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The digital solutions for microtia prosthesis

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Objective: Regarding to auricular prosthesis and superstructure of microtia, osseointegration without bar based on BAHA3 Implant, and for the shorter treatment cycle, minimalize the surgical trauma and a more satisfying prosthesis effect.

Methods: 1. Assisted by 8 mm skin punch, an implanter is used to dig a hole in the bone and insert implant. 2. The osseointegration lasts six weeks and a infrared thermal imager is used to monitor its progress. 3. The 3D model of auricle is reestablished in the software Mimics, and then built up in the 3D printer. 4. Color matching: assisted by the color analyzer with Lab system- adjust the color and transparency by comparing them with the corresponding parts. 5. An implant-prosthesis connector made of POM fixes the auricular prosthesis on the tempus. p.s. Procedure 1 and 2 are skipped in the maxillofacial prosthesis without implant.

Results: The period of osseointegration without bar is 6 weeks with a 10% more satisfaction, increased resemble criterion and a prosthetic ear distinguishable distance of less than 1.5 meters. The whole connector weighs an average 4.51 g, which is only 50%-70% the weight of a traditional Vistafix structure. In digital reverse engineering of auricular prosthesis, manual operation lasts only an average 3.64 hours, which is only 30%-40% the length of a traditional Vistafix operation. During the working process of a prosthetic ear, a patient pays the physician averagely 3.13 visits-decreased by 30-40%. And the all-in cost for an auricular prosthesis is 66,700 RMB, which is 1.8 times the price of a traditional Vistafix one.

Discussions: The advantage of osseointegration without bar lies in its simplified structures reduced weight of the implant system and shortened treatment time. The utilization of digital reverse engineering in the working process of a prosthetic ear increases the fabrication precision while decreases patients' waiting time and frequency of visits. Moreover, it can also reduce the training time of workmanship and achieve a further enhanced satisfaction among patients. Infrared thermal image inspection helps reduce and control the complications. And the overall cost is slightly higher than the traditional method. Digital technology and osseointegration without bar do not only provide conditions for the clinical promotion of auricular implant, but also lay a foundation for the digital repairment and implant of cranial and maxillofacial defect.

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Double eyelid procedure: Orbicularis-levator fixation technique

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Asian eyelids have several characteristics that distinguish them from the eyelids of people from European and African descent. These include 1) low, poorly defined or absent lid creases, 2) pronounced fullness to the upper and lower lids, 3) narrow palpebral fissures and 4) epicanthal folds. The extent to which these anatomic variants are present, determines the height and prominence or absence altogether of the upper lid crease in the Asian eyelid. Asian blepharoplasty is the most common Cosmetic Surgery procedure done in the Far East, with many variants noted. Here, we will discuss in detail the patient selection, preparation, anesthesia, and surgical technique utilized in the Orbicularis-Levator Fixation Technique for the creation of the double eyelid in the Asian patient.

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