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FACE BOW AND WITHOUT IT

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Annotation: Background and purpose: The Face bow plate is used to record the orientation ratio in patients with toothlessness. A complete denture can be made with or without a face arc plate. Both methods of making complete dentures have been described. The aim of this study was to compare the number of post-installation appointments for occlusion correction in removable complete dentures made with and without a faceplate. This was an observational retrospective study.

Keywords: Face-bow, removable complete denture, occlusion adjustments, post-installation visits.

Introduction. The Face bow hes were designed so that the opening and closing axis of the articulator is similar to the axis of connecting the dental arches of patients with the skull. Face bow hes record these ratios of the arch and skull of patients and allow them to be transmitted to the articulator. From a technical point of view, the Face bow h captures the orientation of the occlusal plane by using a tripod localization of the two posterior and anterior reference points in order to correlate the impression of the upper jaw with an arbitrary or true axis of the hinge. Some other advantages of the Face bow h include the ability to make minor changes to the occlusal vertical dimension without having to fix the new center ratio and maintain the jaw bandage while it is being placed on the articulator.

There are two types of Face bow s: kinematic and Face bow s with an arbitrary axis. The kinematic Face bow h captures the true center of the axis along which the condyles rotate during the articulating movement of the lower jaw. An arbitrary Face bow h relates the approximate condyle axis to the upper jaw. The use of an arbitrary hinge axis is considered accurate enough to create functional occlusion and prevent occlusal errors, especially when using sharp teeth in removable full dentures.

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It has been reported that a mismatch between the patient's mandibular axis of rotation and the articulator closure arc leads to occlusal discrepancies. These discrepancies can affect diagnostic planning and occlusal ratios of restorations when they are in a functional position in the patient's mouth. The slope of the occlusal plane is considered one of the key factors determining occlusal balance. The fundamental principles of biomechanics of complete dentures define balanced occlusion as the main factor contributing to adequate stability, and a balanced bite is the minimum criterion for ensuring adequate stability in dentures. Traditionally, it is recommended to use Face bow hes and a semi-adjustable articulator to create a balanced articulation for successful dentures.

Recently, the importance of the Face bow h transfer procedure has been questioned by many researchers, who have provided evidence of the success of complete removable dentures made without the installation of a facial prosthesis. From the current literature review, it follows that the use of the Face bow h has only theoretical advantages and does not contribute to achieving an acceptable clinical result in dentures. In order to save time and effort without compromising the final result of PSP, a simplified approach to the manufacture of a complete denture was proposed by registering the jaw at the stage of secondary impression without using the Face bow h. A simplified technology for manufacturing dentures was proposed, not only because the quality assessed by the patient was the same as in the manufacture of facial prostheses, but also because it reduces at least one visit for the manufacture of complete dentures. The long-term performance of dentures requires close attention to detail to achieve an excellent clinical outcome with dentures. assumption about the need for careful correction of the bite during the installation of a denture for dentures performed using a simplified method. Appointments for the correction of a newly manufactured denture discourage patients, and this may be one of the factors associated with complaints and unacceptability in patients with complete prosthetics. This encourages the development and adoption of strategies to minimize immediate correction after the installation of new dentures.

This article does not aim to compare the quality assessed by professionals or patient satisfaction with dentures manufactured without faceplate overlays, but instead aims to compare the number of post-installation appointments for bite correction for dentures manufactured with or without a faceplate transfer procedure.

This study was conducted to identify feasibility studies and design issues for a prospective study comparing removable complete dentures manufactured with or without the face transfer procedure to orient jaw casts or record databases, while maintaining all other manufacturing techniques and similar parts in the two groups.

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Materials and methods

In the Department of Orthopaedics, a complete record of data was restored on 36 patients who were fitted with complete removable dentures made using the Face bow h, and 48 patients who were fitted with removable complete dentures without the use of the Face bow h. The total number of post-placement appointments for occlusion correction was tabulated for patients who received a complete prosthesis made with or without a Face bow h. All materials, tools, and techniques that may have some impact on treatment outcomes were kept the same for dentures made with and without the Face bow h.

Sampling method: Targeted, low-probability sampling.

Inclusion criteria: Patients with removable full dentures who regularly visited the department for correction after installation.

Exclusion criteria: Patients with removable full dentures who did not return after the denture was inserted for follow-up.

Методы Research methods: Observational, retrospective study.

Data collection procedure

The patient history of the Department of Orthopaedics was analyzed to identify patients who were fitted with removable complete dentures within 2023 years in accordance with the inclusion criteria. In addition, the following points were also considered for standardization purposes.

1. Patients whose dentures were made using the same technique and materials, except for the use of the Face bow h.

2. In patients who have been clinically evaluated as having no orofacial movement disorders, xerostomia, hypersalivation, any temporomandibular joint (TMJ) disorders, or mental conditions that could affect their response to treatment.

3. Patients who only needed occlusal correction after installing their dentures and did not present any other complaints, such as aesthetics, vomiting, shakiness due to defects in the impression surface, under or above the extended periphery, etc., related to their dentures.

Based on the above considerations, 84 patients were selected from the medical history of the department and divided into groups A and B. Group A (36 patients) was provided with complete dentures using a Face bow h plate for installing a jaw impression on a semi-adjustable articulator and with a balanced occlusion created using the middle angles of the condyles. Group B (48 patients) was treated completely by the same method, except for the use of a Face bow h to attach the plate bases to the same articulator. The occlusion of these patients was checked and corrected before placing the denture sequentially in the central, lateral, and protruding positions. Any inconsistencies in the manufacture of a complete denture were corrected and repeated until a satisfactory clinical quality of the denture was achieved.

