

BIONIC EAR, ACUPUNCTURE & MORE

HOLISTIC TREATMENT IS
NOW AVAILABLE FOR THOSE
SUFFERING FROM EAR
DISORDERS.



HEARING WITH MODERN TECHNOLOGY

When there's significant loss of hearing cells in the inner ear, profound hearing loss results. Sufferers may not benefit from the usual hearing aids, which merely function to amplify sounds. A cochlear implant, sometimes known as the bionic ear, may then be the answer!

The cochlear implant has an internal component which is surgically implanted into the inner ear. It bypasses the damaged cells in the inner ear to directly stimulate the hearing nerve. External sounds, captured by an external mini-microphone, are processed into electronic signals which activate the internal component. Hence, by replacing the function of the damaged hearing cells, the cochlear implant has the potential to effectively improve hearing.

In young children born with profound hearing loss, the ability to hear enables them to have the chance of developing good speech and language abilities.



In adults who are out of a job because of deafness, it offers the opportunity to regain much of their communication skills and return to work.

A HOLISTIC & INTEGRATIVE APPROACH

The Hearing Health & Cochlear Implant Unit of the Novena ENT-Head & Neck Surgery Specialist Centre is a leading private medical specialist centre in Singapore which provides full hearing health and cochlear implant services for both adults and children. With the expertise of an inhouse team that includes a Listening and Spoken Language Specialist, an Audiologist and an Audiometry Technician, it is a one-stop healthcare provider for people with any degree of hearing impairment.

The unit offers holistic, coordinated and quality care in medical, audiological, rehabilitative and psychosocial services. These are supported by advanced facilities and equipment which are housed under one roof. Additionally, there is a breadth of services for the evaluation and

treatment of various conditions relating to the ear, such as tinnitus (ringing sounds in the ear), vertigo (giddiness and balance disorders), infections and tumours relating to the ear.

SPECIALIST SPOTLIGHT

The Hearing Health and Cochlear Implant Unit is helmed by Dr Low Wong Kein, an internationally renowned ear surgeon. Since performing the first paediatric cochlear implant surgery in Singapore in 1998, he has become one of the most experienced cochlear implant surgeons for both children and adults in this part of the world.

Dr Low was previously Head of the ENT Department and Director of Centre for Hearing and Ear Implants at the Singapore General Hospital. He was conferred a PhD by the National University of Singapore in recognition of his research relating to ear disorders. Today, he remains active in teaching as Adjunct Associate Professor at NUS-Duke Graduate Medical School. He has published extensively, and has helmed many research and training

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ASSOC PROF
LOW WONG KEIN
EAR, NOSE & THROAT SPECIALIST

SERVICES

- Hearing loss assessments for adults and children
- Treatments: medications, surgeries and acupuncture (if indicated)
- Hearing aids, cochlear implants and other hearing devices
- Management of tinnitus, vertigo & other ear disorders
- Separate adult and paediatric audiometry booths
- Hearing rehabilitation and early intervention
- Hearing suite for dispensing hearing aids, cochlear implants and listening devices
- Minor surgical theatre
- Equipment to assess giddiness and balance

organisations, including being President and founding member of the ASEAN Academy of Neuro-otology and Audiology.

Also known for his work with children, Dr Low was a nominee for National Outstanding Clinician at the inaugural National Medical Excellence Award in 2008; and is recognised for being instrumental in implementing Universal Newborn Hearing Screening (UNHS) in Singapore in 2001 (see box story).

With a diploma in acupuncture, Dr Low is also one of the few ENT specialists who is an accredited acupuncturist. With this expertise, he offers acupuncture as a complementary treatment to standard Western treatments, in conditions where acupuncture has been proven to be of benefit.

Outside of work, he sets aside time for volunteering. Besides being President of the Singapore Association for the Deaf, Dr Low has visited countries like China and Indonesia to help needy patients.

Hearing Health in Children

Hearing loss is one of the most common major birth defects locally, with up to five in 1,000 babies born with some form of hearing impairment. Early detection and intervention can help a child develop normal speech and language, to facilitate communication and learning. Hearing loss in babies can be detected with Universal Newborn Hearing Screening (UNHS) using a simple and yet objective test. Should the child fail the test, more detailed diagnostic tests (see below) will follow. Since 2001, UNHS has become an important part of standard medical care in Singapore.

At the Hearing Health & Cochlear Implant Unit of the Novena ENT-Head & Neck Surgery Specialist Centre, hearing loss in infants and children are assessed by a highly experienced team. They are armed with specialised skills to carry out diagnostic tests at the Centre's specialised paediatric facilities, which include:

Auditory Brainstem Response (ABR)

This is a test applied on sleeping babies to estimate their hearing levels. Recording pads are placed on the forehead and behind the ears to measure brainstem activity when sounds are played.

Auditory Steady State Evoked Potential (ASSR)

Also performed on sleeping babies, this test measures brain activity while they listen to tones of varying frequency and intensity. The results are detected objectively using statistical formulae that determine the presence or absence of a true hearing response. ASSR is usually performed with ABR to better evaluate hearing levels.

Otoacoustic Emissions (OAE)

A test that measures the inner hair cell functions of the cochlear; usually performed on newborn babies to screen for deafness.

High Frequency Tympanometry

This is a similar test to tympanometry tests for adults except that a higher-pitched probe tone is used to cater to the characteristics of a baby's middle ear.

Visual Reinforcement Audiometry (VRA)

This test helps to evaluate hearing in children aged six and 24 months. It uses conditioned head turn responses to a sound stimulus. A video clip (like a cartoon animation) is often used to reward a correct response.

Play Audiometry

This is a test to evaluate hearing in children who are 24 months or older. The child is conditioned to perform a listening task by playing a game, such as putting pegs in a board.

