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Using 3D technology for functional and cosmetic solution in patients with microtia

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Microtia is a congenital malformation of variable severity of the external ear affecting external ear (with or without middle ear) components shape and position. This deformity affects 3 of every 10,000 live births. In 10% of cases could be bilateral. Microtia may present within a spectrum of branchial arch defects (hemifacial microsomia, craniofacial microsomia) or may manifest as an independent malformation. Hearing loss and cosmetic discomfort may affect child scholastic performance and leads to social withdrawal. Reconstruction of shape and hearing acuity is a challenge even for experienced surgeons. The prosthetic ear is aesthetically pleasing, composed of natural looking anatomical contours, shape, and texture along with good color that blends with surrounding existing skin. Bone anchoring hearing aids (BAHA) is one of the most affective hearing solutions. Combining of the BAHA implant and prosthetic ear attached by titanium screws may give both functional and psychological relief for both child and parents. These outcomes can be optimized by the integration of digital technologies in the construction process. CT scan images in cases of uni or bilateral cases can be processed in special software to give a mirror image of the present contralateral ear or ideal position for implant insertion in bilateral cases. Giving clear idea about bone quality and best insertion site of vistafix prosthetic ear and BAHA implants. Using specialized 3D printers can give us ideal shaped prosthetic ear which can be colored according to patient specific skin color providing a base for reproducible results regardless of operator. This modality of treatment can give us pleasant safe solution for function and cosmetic appearance.

Biography

Amjad Alnuseirat is an Assistant Professor at Jordan University of Science and Technology Otolaryngologist at King Abdullah University Hospital. After completing his medical degree, he joined Residency program in Otolaryngology. He completed his fellowship degree in Otology and Skull Base Surgery from Italy. He is an Otolaryngologist mainly interested in Otology. He is trained to do Otologic surgeries mainly concentrating on cochlear implants and prosthetic ear implants. He has published a number of articles in highly ranked medical journals.

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