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# Magnetic attachments on molar auxiliary abutments in removable partial overdentures

Language: English

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Bologna, Italy

**Introduction**

The advantages of keeping natural roots have been mentioned often in complete overdenture technologies. Considering their benefits in RPD treatment we attempted to analyze the contribution of molars, presenting moderate periodontal problems, as auxiliary abutments for retention and stabilization in the long-term success of the prosthetic restoration.

**Objectives**

The aim of our study was to evaluate the functional benefit of using magnets as secondary attachments on remained molars used as auxiliary abutments for the removable partial denture and also to assess the patient's satisfaction regarding these prosthetic solution.

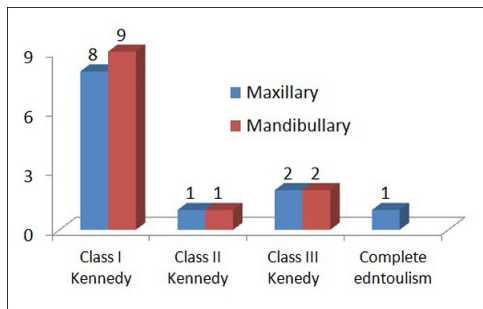


Fig. 1a

Fig. 1b



Fig. 1c

Fig. 1d

**Material and Methods**

In this study we analyzed only removable partial dentures with extra-coronal ball attachments on the main abutments and magnets on the auxiliary ones. We selected edentulous patients in imminence of becoming class I or II Kennedy, but we choose to keep some of the periodontally affected last molars under the terminal saddles. The surveying period was of 4 years and it included 12 patients, 6 males and 6 females. The variables studied were: class of edentulism, number of magnets we used in each case and the opposing arch situation. The study was centered on the patient's satisfaction regarding chewing ability, retention and stability of the dentures.



Fig. 2a



Fig. 2b



Fig. 2c

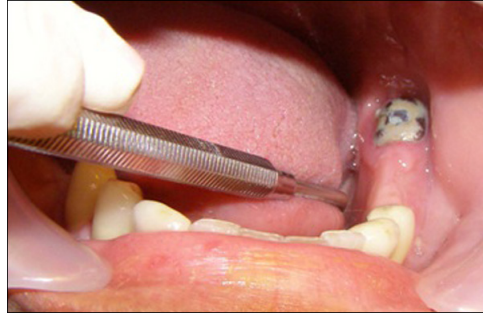


Fig. 2d



Fig. 3a



Fig. 3b

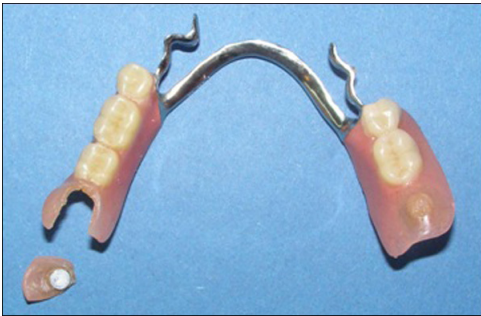


Fig. 3c



Fig. 3d

## Results

Patient's satisfaction concerning chewing ability, retention and stabilization of the denture was highly superior in presence of the molars with magnets under the free-end saddles then in their absence. The use of magnets presented various difficulties in different clinical situations.

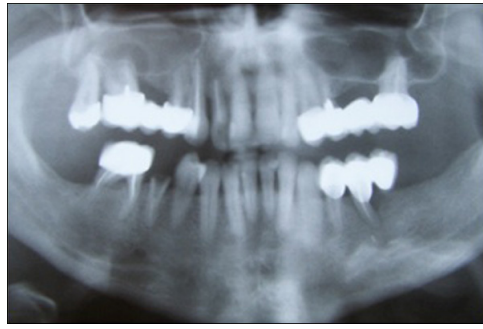
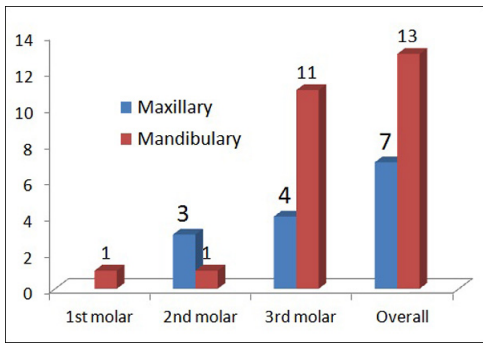


