

From

To

Hearing and Speech Handicaps



Programs of the ILSHF
Iowa Lions Sight and Hearing Foundation



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The Size of the Problem

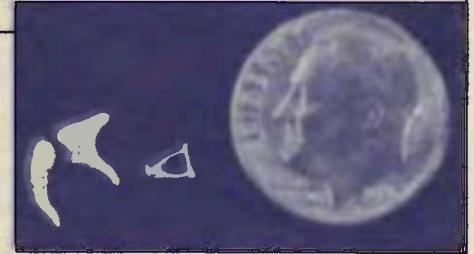
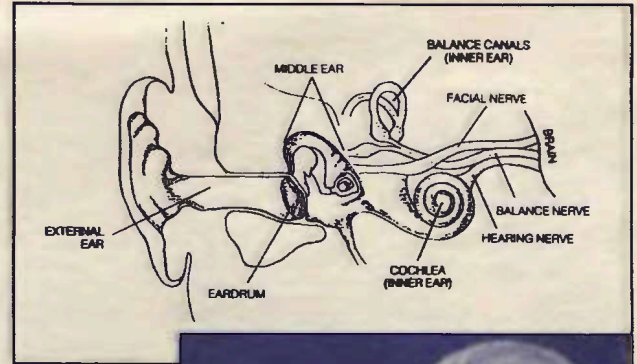
Hearing handicaps are hidden and go unnoticed by most of our population. In Iowa, 27,000 persons are profoundly deaf and 184,000 have hearing handicaps. Nationwide, 10 percent of the population have a hearing or speech handicap with 1 of every 1,000 children born deaf.

Impact of Hearing Handicaps

In children deafness is especially tragic because language is learned through sound. Children learn to speak, to read, and to write by listening. If a child never hears sounds, that child may never be able to speak. If a child never hears language, that child may never obtain an adequate education.

In the adult, deafness is a severe handicap. The ability to communicate with others is severely hampered. Lip-reading helps, but requires that the reader face the speaker and it does not convey all the information that is spoken. Sign language is also an aid but it is known by very few and is an entirely different language than English. With a profound hearing loss, the ability to monitor the loudness of one's voice is lost, and without intensive training a deaf individual slowly forgets how to make the sounds of spoken language.

Helen Keller stated: "I am just as deaf as I am blind. The problems of deafness are deeper and more complex, if not more important than those of blindness. Deafness is a much worse misfortune. For it means the loss of the most vital stimulus, the sound of the voice that brings us language, sets thoughts astir and keeps us in the intellectual company of man."



How the Ear Works

The ear is divided into three areas: the *external ear*, *middle ear*, and *inner ear*. The external ear consists of the visible part of the ear plus a canal which directs sound to the eardrum. The middle ear is composed of three bones which amplify sound vibrations striking the eardrum. The inner ear houses the cochlea (snail-shaped bone) which transforms this sound into an electrical current in the auditory or ear nerve. The current is transmitted to the brain, which recognizes it as sound.

Disease in any of these three areas of the ear can cause a hearing loss. Conductive hearing losses are caused by disease in the external or middle ear. They can be caused by fluid in the middle ear, immobility of the three ear bones, or a hole in the eardrum. Of all people with a hearing handicap, 15 percent have a conductive type of loss. Surgical and medical treatment can cure most of these hearing problems.

In contrast, 85 percent of people with a hearing handicap have a loss which affects the inner ear (sensorineural). The two leading causes of this type of loss are old age and exposure to loud noise. Unfortunately surgical and medical treatment helps only a few of these people. Hearing aids often help, but do not restore hearing to normal.

What the Iowa Lions Sight and Hearing Foundation (ILSHF) Is Doing

In a historic decision, the Iowa Lions voted on May 2, 1981, to include help for those with hearing and speech handicaps as a major goal of their organization.

Following is a description of some of the many programs the ILSHF has supported.

Department of Otolaryngology and Maxillofacial Surgery

The Department of Otolaryngology (ear, nose, and throat) is a part of the state Board of Regents hospital located at The University of Iowa in Iowa City. It is one of the largest clinics of its kind in America and has a variety of specialized staff and sophisticated equipment which enables it to be active in all areas of medical and surgical treatment of hearing and speech disorders. The ILSHF has provided the department with a Lions hearing coordinator to aid in these activities and to further its research potential.

