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DENTISTRY AND CRANIOFACIAL RESEARCH

# Implant Mimicking Cartilage For Craniofacial Reconstruction- A New Material Introduced For Research

**Biswajit Kumar Biswas**

Avinash Institute of Craniofacial and Reconstructive Surgery, Kolkata, West Bengal, India

## Abstract

**Background:** Loss of facial structure as a consequence of injury or salvaging surgery, demands reconstruction and rehabilitation of lost structures. Here comes the role of a reconstructive surgeon. Lots of surgical options are available to fulfil the requirement but all require a second operative site to restore the primary defect. Scientific development are required to regenerate the lost structures by means of stem cell or biocompatible material. We restrict ourselves with the biocompatible materials.

**Aims:** Aim was to develop a new bioactive composite biomaterials, like cartilage to restore the anatomical form and function and to improve social confidence and quality of life.

**Objective:** Development of Cartilage like bio-active implantable materials to reconstruct the loss facial tissue can be a life-changing milestone for patients who have lost an eye, ear, nose or facial structures. To fulfil the objective we developed biocompatible silicon based bio composite material mimicking cartilage.

**Material and Method:** Pure medical grade silicon, hardness value of 40 Psi as raw material were procured, Standardization of new composite material done with different ingredients suitable for the particular uses. Sterilization and animal testing were undertaken for its suitability as implantable material. All data were analyzed and compared with goat cartilage as per protocol.

**Results and Discussion:** In-vitro and in-vivo experiments / animal trial and other investigation shows efficacy and biocompatibility of the bio composites. Results were highly encouraging and shows new hope for biomaterial industry.

**Conclusion:** We are hoping a long-term success of the newly developed silicon based bio-composite materials.

## Biography

Dr Biswajit Kumar Biswas, Avinash Institute of Craniofacial and Reconstructive Surgery, Kolkata, West Bengal, India

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