

## Comparing the Retention between two types of obturator constricted from Heat Cure Acrylic Resin, and Flexible Resin

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**Abstract:** Thirty patients were selected for constructed a prosthetic obturators. Thirty Patients with cleft palate and related craniofacial anomalies. Thirty patients classified into two groups. The first group resaved obturator contracted from heat cure acrylic resin and second group resaved obturator contracted from flexible resin every obturator form hole in the middle of the polishing surface in the palatal surface receive the hook to measurement the retention during delivery, after six month, 12 month, 18month, and 24month.by time obturator contracted from flexible resin was a highly significant different in retention than the obturator contracted from heat cure acrylic resin.

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**Keywords:** retention, obturator, acrylic resin.

### 1. Introduction:

A variety of issues faces the dental practitioner trying reconstruction of jaw defects. There are varied treatment choices for patients requiring a partial maxillectomy and prosthesis restorative. Reduced ability makes it tough for the patient to find out to use a replacement appliance, unless existing skills are often used. it's thus useful to breed acquainted options of a patient's existing prosthesis, particularly if this has been used with success over a transition amount.(1,2) Radical maxillectomy oft ends up in extended defects in exhausting and soft tissues that lead to a association between the oral and nasal cavities. jaw defects, adore those created once extended neoplasm ablation, trauma or created by inborn malformation might lead to severe facial disfigurement and compromised perform. Lack of support, retention, and stability area unit common dental medicine treatment issues for patients UN agency have had a maxillectomy (3,4).

The patients additionally expose to a loss of quality of life and feel isolated owing to their look and useful deficits. Factors that have an effect on the prosthetic prognosis for these patients area unit the dimensions of defect, range of remaining teeth quantity of remaining bony structure, quality of existing membrane, actinotherapy, and patient's own ability to adapt to the prosthesis(5). Jaw defects area unit created by surgery of benign or malignant neoplasms, innate malformation and by trauma. the dimensions and placement of the defects influence the degree of impairment and issue in prosthetic rehabilitation. Lack of support, retention, and stability area unit common dentistry treatment issues for patients United Nations agency have had a

maxillectomy. A prosthetic device accustomed shut a palatal defect in {an exceedingly|in a very} rough or toothless mouth is said as an prosthesis. The prosthesis prosthetic device is employed to revive masticatory perform and improve speech, swallow and cosmetics for jaw defect patients (6). Patients, United Nations agency have unilateral surgery with few remaining teeth, have issues like poor prosthetic prognosis owing to inadequate dental plate bearing space, lack of cross arch stabilization, and lack of structures for dental plate retention as in fully toothless patients (7,8).

Oral rehabilitation post partial maxillectomy presents numerous clinical and technical issues (9). Before beginning, a solid model ought to be rigorously studied. the proper degree of flexibility of organic compound materials permits styles that use tissue undercuts also as portion of the abutment teeth for retention. coming up with that clasp kind to use would depend upon the position. With anterior position, esthetics is very important, therefore, take into account lowest coverage of the teeth. With posterior position, clasps ought to offer utmost support and stability of the partials. (10) laborious and soft tissue undercuts area unit oftentimes encountered within the fabrication of prosthetic device in partly also as fully toothless arches. tho' alteration of dental appliance prosthetic device, relining by versatile relining material can serve the aim however the versatile dental appliance base materials stands in superior position compared to alternative choices. This text is a shot to review the varied commercially obtainable versatile dental appliance base materials and highlights their indications and special directions in carrying and maintenance of identical. (11)

Valplast could be a versatile plate base organic compound that's ideal for partial dentures and unilateral restorations. The organic compound could be a biocompatible nylon thermoplastic with distinctive physical and aesthetic properties that gives unlimited style skillfulness and eliminates the priority regarding acrylic allergies. The Valplast versatile Partial permits the restoration to adapt to the constant movement and adaptability in your mouth. the flexibility, combined with strength and lightweight weight, provides total comfort and nice looks! The preparation is comparatively simpleTheValplast partial is just about invisible as a result of there are not any metal clasps and therefore the material itself blends with the tissue in your mouth. whereas the price is usually on top of a partial created with visible metal clasps. The Valplast versatile partial involves solely non-invasive procedures (12).

