

get agreement of what the results should be. It has been stated in the scientific literature that an awareness of sound is an adequate measure of success. If that is true then we must not over-sell what we think is success. One merely needs to consider that after spending \$40,000, "success" could have been achieved for a fraction of that cost. It is imperative that more attention is paid to this issue or a viable procedure may be in jeopardy.

A number of individuals in the deaf community are over-reacting to the cochlear implant. Surely those of us who believe implantation is a viable alternative for some should not facilitate the negative publicity by using poor selection techniques and poorly defining and reporting results.

Darrell E. Rose, Ph.D.
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RESPONSE

Dear Dr. Jackson:

I am pleased that Dr. Rose agrees with much of the editorial on "The Ethics of Cochlear Implants in Young Children," but I am afraid that he may have missed the point.

Nowhere did I state that there were no failures in the implant world, or that all children were properly selected and trained. I am sure that some parents and children have been inappropriately advised and implanted, and there are certainly some non-users of cochlear implants. We are, for example, aware of one non-user in our group of over 90 children and adolescents who have received the Nucleus device to date.

However to state that "more than half" are not wearing the implant, based on incomplete returns of a survey of schools for the deaf, is very misleading. Since many such schools are manual, they form a highly inappropriate educational setting for a child with an implant. Furthermore, we are not told whether these children received a single or multi-channel device.

The data that Dr. Rose questions are contained in a paper to be given at the American Otological Society Meeting on May 7, 1997, and which subsequently will be published; however, let me reassure him that all children were followed, but that only 14 had used the implant for 2 years or longer and formed the basis for this report. Certainly, some children, as well as adults, do better than others.

The thrust of the editorial was that it is the responsibility of the implant team, working with the parents, therapists, and teachers, to properly select candidates and ensure that they receive appropriate therapy and education. The representatives of the Deaf Culture do not have the right to dictate to

cochlear implant teams or the parents of the deaf child.

Sincerely,
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To the Editor:

I read with interest Pensak and associates' recent article "Intraoperative Facial Nerve Monitoring in Chronic Ear Surgery: A Resident Training Experience."¹ This well-written report justifiably concludes that "although not a substitute for anatomic identification of the facial nerve, intraoperative monitoring provides an additional technique to optimize resident surgical education."

A concern with this report is that the authors claim that the monitor "failed" in 6 percent of cases. Reasons for this failure, however, included broken cables, inadequate battery charge, lack of available electrodes, etc. This is not a failure of monitoring, but a failure of quality assurance by the monitoring personnel. Back-up equipment is a *sine qua non* of any intraoperative technical endeavor. Surely, an inadequate supply of endotracheal tubes or inhalation agent would not be considered a failure of general anesthesia.

The authors also indicate that the monitor "failed to passively identify an exposed nerve ... until it had been seen anatomically in 7 percent of cases." Again, this is not a failure of the device, but of the surgeon's interpretation as to how the monitor should work. If a nerve is dehiscent but it is not electrically, mechanically or thermally manipulated, just how does the surgeon believe that a monitor could possibly alert him to a dehiscence? It is for this reason that we often use stimulating dissection instruments when elevating granulation tissue or cholesteatoma from a fallopian canal. Proximity to the electric stimulus will then alert the surgeon to the presence of a dehiscence, rather than alerting being dependent upon mechanical trauma with nonstimulating instruments.²⁻⁴

Silverstein and associates have demonstrated that the proximity of the facial nerve to the stimulator can be estimated by the current required to attain depolarization.⁵

Also, the authors indicate that monitoring "should be performed in all chronic ear cases in which the facial nerve may be at risk." How can the surgeon know in advance which cases are at risk? In fact, their own results indicated that 38 percent of the patients operated upon demonstrated an exposed facial nerve in the operative field.

The American Society of Neurophysiologic Monitoring was founded in 1989 to help develop guidelines to ensure high quality of monitoring per-

sonnel and equipment. The need for such a multidisciplinary society became evident to us after fielding a year or two of urgent phone calls from surgeons and clinicians when they encountered "failed monitoring" in the operating room. It was clear that many individuals did not take adequate time to become educated on the basic principles of neurophysiologic monitoring and on the specific requirements of their particular monitoring device.

In summary:

1. Monitoring is not a substitute for knowledge of anatomy or surgical skill;
2. Poor monitoring is worse than no monitoring;
3. Monitors fail less frequently than do "monitorists."

REFERENCES

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4. Kartush J, Prass R: Facial nerve testing: ENoG and intraoperative monitoring. In: Johnson J, ed. *Instruction courses*, Vol. 1. St. Louis: Mosby, 1988:231-247.
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Sincerely,

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Michigan Ear Institute
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Dr. Kartush has a consulting position in a company called Xomed-Treace, which manufactures facial monitoring devices. He is the Founding President of the American Society of Neurophysiological Monitoring; involved in the development of the Nerve Integrity Monitor, first created by Nicolet and then sold to Xomed-Treace. He is author and editor of the first book on intraoperative monitoring in our specialty and has a standard royalty agreement on this.

Myles L. Pensak, M.D., F.A.C.S. declined an invitation to respond to the aforesaid comments.