Funding Research and Development of the Cochlear (Inner Ear) Implant

Of the 27,000 deaf citizens in Iowa, a significant number can be helped by a cochlear implant. The implant may be called "a bionic ear." It consists of an electrode which is threaded into the inner ear to stimulate the auditory (ear) nerve directly. Patients with implants no longer live in a world of silence. They can distinguish many environmental sounds such as alarms, doorbells, and telephones. In addition, the implant greatly improves lipreading skills.

The ILSHF is actively supporting research and future development of the cochlear implant at the Department of Otolaryngology, The University of Iowa. For further information please refer to the Lions cochlear implant booklet or contact the Lions hearing coordinator.

Funding Research and Development of Iowa's Temporal Bone Bank

The temporal bone is the ear bone. The Temporal Bone Bank is the repository which preserves and studies these bones. This laboratory is an important tool in searching for causes and treatment of hearing loss. A temporal bone donation is most useful from someone with ear disease; an accompanying medical history and hearing test are also extremely valuable. Upon the death of the donor, the temporal bone is removed in such a way as to leave no visible defect and is then transferred into the Temporal Bone Bank system.

Iowa's Temporal Bone Bank is located at The University of Iowa. It is part of a national network organized by the Deafness Research Foundation. All donated bones harvested in Iowa will be processed in Iowa City regardless of the laboratory to which they are initially sent. Copies of the slides and patient information are then stored in a regional library for all to use.

For further information please refer to the Lions Temporal Bone Bank booklet or contact the Lions hearing coordinator.

Support of Iowa's School for the Deaf

The Iowa School for the Deaf is a state Board of Regents institution south of Council Bluffs. It is open to all students in the state of Iowa under 21 years old whose hearing loss is too great for them to get along satisfactorily in a regular public school. The school's educational program is designed to develop the whole child with a well-balanced program in academic, vocational, physical, and social education.

The ILSHF supports the school through such programs as the Parent-Infant Institute. This institute consists of a week-long seminar which brings together the parents of approximately 20 hearing-impaired preschool-age children and a

professional staff of 30 individuals. Through this interaction the parents gain a deeper insight into the problems of deafness and the ways children can be guided to reach their fullest potential. The children participate in ongoing instructional programs and receive lessons in speech, language development, music, auditory training, speech reading, and visual attention activities. Creative artwork, outdoor activities, and field trips are also part of the program.

Establishment of an Evoked Response Laboratory at The University of Iowa's Department of Otolaryngology

The Iowa Lions have donated a sophisticated computer (Pathfinder II made by Nicolet) which *directly* measures the brain's response to sound. The technique is called evoked response audiometry and is a technique performed without breaking the skin's surface. It allows measurement of hearing in infants and detection of dangerous but curable ear tumors in adults.

The Lions have also donated equipment useful in testing the facial nerve and in developing a screening test for patients who may be candidates for a cochlear implant operation.

Prevention of Noise-Induced Hearing Loss

One of the most common, yet preventable, hearing losses is caused by loud noise. Once this kind of hearing loss occurs, it is irreversible. It affects the high frequencies first, commonly following a warning sign of "ringing" in the ears. With repeated exposure to loud noise the ability to understand speech is slowly affected. This type of hearing loss can be prevented by wearing earplugs, muffs, or headphones when around loud noise.

For more information please refer to the Lion's booklet on noise-induced hearing loss or contact the Lions hearing coordinator.

Hearing Disabilities Public Education Program

Collection of Used Hearing Aids

Iowa Lions are actively engaged in collecting used hearing aids. These are to be forwarded to the Lions district hearing and speech chairman or to the Lions hearing coordinator.

What Individual Clubs Can Do

The expansion of the ILSHF to build programs So All May Hear is an effort which requires the support of every Lions club in the state. Following are ways in which individual clubs can help this effort:

1. Contact your district speech and hearing chairman or trustee to arrange for a hearing and speech program.
2. Increase support for the ILSHF.
3. Supplement community support of the hearing and speech handicapped through
 - purchase of TV decoders.
 - purchase of telephone equipment for the deaf (TTY units).
 - prevention of noise-induced hearing loss.
 - gathering of used hearing aids.
 - support of special needs of the hearing and speech disabled in your community.
4. Create a system in local communities for temporal bone donation and harvesting.

What You Can Do

Support the activities of your local Lions club, and if you are not a member already, consider joining this outstanding organization.

For further information please contact Ruth Severson, Iowa Lions Hearing Coordinator, Department of Otolaryngology and Maxillofacial Surgery, The University of Iowa Hospitals and Clinics, Iowa City, Iowa 52242.