**2. Materials and Methods:**

Thirty patients were selected for constructed a prosthetic obturators. Thirty Patients with cleft palate and related craniofacial anomalies.age ranging from 20-35 years. Thirty Patients having well-formed alveolar ridges including proper height and thickness, no severe undercuts or bony exostosis, firm mucosa of moderate thickness all over the obturators bearing area and with no signs of inflammation, ulceration or hyperplasia were selected.

For the development of definitive prosthesis irreversible matter impressions were created with stock impression receptacles to fabricate individual impression tray. by use of solid model that obtained utilizing light-weight polymerized acrylic impression receptacle and irreversible matter impression material. The buccal extension style of prosthesis, that had a wall thickness of roughly a pair of metric linear unit, was processed within the normal manner, victimisationheatpolymerizing acrylic. The buccal

extension of the prosthesis was regarding fifteen metric linear unit higher than the lateral scarband throughout the follow up special efforts were created to realize a detailed work between the prosthetic device and encompassing tissue to preclude outpouring of air into the cavity throughout speech. The permanent prosthesis was designed to realize the simplest doable result for every patient in terms of oral and also the palatal portion of this rosin plate covers the surface and is hooked up to many teeth with wire clasps.

This serves to retain and stabilize the prosthesis. The velar portion extends into the pharyngeal area at the level of the palatal plane and seals the nasal cavity from the ora pharynx during function. This prosthesis were constructed from two different materials(heat cure acrylic resin, flexible resin ) thirty patients classified into two groups. The first group resaved obturator contracted from heat cure acrylic resin and second group resaved obturator contracted from flexible resin every obturator form hole in the middle of the polishing surface in the palatal surface receive the hook to measurement the retention during delivery ,after six month,12 month,18month,and 24month Force gauge was used to record the retention.

The device was prepared first units of measure were chosen to be grams.The desired adapter tension hook was attached to the hole in the obturator.The readings were recorded and the average was calculated. the collected data was tabulated and statistically analyzed.

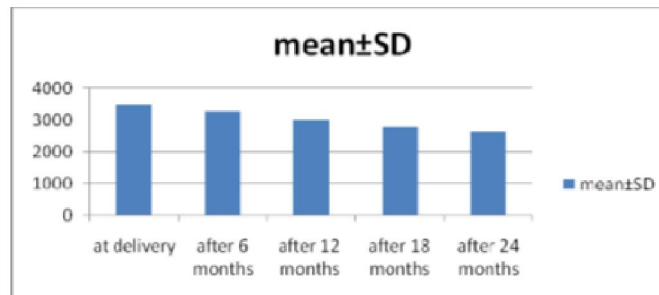
**3. Result:**

From the Tab (1) and Fig (1) the mean changes highly significant different retention in the first group (obturators contracted from heat cure acrylic resin)by time. at delivery, after six month, 12 month, 18month, and 24month.

**Table (1): Change of the retention in the first group (obturators contracted from heat cure acrylic resin)by time.**

Retention at delivery		Retention after 6m		Retention after 12m		Retention after 18m		Retention after 24m		P_VALUE
Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	
3500	1500	3300	1250	3000	1150	2800	1100	2650	1000	<0.001*

\* Significant at P ≤ 0.05.

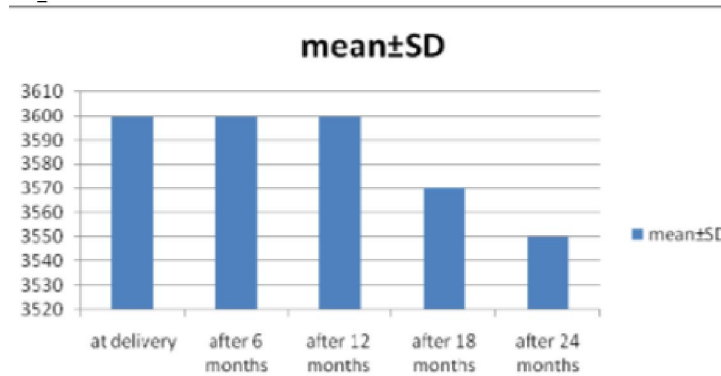


**Fig (1): Means and SD of the change of the retention in the first group (obturators contracted from heat cure acrylic resin)by time.**

