# Cochlear implantation improved speech perception, cognitive function in older adults

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Cochlear implantation was associated with improved speech perception and cognitive function in adults 65 years or older with profound hearing loss, according to a report published online by *JAMA Otolaryngology-Head & Neck Surgery*.

Hearing impairment is associated with cognitive decline. In cases of severe to profound hearing loss where there is no benefit from conventional amplification (i.e. hearing aids), cochlear implantation that uses direct electrical stimulation of the auditory nerve has proven successful and selected older patients are among those who can benefit, according to the study background.

Isabelle Mosnier, M.D., of Assistance Publique-Hopitaux de Paris, France, and coauthors examined the relationship between cognitive function and hearing restoration with cochlear implantation in older patients at 10 tertiary referral centers between 2006 and 2009. The study included 94 patients (ages 65 to 85) with profound postlingual (after speech has developed) hearing loss who were evaluated before cochlear implantation and then six and 12 months after.

Results show cochlear implantation was associated with improved speech perception in quiet and in noise, quality of life and depression scores, with 76 percent of patients giving responses that indicate no depression at 12 months after implantation vs. 59 percent before implantation. As early as six months after cochlear implantation, improved average scores in all cognitive domains were seen. More than 80 percent of the patients (30 of 37) who had the poorest cognitive scores before implantation improved their cognitive function one year after implantation. In contrast, patients with the best cognitive performance before implantation showed stable postimplantation results, although there was a decline in some patients, according to the results.

"Our study demonstrates that hearing rehabilitation using cochlear implants in the elderly is associated with improvements in impaired cognitive function. Further research is needed to evaluate the long-term influence of hearing restoration on cognitive decline and its effect on public health," the study concludes.

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