REGIONE AUTONOMA FRIULI VENEZIA GIULIA
ISTITUTO DI RICOVERO E CURA A CARATTERE SCIENTIFICO
Burlo Garofolo di Trieste

ENT and Audiology
Dr. Eva Orzan

univerzitetni klinični center ljubljana
University Medical Centre Ljubljana

Otology and Audiology
Prof. Saba Battelino

Neurosurgery
Prof. Roman Bošnjak

Invitation

«Cochleovestibular malformations and Auditory Brainstem Implant Indications in childhood»

Sunday 16 September 2018, 10-12 AM
Aula Magna IRCCS Burlo Garofolo, *Trieste*

«Auditory Brainstem Implant Surgery in children»

Tuesday 18 September 2018, 4-6 PM
Predavalnica Klinike za ORL in CFK, UKC *Ljubljana*

Prof. Levent Sennaroglu
Prof. Burcak Bilginer
Dr. Eva Orzan
Prof. Saba Battelino
Prof. Roman Bošnjak

The inner ear or cochlea enables us to hear. As sound passes through the outer and middle ear, tiny hair cells in the cochlea vibrate, converting sound waves into electrical signs. These electrical signs travel along the hearing nerve to the brain. Most sensorineural deafness is caused by loss of or damage to hair cells. Where enough functioning hair cells remain, hearing aids may help by amplifying sounds to a level at which they can be heard. In cases of severe to profound deafness there may not be sufficient functioning hair cells: for these children a cochlear implant is the choice. An electrode array is inserted into the cochlea to directly stimulate the auditory nerve, to provide the sensation of hearing.

For a very small number of deaf children their deafness may be result of an absent or malformed auditory nerve and cochlea. Other children contract meningitis with resulting hearing loss and cochlear ossification, which prevents successful cochlear implantation. In these children sound cannot pass effectively from the inner ear to the brain, so hearing aids or cochlear implants are of no benefit.

These children may be considered for an **AUDITORY BRAINSTEM IMPLANT (ABI)**. Unlike a cochlear implant, the internal part of the ABI is surgically implanted directly onto the brainstem bypassing entirely the cochlea and auditory nerve. The ABI directly stimulates the auditory area of the brainstem to provide the sensation of hearing. ABI is a very new development that requires close collaboration between audiologists, otologists, neurosurgeons, neuroradiologists, rehabilitators and technical experts. They are mostly used in adults with auditory nerve damage or surgical sacrifice, but a small number of deaf children have been implanted with this procedure. Because of the small numbers implanted so far and the variability of conditions and results, it is difficult to predict how well children may be able to use the information they receive from the ABI. Most are able to recognize and discriminate different environmental sounds.

The Otolaryngology and Pediatric Audiology of the IRCCS Burlo Garofolo in Trieste and the Audiology and Otology of the University Medical Centre in Ljubljana, both centers of reference in deafness care and cochlear implantation for the respective nations, have initiated a work synergy that combines high technical, surgical and rehabilitative skills for rare and complex cases. We believe that taking care of childhood deafness at the highest level in Europe requires today a cross-border organization that joins forces, promotes information and staff training, and finally strengthens translational research.

The first ABI surgery will be performed in Ljubljana on September 17th while the activation and follow-up will be carried out at the Burlo Institute. The initiation of the ABI program will involve as exceptional instructors and teachers the otoneurologist Prof. Levent Sennaroglu and the neurosurgeon Prof. Burcak Bilginer from the Hacettepe University Medical Faculty in Ankara, Turkey. Prof. Sennaroglu ideated the most updated classification method for cochleovestibular malformations that is used in many countries. He also developed a cochlear implant electrode specific for malformations. Most importantly, the Hacettepe Implant Group in Ankara provided important contribution in the field of ABI in children. The team started ABI surgery in 2006 and performed more than one hundred ABI in children so far.

We are pleased to invite you to the inaugural lessons of this cross-border project
«Cochleovestibular malformations and Auditory Brainstem Implant Indications in Childhood», Trieste on September 16th,
and «Auditory Brainstem Implant Surgery in Children», Ljubljana September 18th

Thanks to MED-EL *for the unconditional support of the initiative*