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## EAR IMPLANTS

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Deafness is classified into two types, congenital and acquired. In both types there are those who can be treated by drugs, surgery or both. One group cannot be treated but can be helped by the use of a hearing aid. There is also a group that cannot be either treated or helped. This group has constituted a problem for the Ear, Nose and Throat specialist until February 1984 when the Federal Government of the United States of America approved ear implants, for adults only, who have deafness which cannot be helped by surgery or a hearing aid.

The ear implant is a product of many years of research which produced two types of ear implant. The first type which has a single channel was made in Los Angeles, U.S.A. by Dr. Houses' group and the second type which has been made in both Vienna, Austria and Salt Lake City, U.S.A. is multi-channeled. Both depend on receiving sound waves and converting them into electrical signals which are transmitted to the acoustic nerve and from there to the brain.

The disadvantage of the single channel unit is that it cannot imitate the natural ear which is a multi-channeled organ. The single channel can transmit the sound but it is unlike any natural sound that we perceive and musical sounds cannot be appreciated as one would normally appreciate them. The multi-channel unit can to some extent duplicate natural hearing.

The operation takes 3 hours to perform and simply it consists of putting an electrode inside the inner ear and a receiver under the skin in the mastoid area with a transmitter over the skin, also in the mastoid area. The transmitter is connected with wires to the processor and microphone which is the size of a small calculator and is worn on the body.

Fitting the Cochlear Implant System needs a team of workers which consists of an E.N.T. surgeon trained in this aspect, a speech therapist, a teacher of the deaf, an audiologist and a psychologist. A sound laboratory is also used. The team is responsible for examining the patient before the operation and making sure that the acoustic nerve is present because without this the operation cannot succeed. Also the team must ascertain that the patient is cooperative and is willing to be trained.

This operation will become a necessity in the near future in the Arabian Gulf area. I would think that the most reasonable plan would be to establish a centre for the G.C.C. countries in order that the centre will have the necessary manpower, financial backing and a sufficient flow of patients.