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The number of visits after denture placement for bite correction was noted in the patient's medical history and tabulated.

Results

The total number of patients in accordance with the inclusion criteria was 84, with 36 patients undergoing PSP using the Face bow h, while 48 patients underwent PSP without the use of the Face bow h (Table 1). The mean age of 84 patients in both groups A and B was 61 ± 6.5 years and 59 ± 6 years, respectively (Table 1). Group A had 16 women, while Group B had 18 (Table 1).

Table 1: Distribution of the number and age of patients in group A (with a facial bandage) and group B (without a facial bandage).

	Group A	*Group B*
Number of patients	36	48
Women	16	18
Men	20	30
Minimum age	54	48
Maximum age	81	68
Average age	61	59

The difference in the age of subjects in groups A and B was not statistically significant, p >0.05 (Table 2). Although the period of absence of teeth was not a criterion for selecting patients, it was determined from the data record that all patients included in the study wore dentures for the first time, who were missing teeth from 3 to 34 months.

The results of the study clearly showed that the number of visits was lower in group A compared to group B, and the difference was significant, p <.05

Table 2: Data on the distribution and age of patients in groups A and B.

	Groups	*Mean*	*STDs. Dev*	*p-value*
age	A	61.1667	6.64433	0.27
	B	59.2500	5.84770	0.37
visits	A	1.94	0.539	0.000
	B	4.00	1.103	0.000

Table 3: Frequency of visits after installation for bite correction in groups A and B.

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session groups	*sessions*	*Frequency*
A	1	3
	2	13
	3	2
B	2	2
	3	6
	4	8
	5	6
	6	2

(Table 2). The average and maximum number of visits for group A was 1.94 and 2, while for Group B they were 4 and 7, respectively (Table 3).

The results of the study showed a significant difference in the number of visits after the installation for bite correction between patients who had dentures made using the Face bow hand, compared with patients who had dentures made without the Face bow h (Table 3). Significantly fewer visits showed that there is an advantage to using the face arc in reducing the number of visits after installation.

The minimum and maximum number of visits did not differ significantly in group A, while the number of visits showed a large difference between different patients in group B (Table 3). This can be explained in light of the fact that occlusal errors are approximately proportional to the displacement or inclination of the hinge axis in millimeters or degrees, and an average occlusal error of more than 0.1 mm is likely to lead to the need for careful selective grinding of occlusal surfaces in the patient's mouth.

It is important to check the occlusion and articulation of the dentures in the patient's mouth, regardless of the manufacturing technique, because of the different compressibility and displacement of the mucous membrane on which the prosthesis rests, combined with the probability of errors in almost all facialrmuscles and articulators. However, the need for careful post-insertion adjustments is significantly reduced if the occlusion has been reliably designed on the articulator and verified at the fitting stage with casts installed using Face bow h transfer plates.

The importance of correctly positioning the maxillary bandage on the articulator becomes apparent when you repeat that the lower jaw descends in an arc, and not as a lift. Thus, each vertical change causes a change in the relative transverse position of the lower jaw relative to the upper jaw (centric ratio). Presumably, with each vertical change, a new centric entry would have to be made, if the Face bow was not used to orient the occlusal plane on the articulator. Several researchers have recognized the

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importance of accurately determining the sagittal tilt of the maxillary plaster cast on the articulator for proper dentures function dentures and aesthetics. Attempts to correct the bite after installation either from the side of the chair, or re-installation in the laboratory leads to a significant loss of morphology of the tip and appearance of artificial teeth, which can lead to a decrease in the effectiveness of chewing. Current trends in the field of complete prosthetics and teaching techniques call into question the importance of front-side plates for the success of prosthetics, especially due to the complexity of manufacturing technology.

Every experienced orthopedic doctor recognizes that complete dentures made after careful history collection and treatment planning, using hidden and explicit knowledge and clinical skills, are more likely to have a better result compared to those where some compromises have been made in the methods and understanding of the patient's expectations for dentures. Thus, the evidence that traditional manufacturing techniques involving Face bow h registration may not lead to a better clinical outcome does not imply a rejection of reliable principles for the construction of dentures, nor does it indicate that prostheses made using Face bow h transfer procedures and balanced articulation will result in unacceptable or unacceptable results. poor-quality dentures.

Conclusion: Recording the transfer of the Face bow h in the manufacture of removable complete dentures reduces the number of post-installation visits to correct occlusion and, therefore, saves valuable time for the dentist and patient. The results of this study clearly demonstrate a reduction in visits after the installation of complete dentures made using a facial plate. A facial plate is a roughly 15-minute procedure designed to fit a jawline cast over the articulator. The developed procedure is a simple and time-consuming method that provides positive results in the treatment of patients with toothlessness when performing all the main tasks of rehabilitation of the masticatory organ. The time taken to transfer the Face bow h may be a small fraction of the time required to adjust the denture, if the transfer was not performed. This information will allow the doctor to decide on the time that he is willing to devote to correcting the bite from the side of the chair.

Within the limitations of this study, it can be concluded that there is a significant difference in dentures post-installation PSP visits performed with and without Face bow h recording to correct occlusion. Recording the transfer of the face part in the manufacture of removable full dentures reduces the number of post-installation visits to correct occlusion and, therefore, saves valuable time for the dentist and patient.

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