

Surgeons in India Create Marvels in Facial Reconstruction Using 3D Printing Technology

Advent of 3D printing technology, biocompatible titanium, medical designing tools has revolutionized the field of facial reconstructive surgery.



Chennai, Tamil Nadu Mar 7, 2022 ([Issuewire.com](https://www.issuewire.com)) - Facial disfiguration can be depressing and traumatic. Usually caused by cancer, tumours, infections and accidents.

The pandemic had led to an upsurge in cases of facial disfigurements. This is due to Mucormycosis, commonly called 'black fungus', which mainly affects the bones and soft tissues of the face.

This, along with trauma, cancer, road accidents, and a host of reasons, had brought the role of facial reconstructive surgery to the fore in the last few years. The restoration of the facial contours often involved the combined efforts of oral-maxillofacial surgeons, once-surgeons, ENT, plastic, microvascular, neurosurgeons, general surgeons, prosthodontists, implantology, and dental surgeons.

The evolution of technology keeps helping the healthcare industry to solve many problems that are faced by mankind on this earth. We at Zoriox innovate every single day to challenge ourselves. — Prasanna Kumar T E K

Moreover, surgeons had to transplant bones and replace structures to restore the patient's face. This

process involved the identification of 'soul bone' and anchorage of the bone-implant to the receptor site. Apart from being invasive, the whole procedure was a laborious one.

A technical summit was held in Chennai, India on the 6th March 2022 with 53 eminent surgeons to discuss the progress made in this field and to debate the overall efficacy of the procedure, with emphasis on how to improve the process further. Surgeons drawn from diverse fields and engaged in facial reconstructive surgery met at the 'The Westin' in Velachery, Chennai, India to discuss the role of 3D-Printed Implants and ways to enhance their efficacy in the treatment of Mucormycosis and allied cases of facial disfigurement.

The convention was presided over by [Dr. Gunaseelan Rajan, FRCS, Ph.D., D.Sc.](#) drawing upon the expertise of facial surgeons from different parts of India, the convention came up with valuable suggestions to improvise the implants further.

Various concerns in relation to the design of patient-specific implants, surgical access, the path of insertions, soft tissue closure, favourable wound healing, osseointegration, and prosthetic rehabilitation were discussed.

The summit was of particular relevance to the young surgeons of Generation Z, who are familiar with the advent of AI in the medical field and feel at home in the metaverse which will enable the young surgeons to get trained under the environment of the metaverse. This will act as a great educational tool where they can experience the real-time surgery from the comfort of their homes or anywhere; also this platform will help our surgeons to conduct virtual counselling to patients with 'after results' of the surgery - was discussed.

The panel also discussed the feedback from patients, with a view to augment the effectiveness of the surgical procedures involved.

The advent of 3D printing technology, biocompatible titanium, medical designing tools along virtual surgical platforms, has revolutionised the field of facial reconstructive surgery. The key advantages of our products namely; surgical time is greatly reduced, any design could be incorporated and manufactured as per the requirement, cost to the doctor is reduced, post surgery complications are highly reduced, only minimal armamentarium is required, does not involve surgical complexity, any bone surface can be easily implanted, retention can be easily achieved from any bone, faster healing and loading times, no need of bone grafting procedures, titanium is less prone to generating an immune reaction based on the fact that this material is corrosion-resistant and Inert To human body fluids - biological inertness, high degree of biocompatibility and biointerfacing - (less implant rejection by bone and soft tissue), high osseointegration value due to its high wettability, strong bond creation with phosphates and calcium ions in bone, non toxic and non carcinogenic than plastics and other metals.

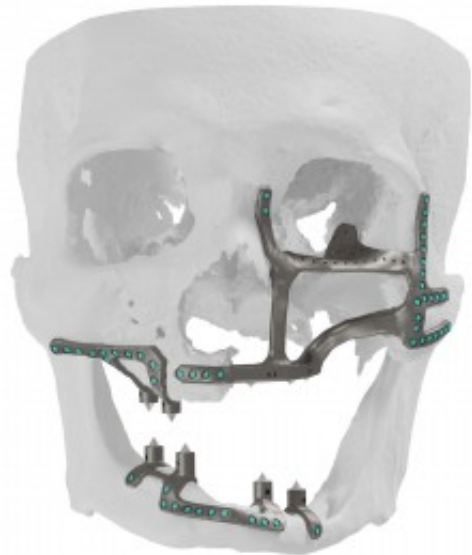
[Zoriox](#) Innovation Labs is a medical device company with a young and dynamic team founded by **Dr. Karthik Balaji, Krishna Chaitanya Gurijala, and Krishna Vaka Reddy** along with Advisory Mentorship of **Mr. Suyamburam Sathasivam** (Vice President of Sun Pharmaceutical Industries Limited) of Indian origin who has been collectively working with the break-through technology in Patient Specific Implants (PSI) along with facial surgeons for the reconstruction of the face.

Zoriox has a team of surgeons, dentist, mechanical engineers, biomedical engineers, software engineers, graphic designers, prosthetist, and anatomist to provide a 360 degree solution to Facial Reconstruction and its associated needs. Zoriox strives to improve access and affordability, create healthier communities, and put a healthy mind, body, and environment within reach of everyone,

everywhere through 3D Printing Technology; We are inspired by the opportunity to advance patient care through constant innovation and bridge the gap between technology.

These implants are tailor-made to meet the requirements of each patient; designed by surgeons and assisted by 3D printing technology, these new-age implants are patient-friendly and cost-effective. This procedure does away with the need for implants taken from healthy parts of the patient. Zoriox Innovation Labs has pioneered and improvised the role of 3D-printed patient-specific implants in the treatment of facial disfigurements. Zoriox have already made more than 270+ implants and have assisted in surgically placing them in patients all over India and few of them to other parts of the world. Zoriox have effectively reviewed the completed cases since the last two years.

The summit was a grand success, thanks to the knowledge transfer which was achieved through panel discussions.



Media Contact

Zoriox Innovation Labs

admin@zoriox.com

+919500591111

No. 37/73, Padmanabha Nagar, Adyar, Chennai 600020

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