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## Cochlear implants aid speech development

The younger a profoundly deaf child is when he receives a cochlear implant, the more apt he is to have his speech development and perception match his chronological age, according to a study published by IUSM researchers in the March 1 issue of *Psychological Science*.

The study, conducted by Mario Svirsky, PhD, and his colleagues, explores whether cochlear implants enhance English language development in prelingually deaf children. A cochlear implant is a device that electrically stimulates the auditory nerve to produce hearing perceptions in some profoundly deaf and hearing-impaired individuals.

Critics of the procedure claim that no study has documented a single case of a child who has developed a linguistic system based on input from an implant. This study, the researchers say, provides evidence that cochlear implants do enhance language development.

The "language gap" between hearing children and hearing-impaired children can be drastically narrowed if the child receives a cochlear implant at an early age, says Dr. Svirsky.

"Children who are born deaf or who become profoundly deaf before the age of three typically experience significant delays in their acquisition of English language skills," says Dr. Svirsky, the lead author. "The gap between a hearing impaired child's chronological age and his language age typically continues to increase as the child grows older. However, we have found that when a child receives a cochlear implant, the child begins to develop language skills at about the same rate as a child with normal hearing. In other words, the gap stops growing. Some children with cochlear implants develop language at a faster rate and actually start to approach the linguistic levels of their age peers who have normal hearing."

The researchers followed 70 children who had received cochlear implants. The children were tested four months before receiving the implant and again at six, 12, 18, 24 and 30 months after implantation.

All the children showed a gap between their language age (skill level) and their chronological age, but the gap was greater for older children. Prior studies have shown that the gap for deaf children continues to widen as they age. Language perception and verbal skills in children with cochlear implants involved

in this study showed marked increases in their abilities, and the gap between hearing children and children with implants continued to narrow as time passed after implantation.

"The rate of language development in the profoundly deaf children after implantation was quite close to that of children with normal hearing, and it exceeded the development rate expected from unimplanted profoundly deaf children," Dr. Svirsky said. "Some children in the experimental group showed above-average rates of language acquisition and achieved scores that were comparable to those of their hearing peers after only 2.5 years of using their cochlear implant."

Assisting Dr. Svirsky with the study from the IU Department of Otolaryngology-Head & Neck Surgery were Amy M. Robbins, M.S.; Karen Iler Kirk, PhD, assistant professor and Psi Iota Xi Scholar; and Richard T. Miyamoto, MD, Arilla De Vault Professor and department chairman; and David B. Pisoni, PhD, Chancellor's Professor at the IU Department of Psychology at Bloomington.

National Institutes of Health grants supported the study.

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## Briefs

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### Match Day

As this issue went to press, graduating IUSM students were eagerly awaiting news of their assignments to residencies on National Match Day, March 16.

IUSM May graduates will be among the estimated 16,000 medical students nationwide participating in the annual Match. Also, IUSM residents are counted with the 19,000 residents seeking placement for positions at U.S. teaching hospitals. The annual selection is administered through the National Resident Matching program. More details about Match Day 2000 will be published in a future issue of Scope.

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### Student artists

IUSM students are poised to temporarily trade their stethoscopes for the spotlights. The annual "Evening of the Arts" is scheduled 7:30 p.m., Friday, March 24, at the University Place Conference Center auditorium.

The program features the artistic talents of students, residents, faculty and staff, showcasing their vocal, instrumental and dance talents. Additionally, photographs and other visual arts created by participants will be on display.

Tickets for "Evening of the Arts" are \$7 each and may be purchased at the door. Proceeds for the event are used to buy supplies and equipment for area medical clinics serving the homeless in Indianapolis.

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## **IUSM-Indy Zoo collaboration produces 200 pound result**

The recent news from the Indianapolis Zoo was mammoth: the first baby African elephant conceived through artificial insemination was delivered successfully. IUSM's Mark Deeg, MD, PhD, played a role in that project.

Dr. Deeg, an endocrinologist, and technician Suzie Huffed were responsible for conducting hormonal assays before insemination of the mother elephant, Kubwa, and throughout the fetus' two-year gestation period.

"Blood samples were taken (from the ear) and evaluated for progesterone levels over the course of the elephant's reproductive cycle," Dr. Deeg explained. "Changes in levels induce ovulation, which in African elephants occurs every other menstrual cycle."

Kubwa's progesterone level was monitored weekly after conception. As the gestation cycle neared the two-year mark, Dr. Deeg looked for a drop in that level, a signal that the delivery process is approaching. How do you get an African elephant pregnant? The usual way, in cases where the elephant is not in captivity. But there only have been 27 African elephants born in North America since they were first imported in the 19th century, according to Indianapolis Zoo officials. Semen is collected from bull elephants, frozen and transported, and inseminated into females on the same day. "AI (artificial insemination) is not meant to replace natural breeding but rather to enhance it," the Indianapolis Zoo's website reports.

Dr. Deeg said the school's endocrinology section has worked with zoos in Atlanta, Memphis, Pittsburgh, Miami and New York City, on research and other projects related to metabolic monitoring.

For updates on the baby elephant, visit the Indianapolis Zoological Society's Web site at <http://www.projectelephant.com>.

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## Cheer Guild to receive angelic help with fund-raiser

Local artist Nancy Noel has dedicated and named one of her angel paintings *Angel of Cheer* as a fund-raiser for The Cheer Guild of James Whitcomb Riley Hospital for Children and Indiana University Hospital.

The Cheer Guild at Riley Hospital marked its 75th anniversary this past year.

Prints of the cherubic youth blowing a horn can be purchased at the hospitals' gift shops. Two sizes are available: 8 inches x 6.5 inches for \$15 each and 16 inches x 13 inches for \$40.

The Cheer Guild receives 100 percent of the profits from prints sold.

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## Eble appointed to Nordschow Chair

John Eble, MD, has been appointed the Nordschow Chairman in Laboratory Medicine at IUSM.

He will retain his current titles of chairman and professor of pathology and laboratory medicine and professor of experimental oncology.

The Nordschow Chair was established in 1992 by Clyde Culbertson, MD, former chairman of the Department of Clinical Pathology, to honor Carleton Nordschow, MD, PhD, another former chairman of the department.

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## Hutchins named Beeler Professor

Gary Hutchins, PhD, has been appointed the John W. Beeler Professor of Radiology by the Board of Trustees of IU.

The professorship was established in 1999 by the family of John W. and Raymond C. Beeler to honor the memor of John Beeler, who was a radiologist for more than 30 years. The professorship recognizes Dr. Beeler's long and distinguished career in the field of radiology, the importance of the academic mission of IUSM and to aid in the advancement of radiology knowledge

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# Submissions to Scope

Scope wants your news items.

There are three easy ways to submit story ideas or information to SCOPE:

- -- fax the information to 278-3502;
- -- e-mail the information to [mhardin@iupui.edu](mailto:mhardin@iupui.edu);
- -- or mail the information to Mary Hardin, LO 401, IUPUI.

The deadline for copy is 8:30 a.m. Mondays, the week prior to publication.

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<http://www.medicine.indiana.edu>

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