

# A new CAD-CAM surgical guide.

## KEYWORDS

- ORTHODONTICS
- PIEZOCISION
- CAD-CAM
- SURGICAL GUIDE
- ACCELERATION OF ORTHODONTIC MOVEMENT

## AREA

- BIOMEDICAL

## CONTACTS

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### Priority Number

n. 102020000001426 \_24.01.2020.

### Patent Type

Patent for invention.

### Ownership

Sapienza Università di Roma 100%.

### Inventors

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### Industrial & Commercial Reference

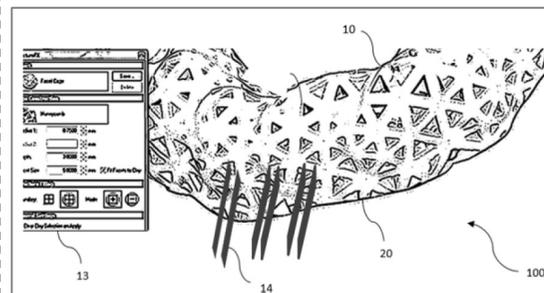
The field of use is the production of surgical guides, guides for orthodontic surgery, maxillofacial surgery and implantology.

### Time to Market

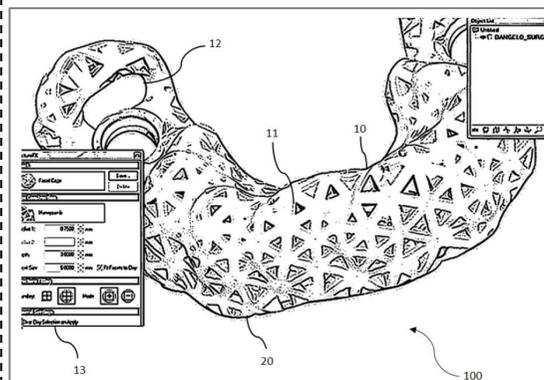
The surgical guide has already been clinically tested and is therefore ready to be marketed.

### Availability

Cessione and Licensing.



**Fig. 1** The surgical guide for piezocision. There are slots to guide the piezoelectric blade. The guide has several holes to allow irrigation.



**Fig. 2** The new guide for computer-guided implantology.

## Abstract

The present surgical guide allows minimally invasive corticotomic cuts without the risk of bone overheating.

## Publicazioni

- ❖ Cassetta M, Ivani M. The accuracy of computer-guided piezocision: a prospective clinical pilot study. *Int J Oral Maxillofac Surg.* 2017 Jun;46(6):756-765. doi:10.1016/j.ijom.2017.02.1273. Epub 2017Mar20.



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# A new CAD-CAM surgical guide.

## Technical Description

The present surgical guide allows to perform a computer-guided piezocision without the risk of bone overheating. Computer-guided piezocision has recently been introduced in the clinical setting.

The minimal invasiveness and extreme precision of this method have been widely demonstrated, but to date the risk of overheating during the preparation of the osteotomy remained unresolved.

This surgical guide eliminates the risk of overheating. The invention can be extended to all CAD-CAM surgical guides and applied not only in computer-guided piezocision, but also in computer-guided implantology and maxillofacial surgery.

## Technologies & Advantages

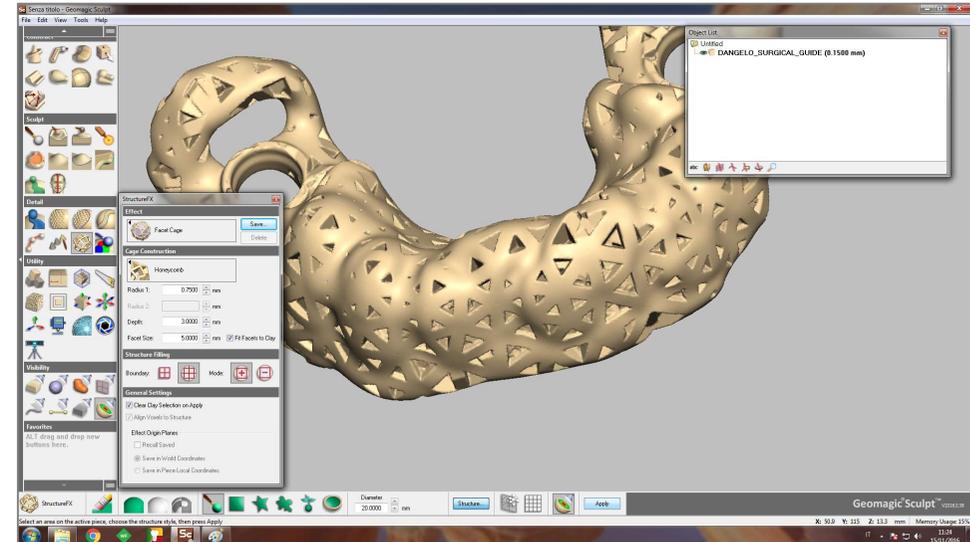
The present invention allows us to solve the most important complication related to the use of CAD-CAM surgical guides. Over the years, the accuracy of the surgical guides used in implantology and piezocision has considerably improved. To date, the risk of overheating remained unresolved.

To improve accuracy, the tolerance error between the mechanical components has been reduced. This led to greater friction between the components, resulting in the production of heat and overheating. The present surgical guide allows greater precision and reduces overheating.

## Applications

The fields of use are: implantology, maxillofacial surgery and orthodontics.

Fig. 3 The new guide for computer-guided implantology.



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