Fig. 4a

Fig. 4b



Fig. 4c

Fig. 4d

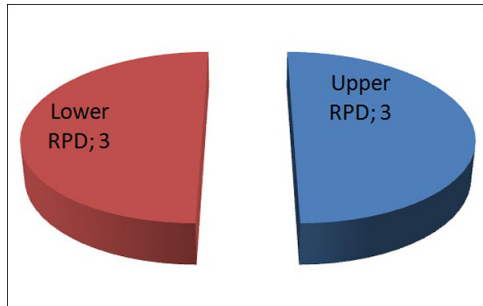
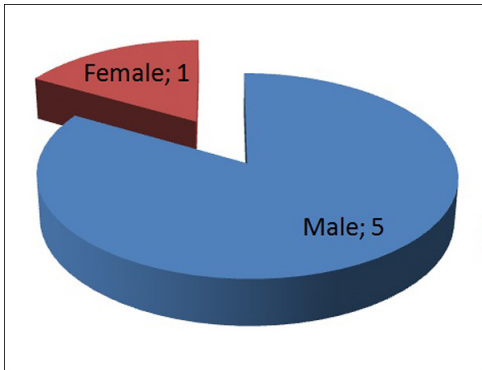
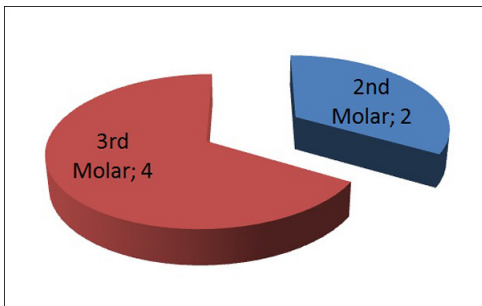


Fig. 5a: 4 year repairs

Fig. 5b: 4 year repairs



	CHEWING	RETENTION	STABILITY
	+++	+++	+++
	++	+	+++

Fig. 5c: 4 year repairs

Fig. 5d: 4 year repairs


## Conclusions

Magnets are relatively easy to use and to fit in various clinical situations. They are well accepted by the patients because they are significantly increasing their chewing ability and the retention and stabilization of their removable partial denture. Teeth that suffer from moderate periodontal disease with concomitant bone loss can be used as abutments if the initial design of the denture is made in such manner that the loss of these auxiliary abutments does not imply the loss of the denture.

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**Poster Faksimile:**



## MAGNETIC ATTACHMENTS ON MOLAR AUXILIARY ABUTMENTS IN REMOVABLE PARTIAL OVERDENTURES

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Removable Prosthetic Department, Faculty of Dental Medicine,  
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**INTRODUCTION**

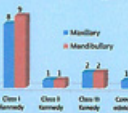
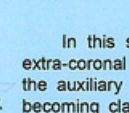
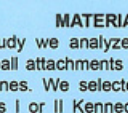
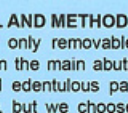
The advantages of keeping natural roots have been mentioned often in complete overdenture technologies. Considering their benefits in RPD treatment we attempted to analyze the contribution of molars, presenting moderate periodontal problems, as auxiliary abutments for retention and stabilization in the long-term success of the prosthetic restoration.


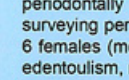
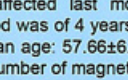
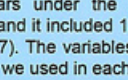
**OBJECTIVE**

The aim of our study was to evaluate the functional benefit of using magnets as secondary attachments on remained molars used as auxiliary abutments for the removable partial denture and also to assess the patient's satisfaction regarding this prosthetic solution.

**MATERIAL AND METHODS**

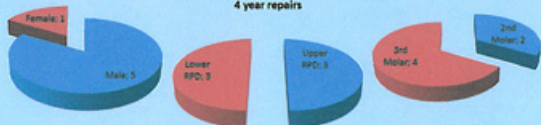
In this study we analyzed only removable partial dentures with extra-coronal ball attachments on the main abutments and magnets on the auxiliary ones. We selected edentulous patients in imminence of becoming class I or II Kennedy, but we choose to keep some of the periodontally affected last molars under the terminal saddles. The surveying period was of 4 years and it included 12 patients, 6 males and 6 females (mean age: 57.66±6.97). The variables studied were: class of edentulism, number of magnets we used in each case and the opposing arch situation. The study was centered on the patient's satisfaction regarding chewing ability, retention and stability of the dentures.








**RESULTS**

Patient's satisfaction concerning chewing ability, retention and stabilization of the denture was highly superior in presence of the molars with magnets under the free-end saddles than in their absence. These claims were highest in the clinical situations with bilateral molars on the same arch (4 of 12 patients). When only one molar is present, the improvement on chewing ability is reported only on the saddle that is overlaying the magnet and the patients declared a moderate improvement in the retention and a significant one in the stability of the denture after the application of the magnet (8 of 12 patients). Using magnets on third molars raise problems of vertical space and therefore they can not be used parallel with the occlusion plan, loosing some benefits on retention (9 of 12 patients). The use of magnets presented various difficulties in different clinical situations. Poor hygiene is one of the most common causes of loosing these teeth. Vertical space problem in the third molar zone can be a cause of fracture of the distal part of the saddle after a relatively long period (1-2 years), but repairing them is simple enough.



	CHEWING	RETENTION	STABILITY
	+++	+++	+++
	++	-	+++

**CONCLUSIONS**

Magnets are relatively easy to use and to fit in various clinical situations. They are well accepted by the patients because they are significantly increasing their chewing ability and the retention and stabilization of their removable partial denture. Teeth that suffer from moderate periodontal disease with concomitant bone loss can be used as abutments if the initial design of the denture is made in such manner that the loss of these auxiliary abutments does not imply the loss of the denture.

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