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PRESS INFORMATION

Hearing systems by MED-EL

MED-EL is a pioneer in the field of implantable hearing solutions. In 1977, the world's first micro-electronic multi-channel cochlear implant, developed by MED-EL's founders, Ingeborg and Erwin Hochmair, was implanted in Vienna for the first time. This milestone was the birth of the modern cochlear implant and today, over 40 years later, the privately-owned business continues to set new standards in the provision of innovative solutions for people affected by hearing loss.

MED-EL's hearing solutions: Enhancing quality of life

MED-EL currently offers the widest range of implantable and non-implantable hearing solutions in the world, allowing surgeons and audiologists to select the best device for their patients' individual needs.

Implantable solutions

Hearing implant systems are high-performance, complex medical devices for people affected by hearing loss who cannot be treated with conventional hearing aids. Many hearing implant users even experience an almost natural acoustical sound.

The success of MED-EL's hearing implant solutions can be attributed to their user-friendliness, reliability, efficiency and cutting-edge technology. Users are able to experience the most advanced sound coding technologies, the smallest implant with titanium housing available and superior wearing comfort. In addition, MED-EL users can uniquely benefit from backwards compatibility across all hearing implant systems, allowing them to continuously enjoy the latest innovations in hearing implant technology.

SYNCHRONY cochlear implant system

A cochlear implant is a medical device that replicates the sense of hearing for individuals who would otherwise not be able to hear. It does this by bypassing the non-functioning parts of the cochlea and electrically sending sound signals to the brain.

A cochlear implant system has two main components – an external audio processor and an internal cochlear implant. The implant is surgically inserted under the skin behind the ear. The audio processor picks up and codes sound into a special pattern of digital information and sends it through the coil to the implant. The implant sends this sound information as pulses to the electrodes in the cochlea. The electrodes in the cochlea stimulate the hearing nerve directly, thus transmitting auditory information to the brain. The brain perceives these signals as sound.

The SYNCHRONY system is MED-EL's most advanced cochlear implant. It is the smallest and lightest currently available. The SYNCHRONY 2 implant allows for high-resolution MRI scans up to 3 Tesla without the need for the magnet to be removed.

Users of MED-EL's cochlear implant can choose between the SONNET behind-the-ear audio processor and the RONDO single-unit processor. MED-EL's latest audio processor, RONDO 3, is the world's first cochlear implant audio processor to feature wireless charging technology, making the device easy to use, more cost effective and friendlier to the environment. The processor uniquely combines a transmitter coil, control unit and power source in a single device – a single unit processor – meaning it can be worn with glasses or hidden completely under hair.

The SYNCHRONY EAS hearing implant system

The SYNCHRONY EAS hearing implant system for combined Electric Acoustic Stimulation is designed to suit the unique needs of individuals with partial deafness. Partial deafness is defined as a mild to moderate hearing loss in the low frequencies sloping to a profound hearing loss in the higher frequencies.

The SYNCHRONY EAS hearing implant system combines acoustic amplification with cochlear implant technology. With SYNCHRONY EAS, the inner ear is provided with both acoustic and electric stimulation and is able to process both high and low frequency information simultaneously. The combination of these two technologies in one device allows for a better hearing experience than a hearing aid or a cochlear implant alone.

VIBRANT SOUNDBRIDGE middle ear implant system

Middle ear implants are used to treat people with mild to severe sensorineural hearing loss as well as conductive and mixed hearing losses. A middle ear implant converts sound into mechanical vibrations, which are used to directly stimulate the middle ear structures. These vibrations then conduct sound to the inner ear where they are passed on to the brain.

Middle ear implant systems are an implantable alternative to conventional hearing aids. MED-EL's VIBRANT SOUNDBRIDGE consists of two major components: the externally worn SAMBA audio processor and the VORP 503 Implant. The VORP 503 implant is approved for MRI scans at 1.5 Tesla, without the implant having to be removed.

BONEBRIDGE bone conduction implant system

The BONEBRIDGE is the world's first active bone conduction implant. It is suitable for individuals who suffer from conductive hearing loss, mixed hearing loss or single-sided deafness. The BONEBRIDGE consists of two components: an implant and the audio processor, which can be worn discretely underneath the hair.

Sound signals are recorded by the BONEBRIDGE's audio processor and are converted into signals which are transferred through the skin to the implant. There the signals are converted into mechanical vibrations. The bone then conducts these vibrations to the inner ear where they are converted into nerve signals and transmitted to the auditory nerve.

The BONEBRIDGE offers intact skin technology, which means the skin's protective functions remain intact because the implant is placed underneath the skin. This is also aesthetically beneficial.

Non-implantable solutions – ADHEAR

ADHEAR is a novel non-surgical bone conduction hearing solution offering a simple and gentle way to treat conductive hearing loss for adults and children. The revolutionary system is an excellent option for people with conductive hearing loss who are unsuitable for or who do not wish to undergo implant surgery.

The system has two external components: an adhesive adaptor and an audio processor. The audio processor picks up sound waves, converts them into

vibrations and transmits them onto the bone via an advanced adhesive adaptor worn behind the ear. The bone then transfers the vibrations through the skull to the inner ear where they are processed as normal sound.

About MED-EL

MED-EL Medical Electronics, a leader in implantable hearing solutions, is driven by a mission to overcome hearing loss as a barrier to communication and quality of life. The Austrian-based, privately owned business was co-founded by award-winning industry pioneers Ingeborg and Erwin Hochmair, whose ground-breaking research led to the development of the world's first micro-electronic multi-channel cochlear implant (CI). Successfully implanted in 1977, it was the basis for what is known as the modern CI today. It also laid the foundation for the successful growth of the company in 1990, when MED-EL's first employees joined the Hochmair's to bring CIs to people across the world. To date, MED-EL has grown to more than 2,200 employees from around 75 nations and has offices in 30 locations worldwide.

The company now offers the widest range of implantable and non-implantable solutions to treat all types of hearing loss, enabling people in 124 countries to enjoy the gift of hearing with the help of a MED-EL device. MED-EL's hearing solutions include cochlear and middle ear implant systems, a combined Electric Acoustic Stimulation hearing implant system, auditory brainstem implant, as well as surgical and non-surgical bone conduction devices. More than 95% of the hearing devices, which are produced in Austria, are exported all around the world to be used by more than 4,000 clinics. www.medel.com

Responsible for the content

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