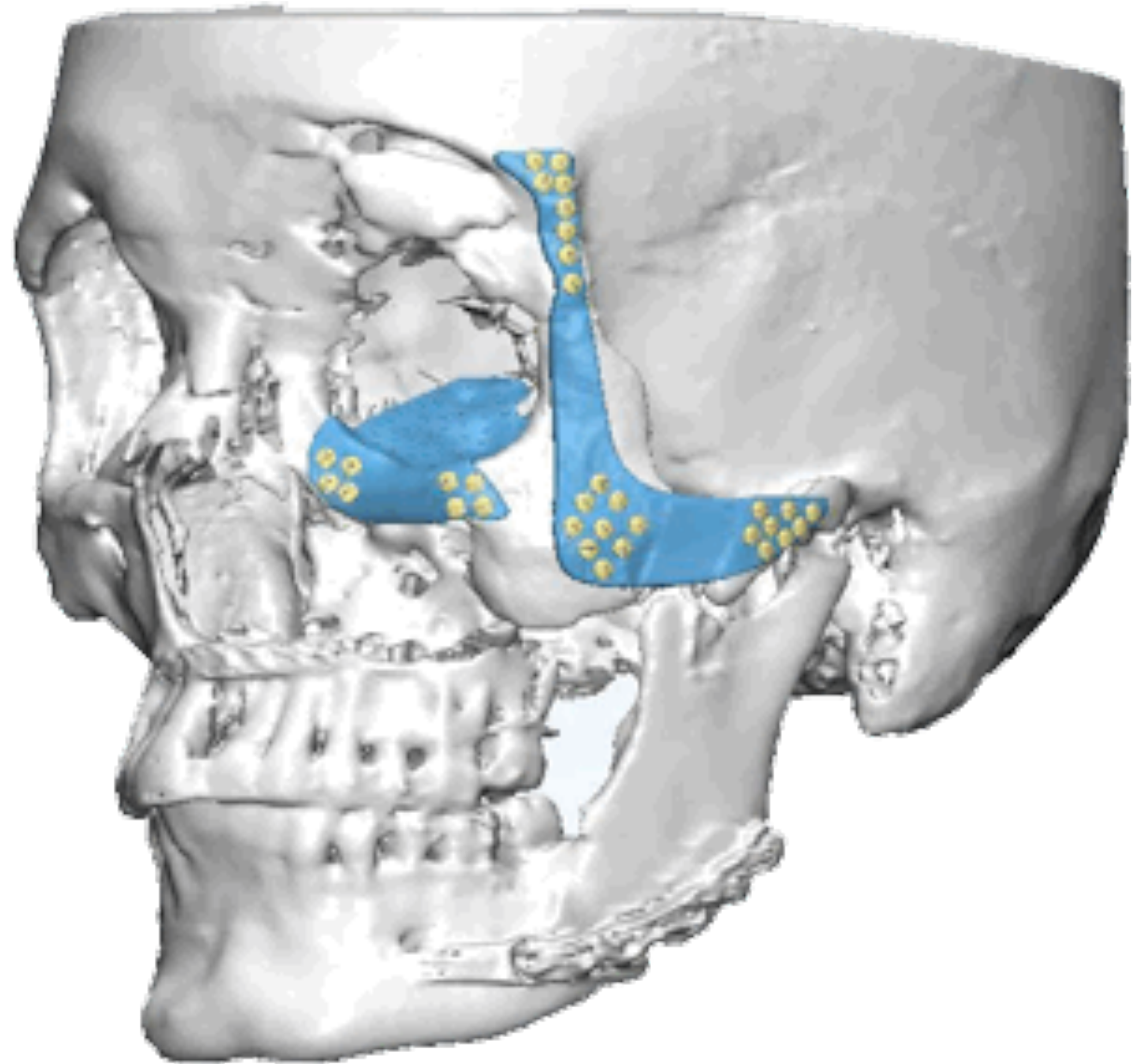


PSI

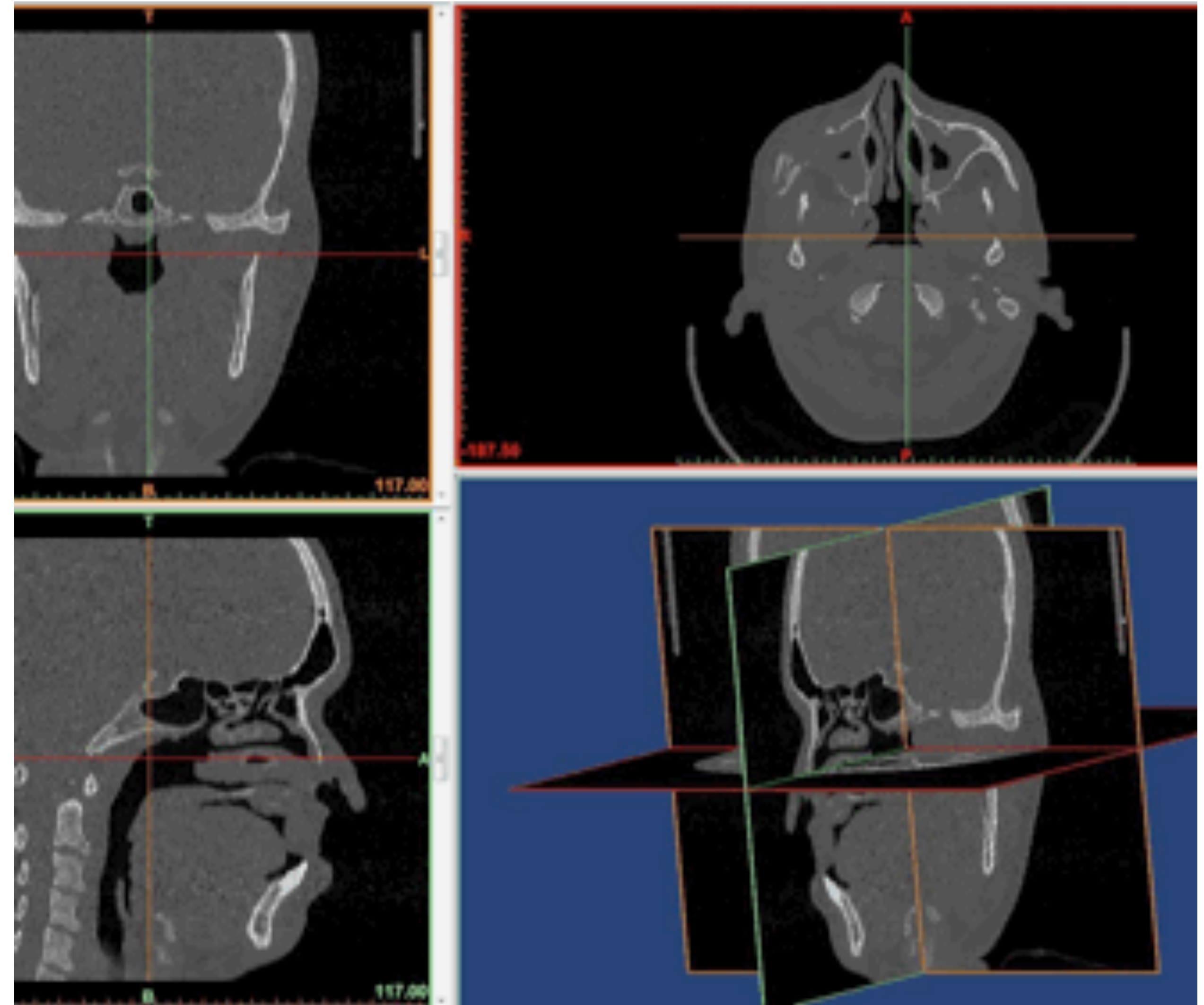
PATIENT SPECIFIC IMPLANTS

- Better anatomic fit
- Reduced operation time
- Satisfying aesthetic needs
