

The invention relates to medicine, in particular to maxillofacial surgery and can be used for orbital volume and topography reconstruction in patients with pathology associated with a defect or deformity in the orbital region.

Summary of the invention consists in that on the basis of computed tomography of the defect area and the contralateral part, if the defect is unilateral for the virtual three-dimensional reconstruction of the osseous part and soft tissue surface is constructed a virtual geometric model corresponding to the affected area, where is determined the defect volume and topography or displacement relative to the unaffected part or in the case of bilateral lesions based on craniometric coincidences of a virtual model, which is printed on a 3D printer of surgical resin and is used to configure a metal mesh prior to the operation and/or a bone autograft intraoperatively, which is chosen topographically. Then, using the 3D printer, a surgical guide is obtained that corresponds to the topography and anatomical irregularities for the manufacture of the autologous bone graft or after virtual reposition of displacements, is virtually simulated and printed on the 3D printer the disassembled skeleton model on the fracture or displacement line and the guide that serves as a key for correct reposition with bone support. Then, the surgical operation is performed with the incision of soft tissues and mobilization of the corresponding area with adequate visualization of the defect, is performed the reduction of displacements, if necessary, and checked with the reposition guide the correct position, is applied the metal gauze and/or the prepared autologous bone graft, which is fixed with screws, clamps or metal rods, and the soft tissues are sutured in layers.

Claims: 1