**Table (2): Change of the retention in the second group (obturators contracted from flexible acrylic)by time.**

Retention at delivery		Retention after 6m		Retention after 12m		Retention after 18m		Retention after 24m		P_VALUE
Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	
3600	1600	3600	1600	3600	1600	3570	1580	3550	1570	<0.001*

\* Significant at P ≤ 0.05



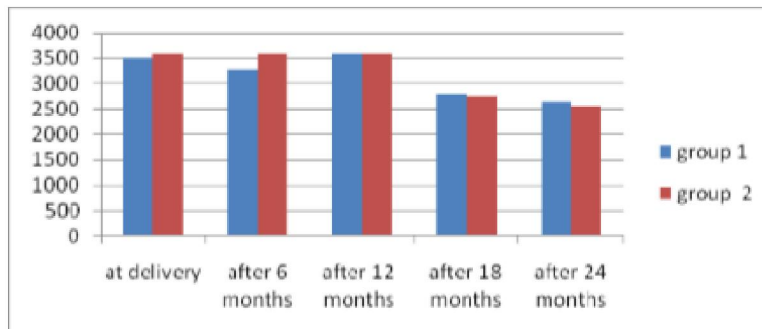
**Fig(2): Mean change of the retention in the second group (obturators contracted from flexible acrylic) by time.**

From the Tab(2) and Fig (2) the mean changes no significant different retention in the second group (obturators contracted from

flexible acrylic) by time, at delivery, after six month, 12 month, but the slight minimal significant different retention in 18month,and 24months.

**Table (3): Mean change of the retention in the first group (obturators contracted from heat cure acrylic resin)and in the second group (obturators contracted from flexible acrylic)by time.**

Groups	Retention at delivery		Retention after 6m		Retention after 12m		Retention after 18m		Retention after 24m		P_VALUE
	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	Mean	S.D	
<b>Group 1</b>	3500	1500	3300	1250	3000	1150	2800	1100	2650	1000	<0.001*
<b>Group 2</b>	3600	1600	3600	1600	3600	1600	3570	1580	3550	1570	P ≤ 0.05



**Fig (3): Mean change of the retention in the first group (obturators contracted from heat cure acrylic resin)and in the second group (obturators contracted from flexible acrylic)by time.**

From Table (3) and Fig(3) show in group) the mean changes highly significant different retention in the first group (obturators contracted from heat cure acrylic resin)by time. at delivery, after six month,12 month, 18month,and 24m. While the mean changes no significant different retention in the second group (obturators contracted from flexible acrylic) by time, at delivery, after six month,12 month, but the slight minimal significant different retention in 18month, and 24months.

**4. Discussion:**

The prosthetic rehabilitation of toothless patients with inherent jaw defect with prosthetic device has some difficulties at the stages of impression and construction. Even the defect space is crammed with a tampon before the impression, protective the soft tissues from the residual impression materials and creating a close impression isn't simple. During this respect, recording the tissue borders with modeling wax around a metal frame intraorally could also be a lot of protecting and still

an efficient technique. (11,12) Separating nasal and oral cavities from one another helps to make speech voices higher and to safeguard cavum from the food escape throughout chew, and swallowing. Constructing a second half that extends to tissues.

This clinical report defines an intraoral method for impression creation and fabrication of open hollow obturator prosthesis (13), it has also been demonstrated that levator muscle activity for blowing is smaller with the appliance than without the appliance. Repeated production of obstructive sounds, nonnasal speech, or both requires continuous air-tight closure of the velopharynx, a situation that may be similar to that during continuous blowing. In both conditions, expiratory air should be impounded within the oral cavity in order to maintain oral air pressure at the level required for the target tasks, including blowing or repeated production of obstructive sounds. However, it has not been previously demonstrated that the placement of a speech appliance can alter velopharyngeal function for speech (14).

#### Conclusions:

The fabrication of the maximum restoration is reckoning on the clinicians' skills in choice of the sort of the restorations that is needed for the patient. The fabrication of corrective for the partly toothless arches encountered a special challenge wherever several interferences, varied path of placement, tipped teeth and half-crazed occlusion can complicate the treatment set up. versatile prosthesis can fill in a superior position in fulfilling the assorted patients demand for a lot of mindful and aesthetic treatment wants. Versatile dentures were antecedently selected by few patients and also the practitioner however currently a days it's become associate degree elective treatment possibility. Flexible obturator was lighter and more significant retention than constricted from heat cure acrylic resin.

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