- Reduced complexity of surgery



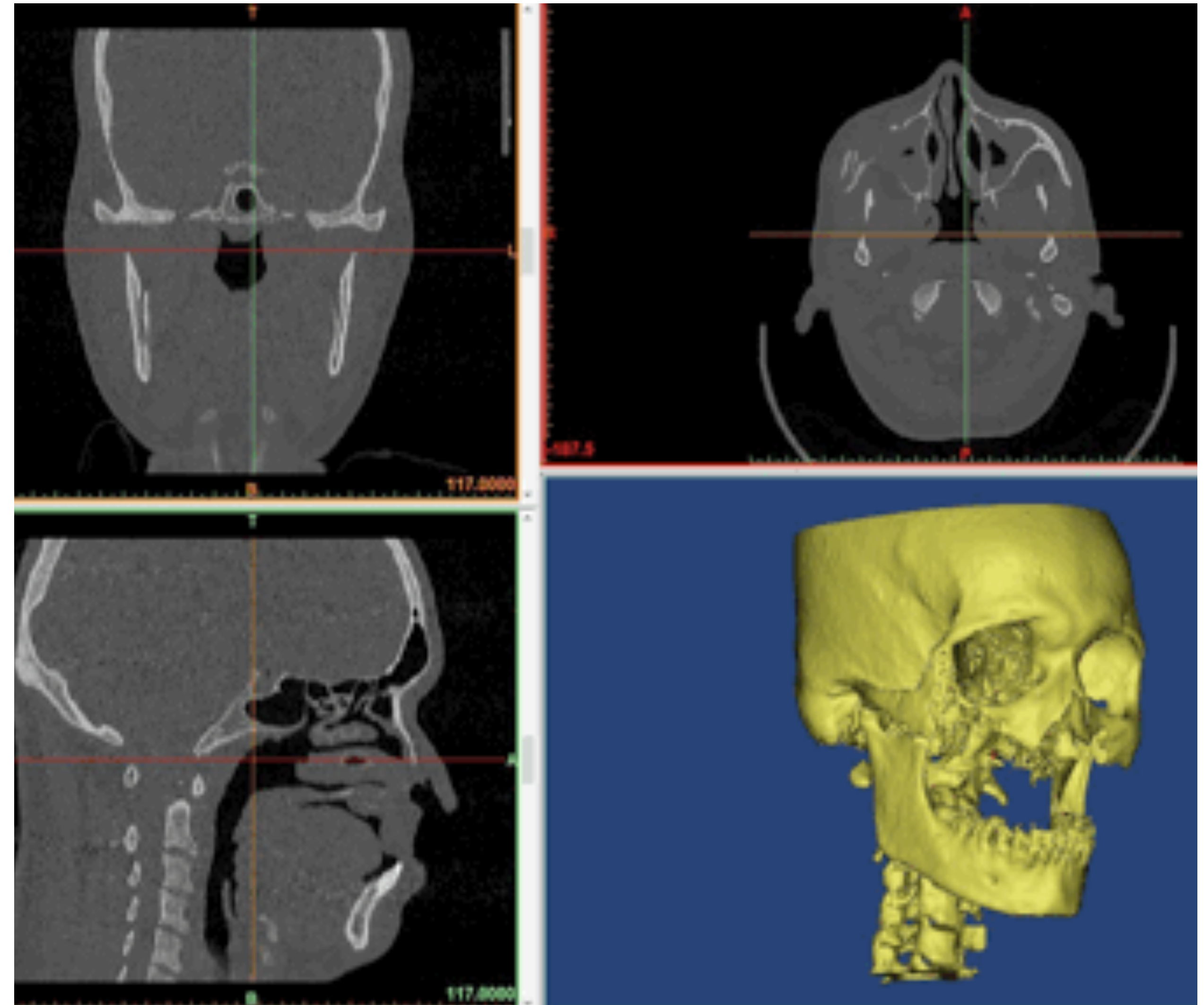
METHODOLOGY

Auxein Patient Specific Implants are derived from 1mm slice DICOM CT data, which is obtained from the hospital radiology department.



