Examination of the Hearing and Balance Organs using Modern Techniques

The UCLA Temporal Bone and Brain Research Laboratories is seeking persons with hearing loss or problems with balance or dizziness to make an anatomical gift of their temporal bone (the part of the skull that contains the organs of hearing and balance—the middle and inner ears) and associated brain structures after death. The inner ear is not accessible for study during life because it is encased within the skull. While major advances have been made in our understanding of the changes that occur in many ear diseases like otosclerosis, ear infections, noise-induced hearing loss, or Meniere’s disease, and improved treatments have resulted, much more can be achieved through the microscopic study of donated temporal bones. This study is funded through the National Institute of Deafness and other Communication Disorders, a branch of the National Institutes of Health that specializes in hearing and balance disorders. These donations are vital for the advancement of knowledge and understanding of hearing and balance disorders.

What is the temporal bone? The temporal bone is the part of the skull that contains the organs of hearing and balance—the middle and inner ears.

Why is the study of my temporal bones useful? If you have any type of ear problem such as deafness, dizziness, or tumor, the scientific study of your ears could be of great medical value. Because the inner ear is encased in the skull, it cannot be examined during life. Only when the temporal bones are removed after death can the inner ear be studied.

What structures do you study in my temporal bone? The inner ear contains the organs of balance, called the vestibular system. These include the semicircular canals that detect motion of the head and body. Within the organs of balance, there are sensory for balance. The cochlea for hearing contains about 15,000 hair cells. The hair cells are fragile, and can be damaged by head injuries, infections, some drugs, and loud noises. Our study aims to learn ways to prevent these damages.

Does the value of my temporal bone diminish with age? Absolutely not. The scientific value of your temporal bone does not decrease with age. By age 65, 1 out of 3 persons experience some hearing loss, and after age 75, this rises to 1 out of 2 persons. An estimated 12.5 million Americans over age 65 have dizziness that significantly interferes with their lives. Thus, age-related hearing loss and problems with balance are important areas of study.
Does removal of the temporal bones change the donor’s appearance? No. There is no change in the appearance of the donor’s head, face or outer ear. The head remains intact for any funeral of burial arrangements that the family wishes, including open casket.

Is there a cost to the donor’s family or estate? No. The medical professionals who remove the temporal bones donate their time.

What should I do if I am interested in donating my temporal bones for scientific study? You can call the UCLA Temporal Bone and Brain Research Laboratories at 310-825-4710. A meeting will be arranged with one of our investigators to have all of your questions answered.

What are the steps if I donate my temporal bones? If you choose to donate your temporal bones, you will keep a wallet-size Donor Card that states you are a temporal bone donor, and states that at the time of your death, your doctor or next of kin should call the UCLA Temporal Bone and Brain Research
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Laboratories at 310-825-4710. Tell your family and doctors about your plans to donate. Your next of kin makes the final decision about donation, so make certain they know of your wish to donate your temporal bones. Keep us informed of any change of address or change in your next of kin.

Providing your medical records. The scientific value of your temporal bone donation is greatly enhanced if it is accompanied by up-to-date medical records. We encourage donors to send records of hearing tests, balance tests, and ear surgeries. We will have you sign a Health Insurance Portability and Accountability Act (HIPAA) authorization form.

Providing a sputum (spit) specimen for DNA. If you choose to donate your temporal bones, you may also choose to donate a saliva specimen from which DNA can be obtained. DNA contains genetic information. Some hearing disorders and balance disorders are caused by changes in the genes. The specimen will not be studied until after your donation.

Can I donate my temporal bone but not a saliva specimen? Yes, you can elect to donate your temporal bone without donating a saliva specimen.

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