

## FP88b

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### **Cosmesis and consistency in constructive surgery**

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The authors report on the first experiences with the prototype of a surgical tool for cranial remodeling. The device enables the surgeon to transfer statistical information, represented in a model, into the disfigured bone. The model is derived from a currently evolving databank of normal head shapes. Ultimately, the databank will provide a set of standard models covering the statistical range of normal head shapes, thus providing the required template for any standard remodeling procedure as well as customized models for intended overcorrection. To date, this technique has been used in the surgical treatment of 14 infants (age range 6-12 months) with craniosynostosis. In all 14 cases, the designated esthetic result, embodied by the selected model, has been achieved, without morbidity or mortality.

Frame-based reconstruction provides the required tools to precisely realize the surgical reproduction of the model shape. It enables the establishment of a self-referring system, feeding back postoperative growth patterns, recorded by 3D follow-up, into the model design.