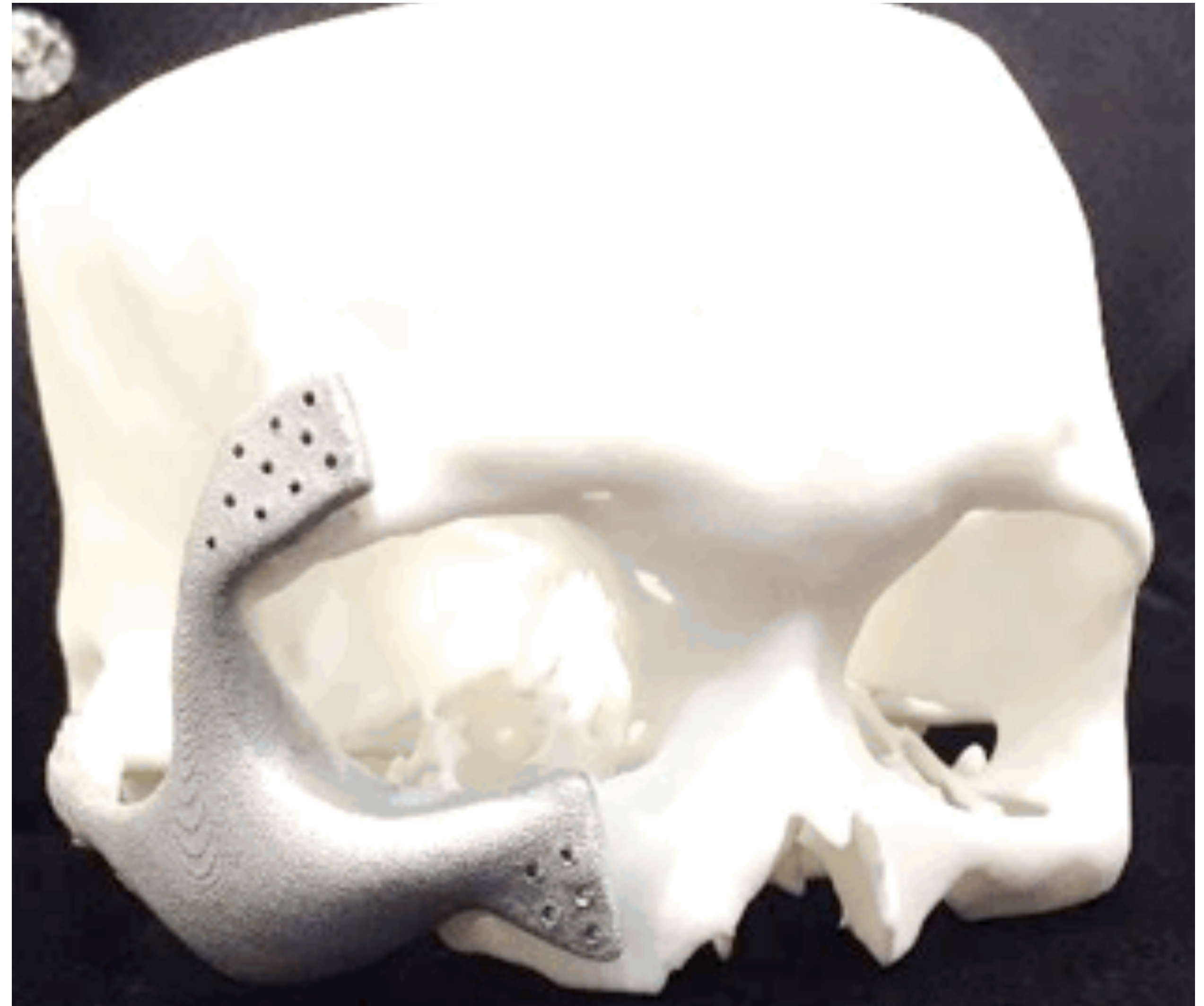
SEGMENTATION

Medical imaging software is used to visualize the CT data and create an anatomically correct skull model and implant design.



