

Editorial

William House Cochlear Implant Study Group

Position Statement on Bilateral Cochlear Implantation

During the past three decades, unilateral cochlear implantation (CI) has been established as an accepted medical treatment for selected individuals with advanced degrees of sensorineural hearing loss. More recently, a growing number of patients have received bilateral CI, and a developing body of literature has demonstrated a significant additional benefit from 2 implants. In turn, this has generated increasing public interest in bilateral CI. Naturally, third-party payers and governmental agencies have sought evidence to justify bilateral CI. In response, the William House Cochlear Implant Study Group (CISG) critically examined putative additional benefits of bilateral implantation.

The pertinent literature (1–22) was reviewed, and the following position statement was written during a period of several months by an ad hoc committee. It was then discussed at the September 15, 2007 CISG annual meeting of approximately 250 CI professionals. Several improvements were incorporated, and the statement below was recirculated and approved by consensus.

Nonetheless, further research is necessary to clarify the usefulness of binaural mechanisms in patients with bilateral CIs and those with combined electrical and contralateral acoustic hearing.

WILLIAM HOUSE CISG

Position Statement on Bilateral CI

Although unilateral CI generally provides good speech understanding in quiet and has been highly successful in the rehabilitation of hearing-impaired adults and children, patients with only 1 CI frequently report difficulty in everyday listening conditions. Functional localization of sounds is not possible with only 1 implant, often creating a safety issue, and hearing in noise is very difficult. During the past decade, a substantial body of literature has accumulated demonstrating improved speech intelligibility and sound localization with bilateral CIs.

In addition, the use of 2 CIs substantially expands the receptive sound field. These findings are consistent with the psychoacoustic literature that shows the importance of bilateral hearing for normal-hearing people and hearing aid recipients. Binaural mechanisms that use the head shadow effect and central processing of cues based on timing, frequency, and level between ears markedly enhance speech understanding and sound localization

compared with listening with only 1 ear. The literature is clear that both children and adults perform better with 2 CIs than with 1.

The William House CISG acknowledges the findings reported in the literature and strongly endorses bilateral CI in clinically appropriate adults and children. Bilateral CI is now considered as an accepted medical practice.

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