



To News Editor
For Immediate Release

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CUHK Accomplishes the First Totally Implantable Hearing Aid in Asia

The Department of Otorhinolaryngology, Head and Neck Surgery of the Faculty of Medicine at The Chinese University of Hong Kong (CUHK) announces the first successful operations for totally implantable hearing aid in Asia. Three adults, aged from 35 to 56, with moderate to severe sensorineural or mixed deafness were successfully implanted from February to June 2008. These patients were benefited by experiencing more natural amplification, good cosmetic outcome and gratifying user experience.

The Fully Implantable Hearing Device represents a major step in the evolution of assistive hearing device development. It is a middle ear prosthesis designed to bypass the outer ear, eardrum and part of the ossicular chain. It makes direct contact with key middle ear structures, allowing sound to be amplified more naturally by specifically enhancing the vibration of the ossicular chain thereby transmitting the amplified sound via a more direct route to the cochlear. As the device has no parts that are inserted into the ear canal, it leaves the ear canal completely open.

This technology is suitable for patients with moderate to severe hearing loss, including aural atresia, chronic suppurative otitis media, cholesteatoma, otosclerosis and sensorineural deafness. It is particularly useful when the result of traditional aiding is suboptimal. Some individuals who experience infections or chronic irritation of the ear canal who cannot wear conventional hearing aids can also benefit from the fully implantable hearing device. And being totally implanted, it offers excellent functional and cosmetic outcome, and patients can freely participate in outdoor and aquatic sports. However, the fully implantable hearing device is not recommended for those with profound hearing loss (above 90 dBHL), or patients who do not accept surgery as a therapy.

The middle ear implant consists of three parts: a capsule that houses the electronics, a microphone system, and a middle ear transducer. The electronic capsule contains a battery, magnet, sound processor, and connector for the transducer. It is implanted under the skin behind the ear. The surgery usually takes about two hours and requires general anesthesia. An audiologist will activate the device after the standard post-operative healing period of approximately six to eight weeks.

“We find the fully implantable hearing device offers a practical choice for hearing rehabilitation in a specific group of patients when traditional aiding fails. They can seek advice and assessment from ear, nose and throat specialists and audiologists,” said Professor Michael Tong, Head of Academic Divisions, Department of Otorhinolaryngology, Head and Neck Surgery, CUHK.

In conclusion, patients are delighted with the device because people do not see that it is being worn and it does not restrict active lifestyles.



致新聞編輯
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中大成功進行亞洲首項全植入助聽器

香港中文大學（中大）醫學院耳鼻咽喉—頭頸外科學系成功在亞洲進行首項全植入助聽器。該系在 2008 年 2 月至 6 月期間，成功為 3 名年齡介乎 35 至 56 歲、患有中度至嚴重聽感神經性聽力損失或混合型聽力損失的人士進行手術。全部病人植入助聽器後都滿意效果，不但外觀良好，而且聽到的音質更自然。

全植入式助聽器是聽力輔助器具的一項重大發展，它是一個置於中耳的假體，繞過外耳、鼓膜及部分聽骨鏈，與中耳主要部分直接連接，透過提高耳小骨的振動來放大聲音，更加自然直接地送到耳蝸。由於全植入聽力裝置部件不須置於耳道內，所以耳道能完全開放。

新技術適合中度至嚴重聽力損失人士，包括耳道閉鎖、慢性中耳炎、膽脂瘤、耳硬化及感音神經性失聰人士，而對傳統助聽器效果不理想者，尤其有效。一些因耳道感染或慢性耳道疾病而不適合佩戴傳統助聽器者，都能受惠於全植入式助聽器。全植入式助聽器提供卓越的功能及外觀效果，病人可自如地進行戶外及水上活動。但對於一些聽覺深度受損（聽力損失在 90 分貝以上）或不願意接受手術治療的人士，則不適合植入此助聽器。

全植入聽力裝置由三部分組成：電子膠囊、麥克風系統和中耳感測器。電子膠囊包含電池、磁鐵、聲音處理器和感測器的連接器。醫生會將助聽器植入到病人耳朵後的皮膚下。手術一般需時約兩小時，需全身麻醉。經過大約 6 至 8 個星期的癒合期後，聽力學家會進行聽力裝置的開啟程序。

中大耳鼻咽喉—頭頸外科學系學術主管唐志輝教授表示：「全植入式助聽器提供了一個復聽的選擇，一些病人若不滿意傳統助聽器的效果，可考慮接受耳鼻咽喉科醫生和聽力學家的評估，評估是否適合使用全植入式助聽器。」

總括而言，全植入式助聽器是一個隱藏的聽力裝置，使用時不著痕跡，同時亦不會妨礙日常生活。

二零零八年十一月二十五日