

Impressions of both arches for streamlined restorative dentistry

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ABSTRACT

The double arch impression technique is a tried-and-true method that has been utilised successfully for nearly three decades. Dentists can cast the prepared teeth and opposing dentition from a single impression and record the interocclusal relationship. The approach is straightforward. It decreases chairtime, operating expenses, and the likelihood of error. This article discusses the general concept and method for creating double arch impressions. It will describe the available varieties of impression trays and explore the characteristics of a new anterior and posterior tray.

IMPRESSION TRAYS

Double arch imprint trays are compatible with all impression materials. Condensation reaction silicone, addition reaction silicone, and polysulfide All normal double arch trays (Ultra-Bite Tray, C. E. Moore Co., Tupelo, Miss.; Coe Check-Bite Tray No. 72, Coe Laboratories, Inc., Chicago, Ill.; and Rite-Bite Tray, Interstate Dental Co., Inc., New Hyde Park, N.Y.) are compatible with polyether impression materials. A small number of double arch trays (Coe Tray Nos. 70 and 71, Coe Laboratories, Inc.) are designed for use with hydrocolloid imprint materials.

All trays utilised in this method are variants of a single, fundamental design. Some tray makers have traded the rigidity of metal for the portability and disposability of plastic (Accu-Bite Tray, Accu-Bite Co., Lansing, Michigan). One plastic tray can be reused (Ultra-Bite Tray, C. E. Moore Co.). A novel disposable imprint tray (Triple Tray, Premier Dental Products Co., Norristown, Pennsylvania) designed to assist the creation of double-arch impressions is now accessible. In the canine-to-canine region, a classic posterior design has been augmented with a new anterior design. Evaluators claimed that the Triple Tray is superior to other double arch trays in terms of its size, durability, and affordability. The plastic structure is bent from mesial to distal. This design is more patient-friendly than many alternatives. A quadrant tray, as opposed to a full-arch tray, reduces patient gagging. It is longer than some double arch trays but shorter than others. In patients where increasing length is a factor, the stability of the articulation will be

increased due to the inclusion of more teeth in the impression. The tray's elevated plastic sides eliminate the need for border wax to contain and regulate the flow of impression material.

In the region of the palate, the anterior tray contains a semistop. This portion of the tray may be augmented with wax to create a palatal stop when the tray is seated. This halt likewise helps to limit the imprint material. The flanges of both trays are grooved to enhance the retention of impression material. The external sides of both the front and posterior trays feature a length extension that provides a fingerhold for simple removal. The thin, permeable webbing allows for perfect closure in centric relation and the registration of an undistorted occlusal impression.

Advantages and disadvantages of double arch impressions

Minimal steps are required for the double arch procedure, which reduces patient and dentist costs, time, and effort. Trays made of disposable materials eliminate cleaning and inventory

Additionally, there is the potential for disease transmission between patients. As with other double arch trays, the dentist is not limited to Fig. 5's design. After the impression has hardened, the tray is extracted using bilateral finger pressure.

single restorations. These impressions can be used to create partial dentures that are fastened for a short period of time.

The decision to employ the double arch impression technique must be supported by strong physical principles.

Several precautions must be identified and assessed. The success of any impression depends in part on the selection of the appropriate tray for a given therapeutic circumstance. This is especially important in the double arch technique because it is a quadrant technique and focal occlusion must be recorded accurately."

In 1972, Braly⁴ categorised restorative patients into three fundamental categories. Class I patients have a good connection between the maxillae and mandible, and sufficient natural dentition remains to permit a quadrant surgery. There are occlusal disharmonies in Class II patients that could be corrected by repositioning, reshaping, or occlusal correction to a Class I scenario.

Patients in Braly's Class are the only other contraindications to the use of double arch trays, with the exception of long-span fixed partial dentures.

In some patients, the deterioration of the dentition is so severe that there are no trustworthy recommendations for tooth form or occlusal position. These individuals require full mouth reconstruction.