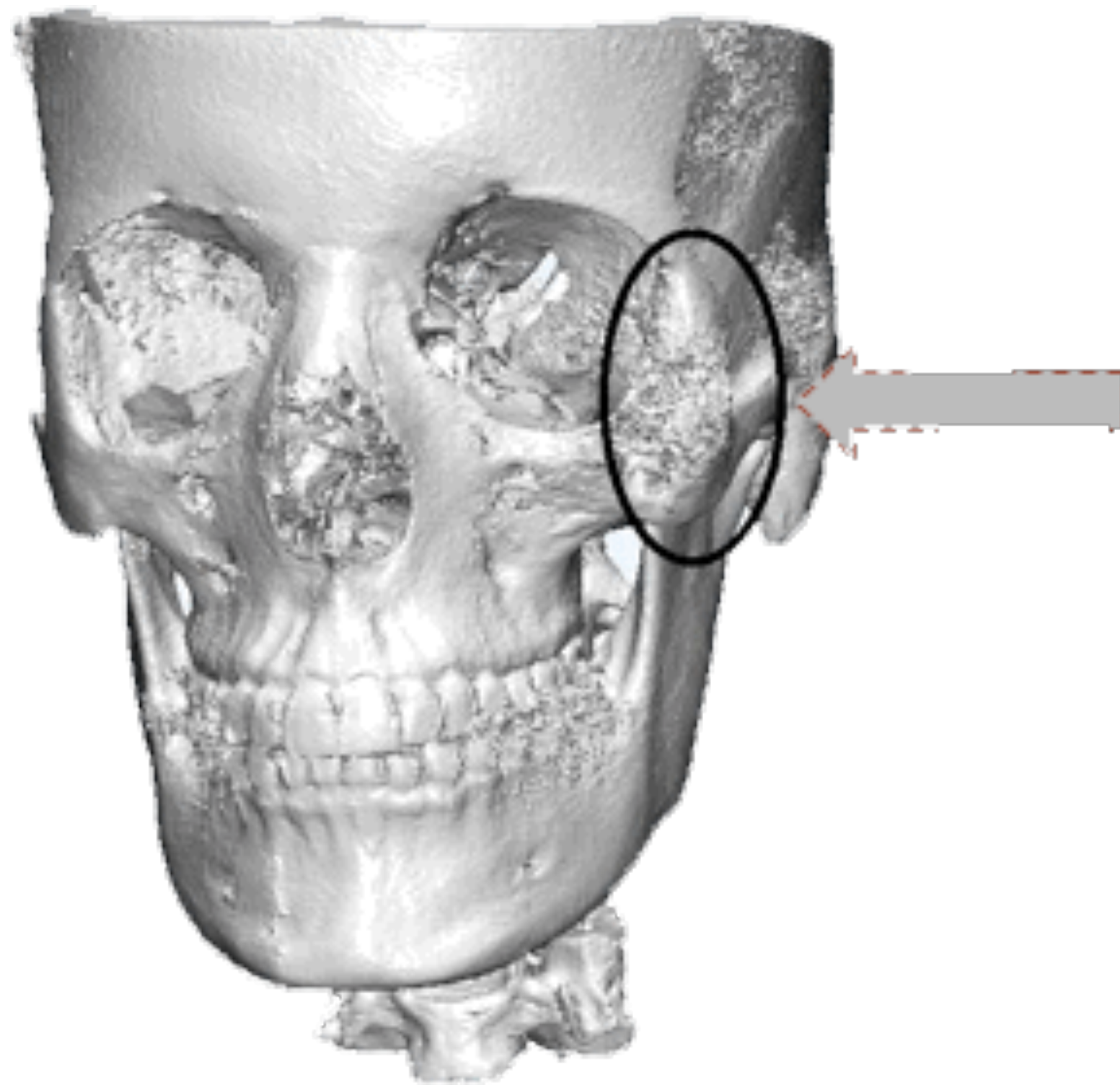
PROTOTYPING

Prototyping using FDM process with plastic material can be done to