



新聞稿 PRESS RELEASE

PRESS CONFERENCE AT CUHK, PWH

2nd NOVEMBER 1989

Seminar Room 1, 2nd Floor

Time : 2:30 pm

Announcing the successful implantation of a Bone Conductor Hearing Aid

Deafness is one of the most distressing afflictions man can suffer because of the breakdown in communication with others. Nowhere is this more evident than the severe developmental retardation that accompanies children who are born deaf.

For certain types of deafness, the traditional hearing aid can help. However a functioning middle or external ear is often necessary for such hearing aids to work properly. Those patients whose deafness is due to diseases of the middle or external ear of whom a significant proportion are beyond surgical help are thus doomed to a life of solitude and loneliness.

The Department of Surgery of The Chinese University of Hong Kong at the Prince of Wales Hospital is pleased to announce the successful use of an implantable bone conductor hearing aid which will help a large group of deafened adults and children in our community ie those patients who have conductive hearing impairments but with good inner ear reception.

The theory is simple. Sound is picked up by an external microphone and amplified. Using a rare earth magnet the signals are transmitted electromagnetically across the skin to an implanted hearing aid. As the implanted device is fully integrated within the skull, the whole skull bone receives the sound vibration which in turn stimulates the inner ear and results in the perception of sound.

The advances and applications of modern technology have now made this implantable hearing aid a reality. Solid state electronics and microcircuitry together with the integration of powerful rare earth magnets allow efficient sound transmission of great clarity. Moreover the development of a titanium alloy, a fully biocompatible material permits stable long term incorporation into tissues and bone.

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The surgery for implantation of the hearing aid requires extreme care and precision so that intimate contact exists between the skull and the implant. Two months after surgery when the implanted aid is thoroughly biologically incorporated into the skull and the surrounding tissues fully healed, the external device made up of microphone, amplifier and transmitter is fitted.

The hearing is vastly improved after fitting the new hearing aid. More specifically, amplification is significantly better especially in the higher frequencies which is important when listening to music or speaking with children. There is generally reduced distortion and improved clarity of all sounds. The new device is extremely comfortable and eliminates the need for tight headbands, spring loaded glasses or the discomfort of having the ear canal blocked by a conventional hearing aid. Free from interference, the general health of the middle ear and canal will inevitably improve. Being aesthetically more pleasing and practically invisible for normal hair styles, the device has high patient acceptability.

Since CUHK embarked upon a programme of implantation in May this year, all the patients have excellent results. Surgeons at the Chinese University Department of Surgery believe the Bone Conductor Implantable Hearing Aid represents a major advance in the rehabilitation of a significant number of deaf patients and is currently one of the most exciting areas of research in the field of otology.

November 2, 1989