

# TECHNOLOGY OFFER

## 3D printed flexible obturator incorporating biomechanical theorems and a self-cleaning nano surface

### TECHNOLOGY

We provide a 3D printed obturator based on the Cone beam CT and intra oral scan of the palatal defect. More accurate and customized design as the conventional alginate impression technique is replaced by MRI scans and intraoral digital impressions. The surface of the biocompatible material is newly designed based on nanotechnology to make it self-cleaning and bacteria repellent.

### BACKGROUND

An obturator is a disc- or plate like prosthesis, which closes an opening or defect of the maxilla as a result of a partial or total removal of the maxilla. Surgery is the mainstay for rehabilitation of such defects, however if a patient cannot get surgical treatment it is still possible to improve their social and psychological well-being with prosthodontic rehabilitation. Obturators have been employed for a long time to treat these defects. In the last decade, 3D printed obturators have been clinically used but these are printed in hard acrylic resin and relined used silicone.



Figure: functional Prototype of the flexible obturator

### BENEFITS

- Biocompatible
- New design based on nanotechnology
- Better retention while talking, mastication and at rest
- self-activating during swallowing and speaking
- more accurate and customized design as the conventional techniques
- personalized obturator

**REFERENCE:**  
778.18

**APPLICATIONS:**  
Obturator for correction of cleft lip and palate prosthesis

**DEVELOPMENT STATUS:**  
Prototype

**IPR:**  
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**AVAILABLE FOR:**

- Cooperation
- License agreement

**INVENTORS:**  
Ewald UNGER  
Gunpreet OBEROI  
Center for Medical Physics  
and Biomedical Engineering

### CONTACT:

**Christiane Galhaup**  
Medical University of Vienna  
Technology Transfer Office  
+43-1-40160 25206  
[christiane.galhaup@meduniwien.ac.at](mailto:christiane.galhaup@meduniwien.ac.at)