

Bifrontal Decompressive Post-Traumatic Skull Defect



Fig. 1



Fig. 2

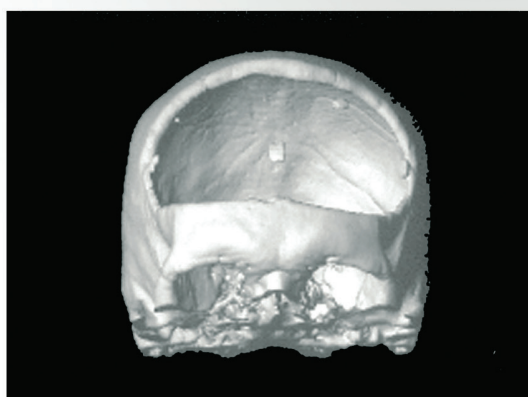


Fig. 3

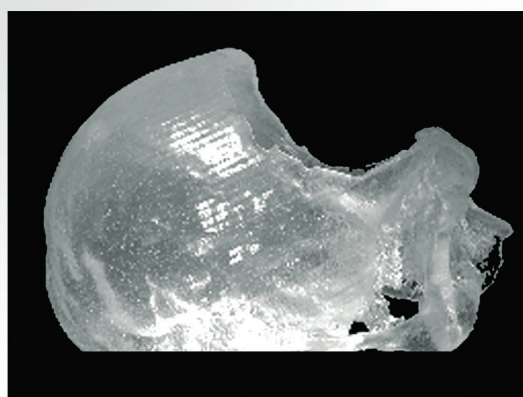


Fig. 4

CustomBone Service

Male, 38-years old: In 2000, the patient suffered from a serious cranial trauma due to a car accident. The patient was admitted to the closest Neurosurgery Unit and underwent surgery for an expanded bilateral frontal decompression. After a period in a coma, he was transferred to a rehabilitation centre where he completely recovered his normal neurological conditions in approximately 12 months. The extensive skull defect, which was not compensated by hair re-growth, caused the

patient serious problems in his everyday life (Fig. 1- 2). In January 2002, the patient requested to undergo a second operation to compensate for the defect and to improve the aesthetical result. CustomBone service thus designed and created a custom-made porous hydroxyapatite device. The encephalic CT scan (Fig. 3) and the following acrylic resin model of the patient's skull (Fig. 4) further defined the extent of the bone defect.

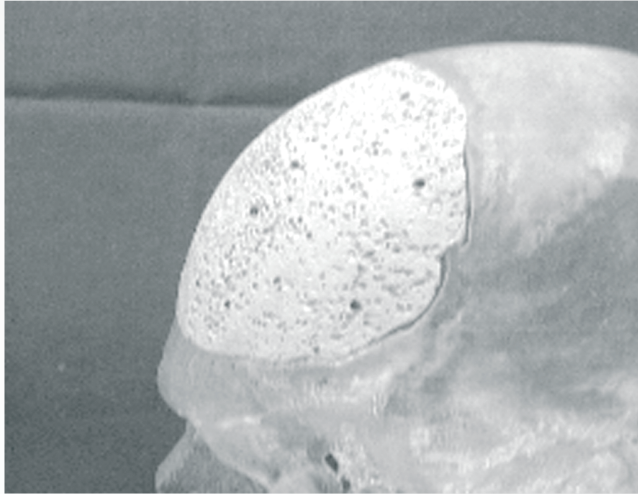


Fig. 5



Fig. 6

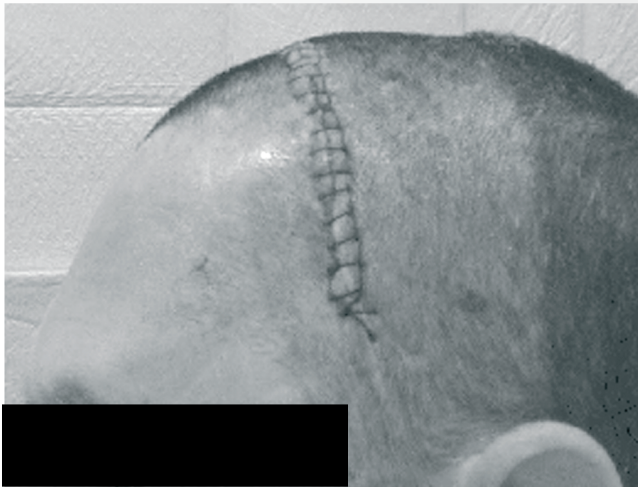


Fig. 7

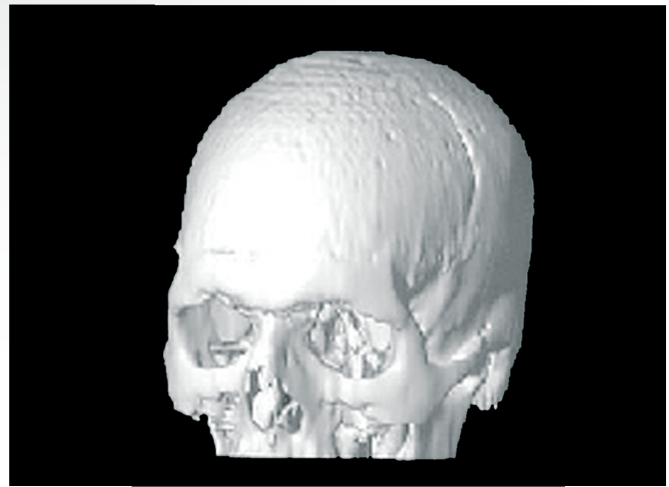


Fig. 8

The device, which was based on the defect reproduced on the acrylic resin model (Fig. 5), proved to perfectly match the bone defect during surgery (Fig. 6). Post-operative progress was free of complications. The aesthetical result demonstrated to be excellent right from the patient's discharge (Fig. 7).

Clinical and radiological follow-up performed after approximately 3 months found that the patient had returned to a normal everyday life. The encephalic CT scan follow-up confirmed the successful outcome of the implant (Fig. 8).