reduce the surgery time.



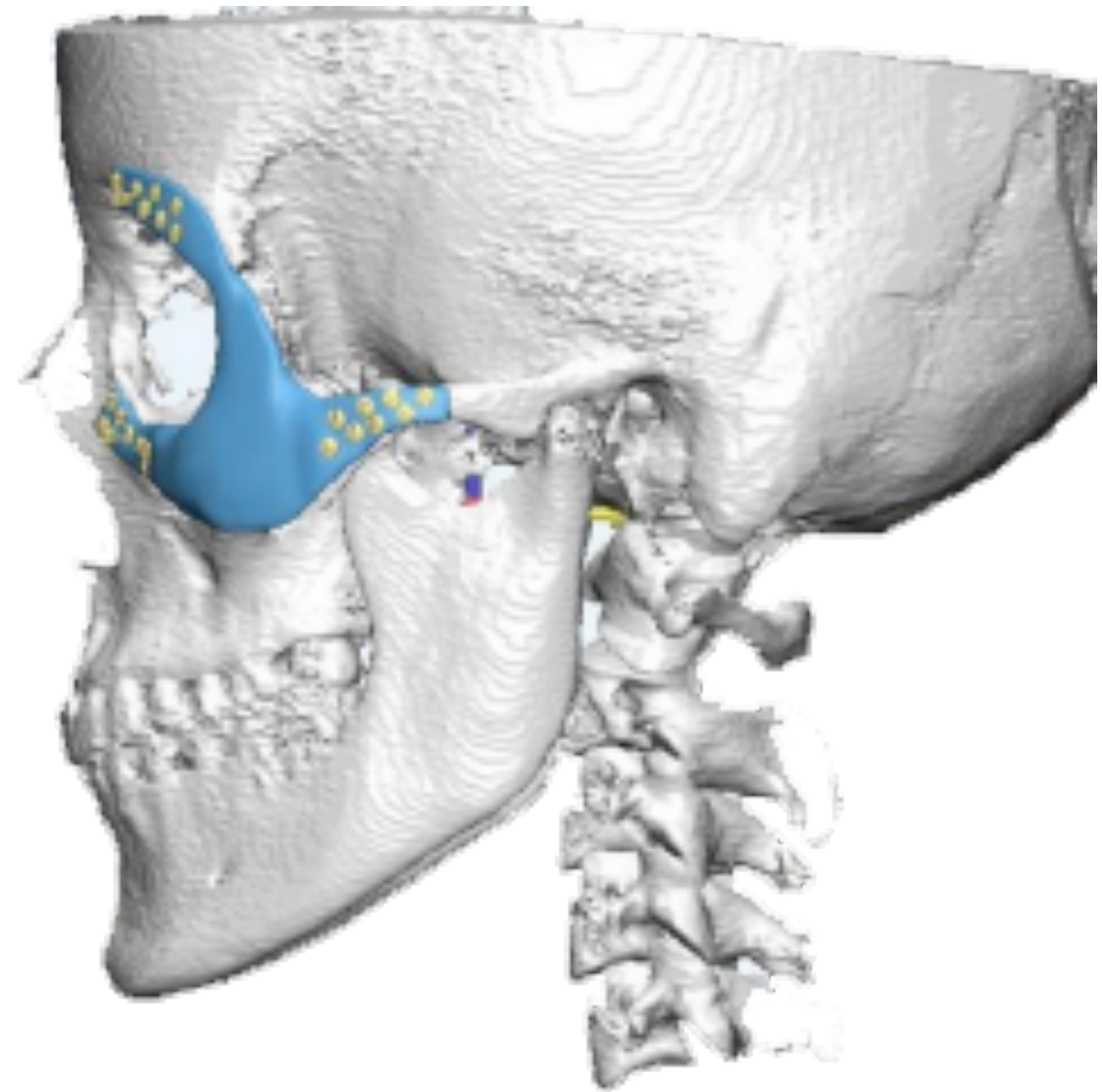
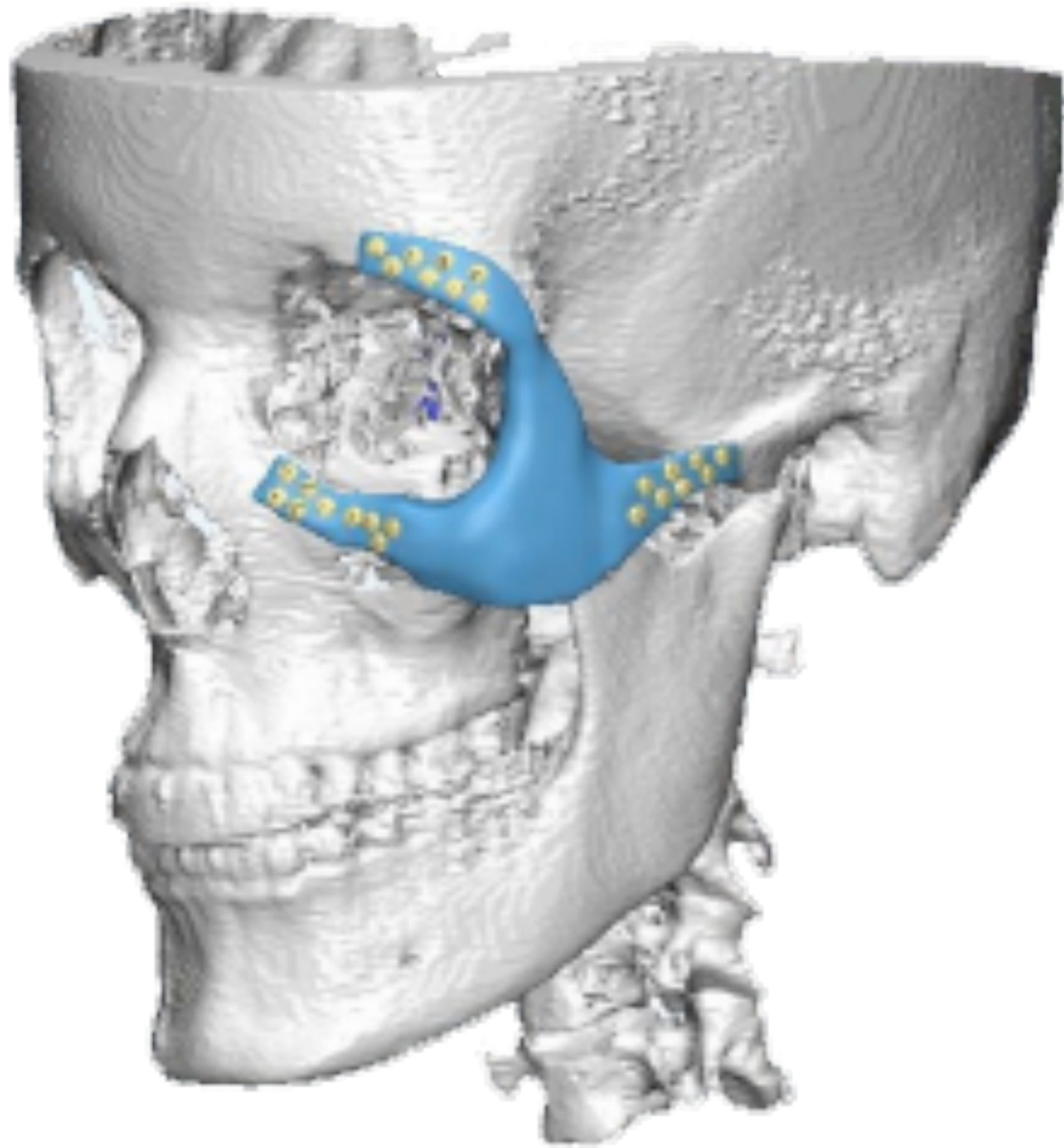
CASE STUDY

