

TREATMENT OF MAXILLOMANDIBULAR DEFECTS USING CUSTOM-MADE IMPLANTS WITH VASCULARIZED FIBULAR GRAFT

The treatment of maxillary tumors involves a great challenge especially when it comes to restoring the patient's quality of life. When the treatment is not adequate, recurrence is high. Resection sequelae often includes facial deformity and masticatory deficiency. In order to better address and rehabilitate patients with maxillary defects a computer designed procedure using custom-made implants along with microvascularized bone flaps is explained and some clinical patient outcomes are shown.

The procedure starts when the patient first comes to visit the surgeon's office and is diagnosed. Once the diagnosis is confirmed, a CT scan is performed and a 3D reconstruction of the lesion is created. This reconstruction is then analyzed by the work team and the surgical planning begins. Rapid prototype models are printed, and the resection, surgical approach and implants to be used are defined. Cutting-guides for the osteotomy of the vascularized fibular graft are also designed. The surgery is performed on the rapid prototype models to validate, and then definitive implants and instrumentation are manufactured and prepared for surgery.

The surgical procedure is performed as it has been previously planned. The maxillofacial surgeon uses the surgical guides to perform the osteotomy of the maxilla. At the same time, the microsurgeon uses the guides and surgical planning to prepare the donor site and harvest the graft; he along with the maxillofacial surgeon performs the reconstruction of the receptor site and complete the reconstruction.

This procedure has been used in several patients with encouraging results improving significantly their quality of life. It also provides surgeons with tools for better surgical planning and predictable outcomes, at the same time that reduces surgical time and the chance of making a mistake during surgery

This is case of a girl with a huge defect in the maxilla. We performed a maxillectomy with a immediate free flap reconstruction and orbit custom made plate.

FREE FLAP RECONSTRUCTION OF HEAD AND NECK DEFECTS AFTER ONCOLOGIC RESECCION IN THE INSTITUTE OF CANCER AMERICAS CLINIC.

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