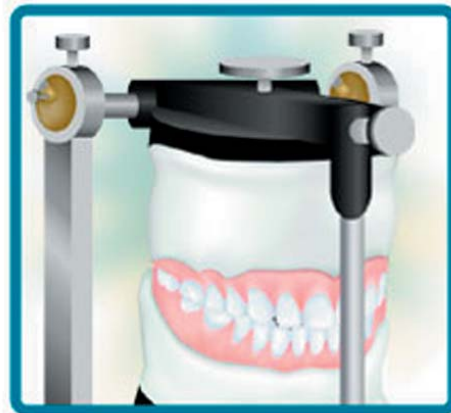


A Clinical Evaluation of the Clinical Remount Procedure

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Abstract

One hundred patients were treated with complete dentures. The patients were divided into two equal groups; the first group (50 patients) received complete dentures and a clinical remount procedure was performed, while the second group received complete dentures without a clinical remount. A four point, nine scale Patient Denture Satisfaction questionnaire was used to evaluate the patients' satisfaction with their dentures. When the clinical remount procedure was used, results have shown a highly significant improvement in the comfort of the upper dentures and in the fit and comfort of the lower dentures. There was a significant improvement in the chewing ability as well. In conclusion it is highly recommended the clinical remount procedure be used because it improves the patient's satisfaction with their dentures in many important aspects as shown in this study.

Keywords: Check record, clinical remount, complete denture, satisfaction with complete denture

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Introduction

Complete edentulism has great impact on a patient's life style and quality¹, several reports have been published evaluating patient satisfaction with complete dentures and to identify the reasons some patients are difficult to satisfy.^{2,3,4} Studies show there is little difference in the complaints received from patients wearing old dentures and recently inserted dentures.^{5,6,7,8}

Patients' dissatisfaction with complete dentures has been attributed to many factors. Patients who are not pleased with their dentures return for follow up visits more frequently than patients who are happy with the appearance of their dentures.⁹ Yet, according to van Wass, there is no relationship between height of the residual alveolar ridge and patients' satisfaction with their dentures.¹⁰ Psychological factors may play a more significant role in patient satisfaction with complete dentures.^{3,7,11,12}

Occlusal errors are responsible for more discomfort among denture wearers than any other factor and, therefore, affect their acceptance of complete dentures.¹³ Many occlusal patterns have been described for complete dentures, but there is little evidence correlating any of these occlusal schemes to success or failure.^{14,15} It is generally accepted the occlusion of the finished denture must be free of occlusal interferences in order to improve the acceptance by patients.^{14,15,16} Unfortunately this fact is often ignored, and the preferred method employed to alleviate discomfort and ulceration caused by occlusal errors is to adjust the impression surface of the denture; it is quick, easy, and any pain or discomfort can be alleviated temporarily. However, patients will likely return for more post operative visits unless all causes of the underlying discomfort are removed by verifying the occlusion and performing occlusal adjustment.¹³

Methods for improving patients' acceptance by pre-treatment counseling have been used to give patients more realistic expectations for the performance of their new denture than they may otherwise have.^{17,18} Attempts to relate satisfaction to clinical remount procedures have also proved to be very successful.^{13,19} Firtel et al. found improved denture comfort was reflected in fewer post operative visits when a clinical remount of newly constructed dentures and adjustment of occlusion were performed.¹⁹



Unfortunately, few dentists perform clinical remount at the time of delivery¹⁹, although this procedure has been recommended in most of the complete denture textbooks as it improves the patient's comfort, reduces the number of review visits, and improves the acceptance of complete dentures. The aim of this study was to evaluate the influence of clinical remount procedure on the satisfaction of complete denture patients.

Materials and Methods

One hundred complete denture patients were selected from those treated at the Dental Health Center/Jordan University of Science and Technology (JUST) for replacement of their old complete dentures. Patients were randomly divided into numerically equal groups (50 each). Those in Group I received complete dentures constructed using the standard technique used and taught in the Department of Restorative Dentistry at JUST. A clinical remount was performed three to seven days after delivery. Group II patients received dentures constructed in the same way but without a clinical remount. In both groups dentures were checked in the mouth for adaptation of the borders and denture-bearing surfaces by using pressure indicating paste and were relieved as needed. Pre-mature occlusal contacts detected in the mouth by using articulating paper were removed as soon as possible; afterwards an intra-oral wax record was made to record the centric relation. The record was made before the teeth made contact to prevent any occlusal irregularities in the denture from affecting the record. Dental plaster was used to mount the dentures on the articulator. After the mounting plaster has set the occlusion can be adjusted using thin articulating film to locate and eliminate premature occlusal contacts to establish an appropriate occlusal function.

