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Title: **Conformity Of Presurgical Planing And Postsurgical Outcome In Orbital Wall Reconstructions With Application Of Custom Made Patient Specific Implants**

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Objectives
CAD/CAM technologies in a last few years became an effective approach for management of the complicated clinical situations. Patient specific implants, manufactured as a CAD/CAM product, showed high clinical efficacy for management of facial bones defects in many studies. There is an increased interest to their usage in reconstructive surgery of the orbit. However, in some cases virtual planning may differ from true clinical situation and postoperative result due to the number of factors.
The aim of this study was to compare presurgical planning with postsurgical outcome and to evaluate the clinical efficacy of custom made patient specific implants in patients with orbital wall reconstructions.

Methods
21 patients with unilateral posttraumatic orbital defects and deformities and subsequent reconstructive procedures using patient specific implants (PSI) were involved. All patients were examined following the standardized algorithm including local status examination, vision assessment and computer tomography (CT) before and after surgery. Digital analysis was performed to study conformity of presurgical virtual planinning and postsurgical results.
Results
In present study no postoperative inflammatory complications, decreased visual acuity as well as loss of visual fields were found. The average period for PSI manufacturing was 4,25±2.95 days. The average duration of the surgical interventions was 58.8±17.3 minutes. The comparison of the postoperative CT with the preoperative CAD data revealed that a positional deviation of the PSI`s fixing holes in all cases did not exceed 1 mm. Elimination of functional disorders 1 month after surgical intervention was accomplished in 61.9% of cases, followed by 80,95% of patients in 3 month term.
Conclusions
Orbital reconstruction with application of patient specific implants is an effective procedure that allows to restore the complex anatomy of the orbit with a high level of predictability.