providing speech-language therapy (two 30-minute sessions per week) for a 9-year-old deafblind girl.

The primary method of communication was through signs, with the deafblind child's hands following the hands of the signer through taction. Ms. Lasensky conceived the idea of using Cued Speech by having the child use one hand in the Tadoma position - to pick up the ordinarily visible manifestations of speech - and the other hand lightly touching the hand of the cuer.

She reported that after 10 weeks of therapy totalling one hour per week, she could 'make clear to the child exactly what she said'. She also reported that rapid improvement occurred in the child's speech production as a result.' *Reprinted from The Cued Speech Resource Book for Parents of Deaf Children* by R Orin Cornett and Mary Elsie Daisey.

### Research

The use of Cued Speech as a supplement to the Tadoma method has been researched.

The abstract, describing 'near perfect tactual reception of Tadoma with Cued Speech' is reproduced below and a copy of the full research is available from the Cued Speech Association UK.

**'Analytic Study of the Tadoma Method: improving performance through the use of supplementary tactual displays and Cued Speech.'**

Although results obtained with the Tadoma method of speechreading have set a new standard for tactual speech communication,

they are nevertheless inferior to those obtained in the normal auditory domain. Speech reception through Tadoma is comparable to that of normal hearing subjects listening to speech under adverse conditions corresponding to a speech-to-noise ratio of roughly 0 dB.

The goal of the current study was to demonstrate improvements to speech reception through Tadoma through the use of supplementary tactual information, thus leading to a new standard of performance in the tactual domain.

Three supplementary tactual displays were investigated:

- (a) an articulatory-based display of tongue contact with the hard palate
- (b) a multi-channel display of the speech spectrum; and
- (c) tactual reception of Cued Speech.

The ability of laboratory-trained subjects to discriminate pairs of speech segments that are highly confused through Tadoma were studied for each of these augmental displays.

The result indicated that the tongue-palate display was an effective supplement to Tadoma for improving discrimination of consonants, but that neither the tongue-palate contact display nor the short-term spectral display was highly effective in improving vowel discriminability. **For both vowel and consonant stimulus pairs, discriminability was nearly perfect for the tactual reception of the manual cues associated with Cued Speech.'**

Authors: Reed, Rabinowitz, Duriach, Delhorne, Braida, Pemberton, Mulcahey, and Washington, of the *Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, MA, USA*. Published in the *Journal of Speech and Hearing Research*, Vol. 35, pp 450-465, April 1992.

## Cued Speech with Tadoma

### For deafblind people who are unable to receive Cued Speech visually

#### Case Study

In the following case Cued Speech is used to help a 12 year old girl from Philadelphia, USA, to improve her speech:

'The child's hearing problem progressed rapidly to a profound loss before linguistic skills could be acquired. The recognition of the visual deficit and its progression to legal blindness mirrored the hearing disorder. By two years of age she was legally blind. She exhibits mild motor and balance problems. She has no discrimination of vowels or timing information with binaural amplification. Visually, she is unable to distinguish light from dark. Her primary mode of communication is signed English word order and a computer-to-Braille typewriter.

She was introduced to Cued Speech two years ago. Prior to that time, the child had been enrolled in speech and language therapy on a regular basis. Articulation therapy followed an approach which combined improved awareness of sounds and oral motor movements, as well as correct sound production. At the time Cued Speech was introduced the child was experiencing significant difficulty with carry-over to new vocabulary items of trained sound productions. This was due to difficulty with sound blending and lack of phonetic training. Speech therapy eventually evolved into intense sessions devoted to phonetic training for each new word introduced. However, therapy was moving slowly and progress had reached a plateau.

Cued Speech was introduced as a means of facilitating comprehension of sound production within words and sound pairs, improved sound blending, and to reduce the need for phonetic interpretation of new vocabulary items. Cued Speech also provided an internal model for sound production which the child could rely on

from word to word. It was thought that Cued Speech would serve as a therapeutic tool and not as a means of communicating with listeners; at least not at the present time.

Following the introduction of Cued Speech, the initial response by the child was significantly improved production of all vowels and most consonants.

The Tadoma method of hand placement on the clinician's face helped her to recognise and correct her own mistakes. Vibrotactile information was also provided and served as an accessory means of monitoring sound production characteristics.

As therapy progressed, the child rapidly learned all the Cued Speech hand positions and became adept at reading clinician's cues.

Speech intelligibility significantly improved at the single word level with parents reporting noticeable improvements at home. Intelligibility of speech, however, was reduced when the cue signal was removed. It appeared that when the child employed the cues, she was using them as a means of self-monitoring her own vocal production. Connected speech remained poorly intelligible, although sound blending, intonation, and rate of speech were observed to improve slightly.

At the time of writing, the child continues to employ Cued Speech as a therapeutic tool. Intelligibility at the single word level is judged to be good with intelligibility at the phrase level judged to be fair to poor. Use of cueing continues to improve self-monitoring skills. Parental awareness remains high, and therapeutic interactions consistently demonstrate progress.'

From an article in *Talking Sense* by J. Dixon-Millar, Founder of The National Centre for Cued Speech, now re-named the Cued Speech Association UK.

# Cued Speech use with deafblind people who have limited vision

## Background

Cued Speech allows deaf people to understand spoken language by supplementing the invisible or ambiguous lip patterns of speech with cues consisting of eight handshapes in four positions near the mouth. Without cues lipreading levels can be as little as 30%, but with the addition of cues lipreading levels rise to 96%.

Once every sound is made clear through Cued Speech deaf children and adults can acquire an understanding of spoken language and use this understanding to help their speech, to help to lipread those who do not cue and to be fully literate.

The impetus behind the development of Cued Speech was the low literacy levels of deaf students and research shows that profoundly deaf children brought up with Cued Speech have literacy levels equal to those of hearing children. For deafblind people literacy is of the utmost importance.

## Cued Speech in Practice

The use of Cued Speech with deafblind people with some residual sight echoes its use with deaf sighted people.

*The Cued Speech Resource Book for Parents of Deaf Children* by Dr R Orin Cornett and Mary Elsie Daisey reports that there are a number of individuals with a severe-to-profound hearing deficit, and suffering from very limited vision, who have been able to receive spoken language clearly when Cued Speech supplements lip patterns, usually at distances of one-to-three feet. Although they were people who were legally classified as both blind and deaf they could use much of the information available visually from the

mouth and the cues, at very short distances. Thus, the only accommodations necessary for use of Cued Speech with them were the arrangement of optimum lighting conditions and distance between speaker and receiver. Other users of Cued Speech report that the use of a coloured glove or a high-necked dark-coloured shirt or blouse is very effective in highlighting the cues sufficiently to make them visible.

## Usher Syndrome

Usher Syndrome is an inherited condition that produces both hearing loss and a progressive loss of vision due to retinitis pigmentosa. All three different types of Usher lead to loss of vision but in Usher Type 1 children are born with a profound hearing loss. In Usher Types 2 and 3 children are born with partial or normal hearing and develop loss of vision.

Parents who have children with Usher Type 1 can use Cued Speech to give their children initial access to full spoken language with all the advantages this brings. Adults with Usher Type 2 or 3 who communicate using speech may find that Cued Speech gives them the tools to continue to communicate with friends and family members in English as their hearing deteriorates.

Retinitis pigmentosa causes a loss of peripheral vision or 'tunnel vision'. For some people this can make understanding sign language difficult. Whilst Cued Speech (which is designed to give access to spoken language) is not to be seen as an alternative to British Sign Language (which is a language in its own right) it can be uniquely helpful in that the cues use a very small area around the mouth which can be accessible to those with tunnel vision.

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