Patient's acceptance was evaluated by using a patient denture satisfaction questionnaire by Guckes et al.¹⁷ as a modification to the one developed by Bolender et al.¹⁸ The questionnaire covers nine categories using a four point scale: (1) general satisfaction from the denture, (2) appearance, (3) fit of the upper denture, (4) fit of the lower denture, (5) ability to chew food, (6) speaking, (7) comfort of the upper denture, (8) comfort of the lower denture, and (9) how other people have commented on the denture. The patients were requested to rate their dentures and advise how satisfied they were with their dentures at the second post operative visit one week after the first post operative review. The Statistical package for Social Sciences (SPSS, Chicago, Ill) package was used to analyze the data, and the t-test was used to test the significance at $P \leq 0.05$.

Results

One hundred complete denture patients participated in this study: 48 patients were males and 52 patients were females. Patients' mean age was 65.9 years with the mean age for the two groups nearly matched as shown in Table 1. The same male to female ratio was used in the two groups as shown in Table 2.

Patients' satisfaction with their dentures: the average for total satisfaction scoring in both groups was 29.5 out of 36 (36 is the full score). The average total satisfaction for patients in Group I (with clinical remount) was 31 and 27.9 for those in Group II who did not have a clinical remount (Table 3). The differences between the two groups in the nine satisfaction scale questionnaire are shown in Table 3. In all scales the average is higher for Group I except for the appearance scale. The highest score was 3.7 out of 4 for the comfort of the maxillary denture.

The differences between the two groups in the total satisfaction score were statistically significant with $P = 0.007$. General satisfaction with complete denture fit of the mandibular dentures, chewing ability, and comfort of the maxillary and mandibular dentures were significantly improved when a clinical remount was performed (Table 4).

Discussion

The success of complete denture treatment is closely related to the acceptance of the dentures by patients.²⁰ The period after insertion of the denture is important for patient acceptance of their dentures, therefore, every measure that can improve comfort and patient satisfaction should be taken. These efforts will reflect positively on the dentist and possibly reduce the number of the post operative visits. The results of this study support the general recommendation by textbooks that clinical remount should be performed at time of delivery. However, few dentists perform the procedure because they believe it may be time consuming and may not have any significant difference in fit and comfort. The results of this study demonstrate there is a highly significant improvement in the total satisfaction score with $P = 0.007$ and a higher total satisfaction score when the clinical remount procedure was performed (Group I). As shown, most of the scores in Group I were higher than Group II. The comfort of the maxillary and the fit and comfort of the mandibular dentures were significantly improved when the clinical remount was done. There was also a significant improvement in the chewing ability as well. A clinical remount can give clinicians a clear view of the occlusion, which is difficult to obtain directly from the patient's mouth. Clinicians can see only the buccal aspect of the developed occlusion, and tissue displacement can mask small vertical discrepancies by examining the occlusion directly in the patient's mouth. The findings of this study are in agreement with the results of other studies.^{13, 19}



Conclusion

A clinical remount of new complete dentures improved patients' overall satisfaction with their new denture in many important aspects. Therefore, it is highly recommended clinicians incorporate this procedure into their routine for fabricating dentures as it reduces patient dissatisfaction.

Table 1. Mean age for all the patients and for each group of patients.

	Mean	N	Std. Deviation
No check record	66.2200	50	7.9032
Check record	65.7000	50	8.6242
Total	65.9600	100	8.2339

Table 2. Gender distribution of patients.

	No Check Record	Check Record	Total
Male	24	24	48
Female	26	26	52
Total	50	50	100

Table 3. Average scores for every scale used in the patient denture satisfaction questionnaire out of 4 and the total satisfaction score out of 36.

Scale	Check record	No check record	Total
General satisfaction	3.46	3.0	3.23
Appearance	3.48	3.54	3.51
Fit of upper denture	3.2	2.6	2.9
Fit of lower denture	3.68	3.52	3.6
Chewing ability	3.5	2.94	3.22
Speaking	3.56	3.38	3.47
Comfort of the upper denture	3.7	3.34	3.53
Comfort of the lower denture	3.16	2.56	2.86
Comments from others	3.42	3.16	3.29
Total satisfaction score	31.04	27.88	29.46

Table 4. T-test significance results, showing significant differences between two groups on each scale.

Scale	Sig.
Total satisfaction score	.007
General satisfaction	.007
Appearance	.700
Fit of upper denture	.186
Fit of lower denture	.004
Chewing ability	.001
Speaking	.220
Comfort of upper denture	.010
Comfort of lower denture	.002
Comments from others	.130

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