Controlling two clinical factors with double arch trays. First, the mandible's physical distortion during opening is eliminated. Second, this approach can record the natural moving of the teeth to assume maximal interdigitation.

TECHNIQUE

Prior to filling the imprint tray, it should be examined in the patient's mouth at the commencement. Inserting dowel pins into epoxy resin-filled counterimpression. Gold coping is prepared for installation. If the tray contains a distal crossbar, it must be placed behind the final tooth. The patient is asked to close his or her jaws multiple times in order to evaluate the reproduction of the centric occlusion. Complete interdigitation of the teeth on both sides of the dental arch must be confirmed .

Electrosurgery or the use of retraction cords or rings may be utilised for gingival sulcus tissue therapy prior to impression creation. When the soft tissue has been prepared, the imprint material is combined and loaded on both sides of the tray. Although polysulfides can be used well, impression materials with a rigid body are preferred. A polyether or addition-reaction silicone impression material provides acceptable tray rigidity, delays impending dimensional change, and exhibits low permanent deformation.

When the impression material has hardened, it is removed in a single motion by applying equal bilateral pressure to the tray's flanges .

Simultaneously created are the impression, counterimpression, and occlusal registration .

The extra imprint material is removed with scissors from the buccal and lingual sides of the tray, and the counterside is initially poured with either synthetic stone or epoxy resin. The working side is then poured with modest quantities of stone or resin. The impression of the prepared teeth should be somewhat overfilled prior to the placement of the dowel pin (Fig. 8). The poured impressions are mounted on a basic articulator; and depicts bilateral impressions that include all quadrants in the same mouth. Restoration is prepared for remounting after copings have been tested. Inserting dies into castings.

After the stone has hardened, the impressions are eliminated and the articulated casts are finished. The laboratory operation is finished, and the restorations are positioned.

If the process was performed properly, the final restoration should require very little, if any, occlusal modification. The reduced occlusal adjudications inherent to the two arch impression process are a consequence of pouring the working casts without separating the impressions. If a significant occlusal modification is required, it may be because the patient did not completely seal the teeth into centric occlusion when the imprint was taken, or because the articulator was opened after the casts were mounted.

If a full arch mounting is desired, two trays can be used concurrently. Under certain conditions copper tube impressions

Effectively utilised in double arch trays. To make a successful tube impression, the tooth preparation must be short occlusogingivally so that the tube can be cut to clear the opposing teeth in centric occlusion. It must be possible to simultaneously remove the tube and the impression from the double-arch tray.

Using double arch trays, it is possible to make an initial impression to be utilised as a bespoke tray for a localised impression of a prepared tooth, provided that the original impression can be reseated easily into the proper centric occlusion. If the double arch impression is taken prior to beginning tooth preparations, a practical way for supplying temporary restorations is conceivable. To reduce pulpal responses, the teeth are lubricated with a separating medium once the preparations are complete.

The preparation side of the impression is filled with a self-curing resin developed for provisional covering and then carefully resealed into centric occlusion in the mouth. When the temporary restoration has hardened, the impression can be removed. When necessary, the impression can be utilised as a bespoke tray to create a wash impression of the dental preparation.

If it is required to remount the casts following a casting try-in appointment, double arch trays can be utilised to make further impressions with the casts in situ. The casts will emerge from the mouth according to the new impression. After inserting the dies into the castings, the castings are remounted on an articulator.

CONCLUSION

This article describes a double-arch, closed-mouth approach that allows dentists to acquire cast and die placement in centric occlusion in a single phase. For accurate registration of the interocclusal connection, complete closure of the teeth is required. It is more likely that the interocclusal relationship will be accurate if there are fewer steps involved in the procedure. There are a variety of trays available for the double arch impression process. The rigidity of the trays reinforces the impression material and decreases the likelihood of distortion in the final impression. Several versions of the double arch impression technique are feasible, and the tray selection is patient-specific.

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