Patient is suffering from the cancer in zygomatic area. The major challenge was to develop a customized implant for the patient.



**CANCER INFECTED
AREA**

IMPLANT DESIGNED

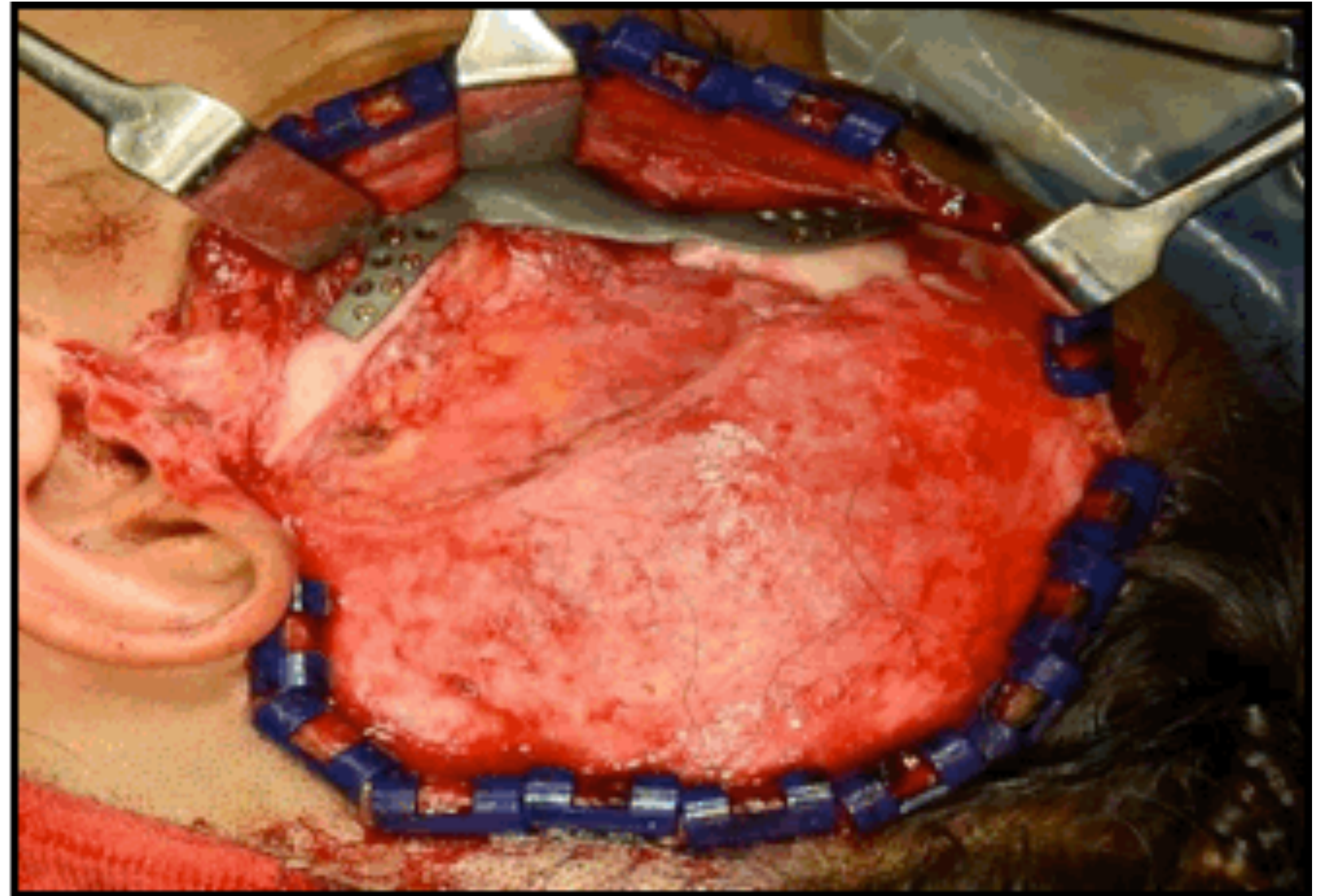
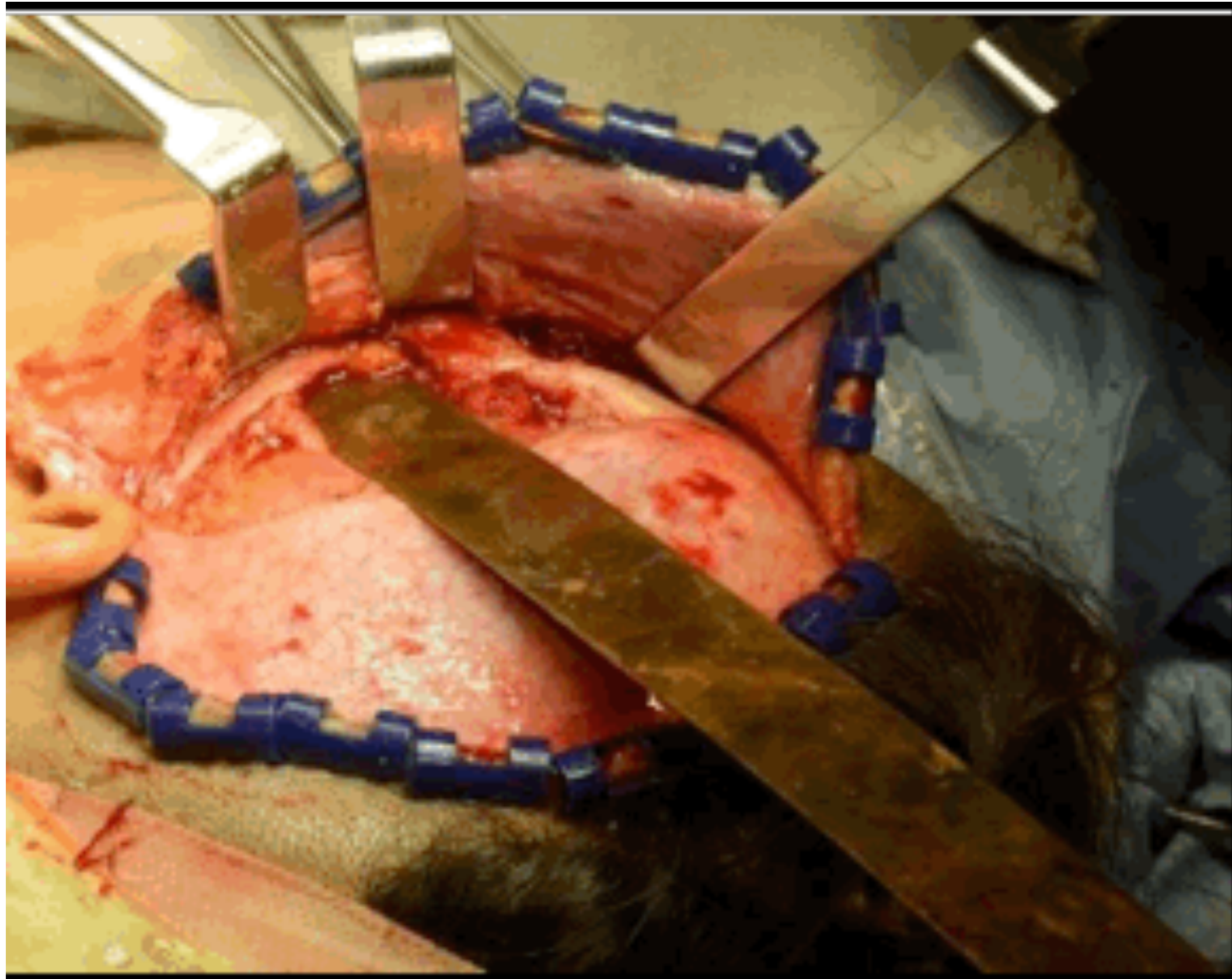


IMPLANT MANUFACTURED



SURGERY

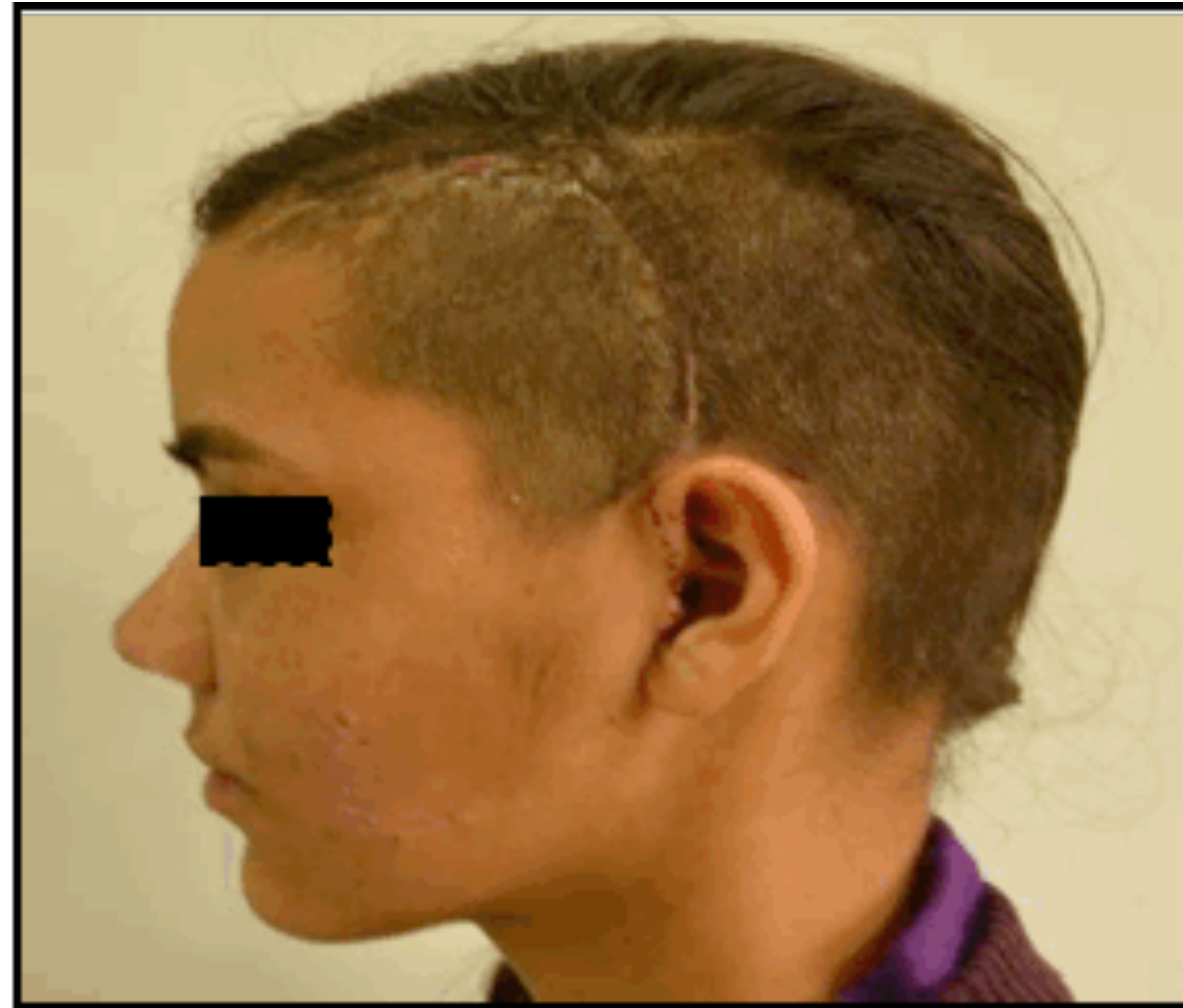
PSI Implanted into the patient



PRE AND POST SURGERY RESULTS



Pre Surgery



Post Surgery

MATERIAL CHOICE

TITANIUM ELI GRADE

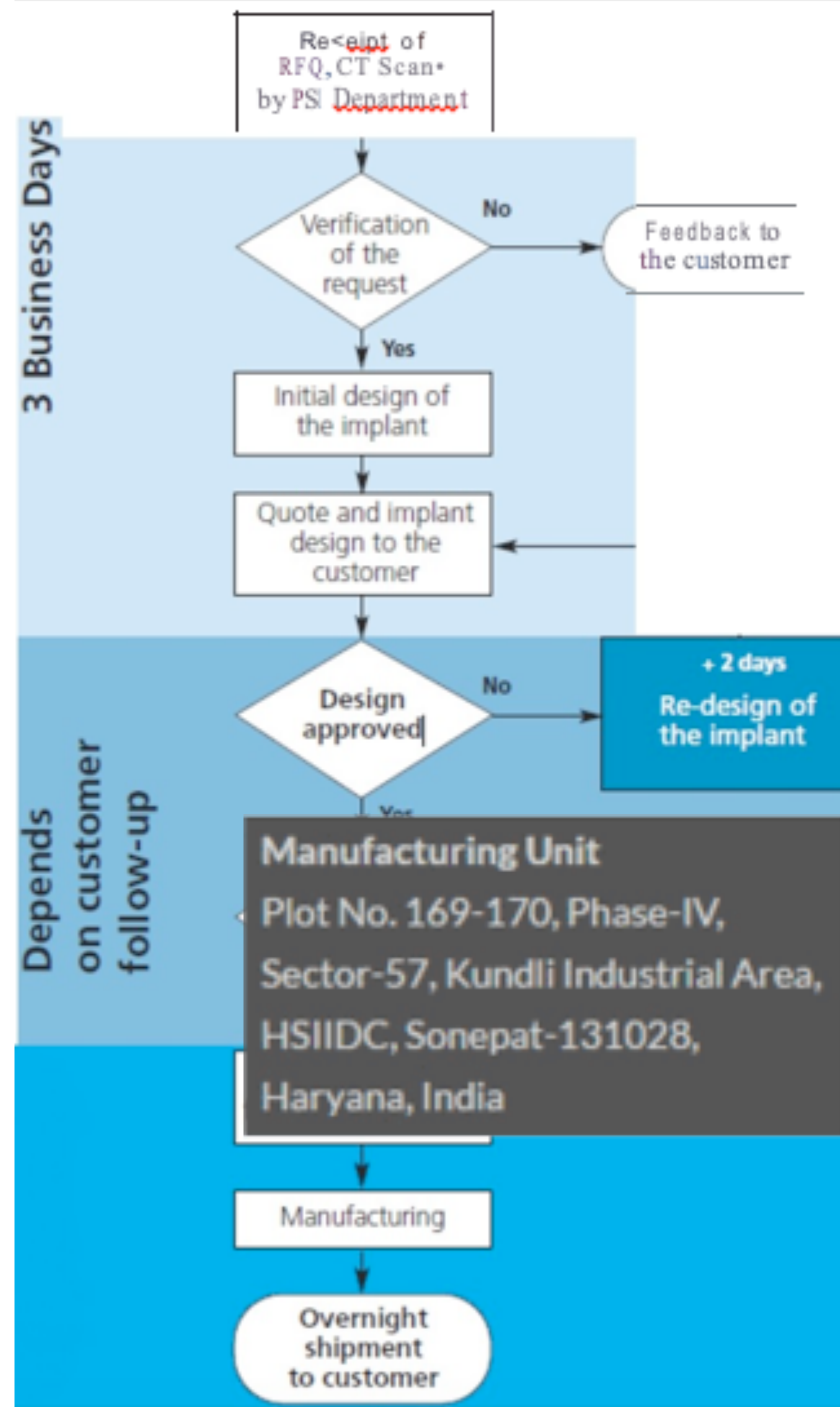
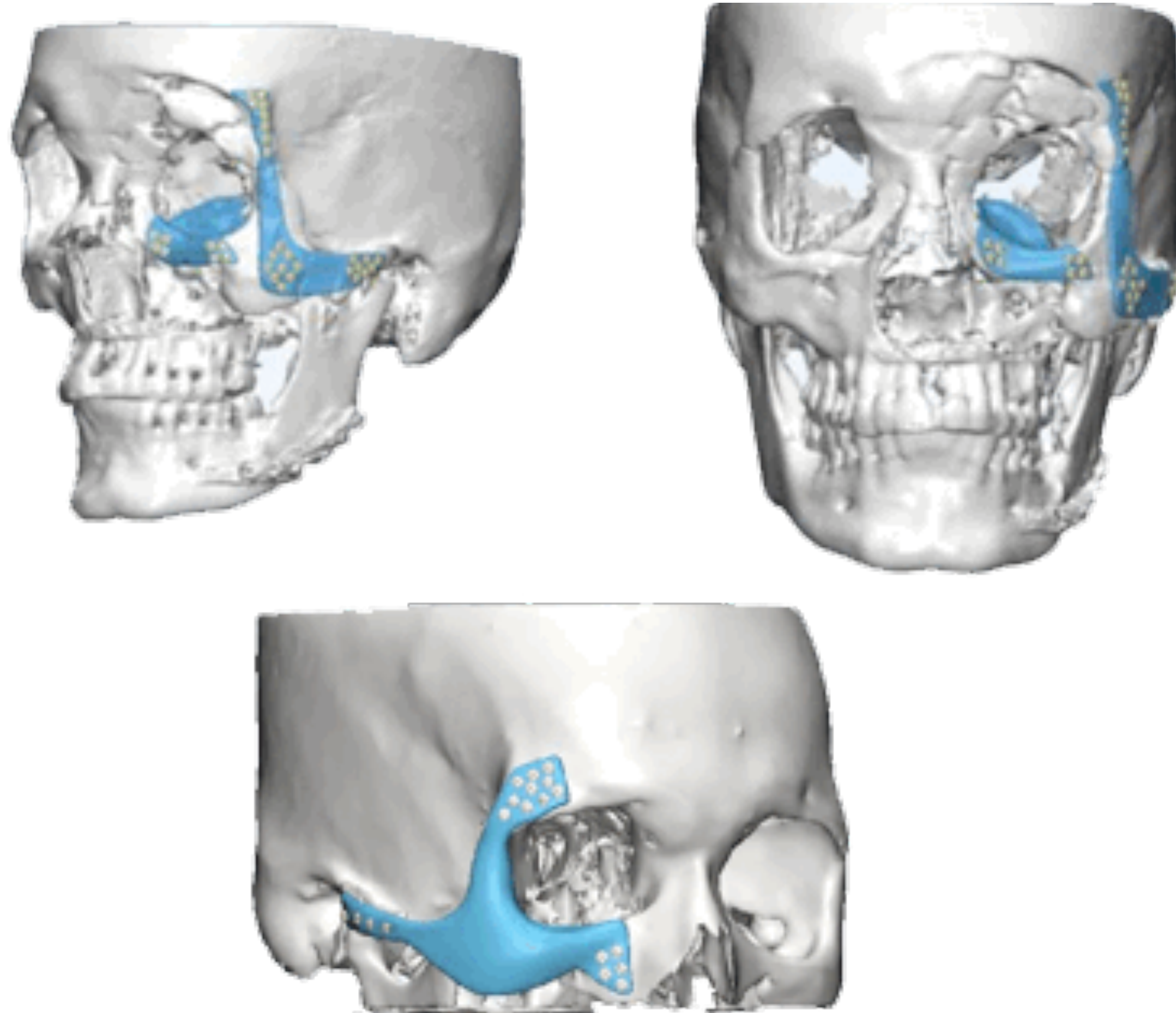


MECHANICAL PROPERTIES

Titanium Mechanical Properties		
	Cortical Bone	Titanium
Modulus of Elasticity (stiffness) (GPa)	8-24	103
Yield Strength (MPa)	115	230 (minimum)

Notes regarding the use of Titanium Patient Specific Implants: *Titanium patient specific implants cannot be modified. If there are any minor fit modifications required, the surgeon must modify the patient's bone.*

ORDERING PROCESS



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