

Not all Double Bite Trays are created equal. There have been several negative reports from lab technicians and some well known clinicians regarding their use and misuse. On the other hand, many excellent clinicians have used them routinely with terrific results. I concur wholeheartedly with one of the top clinicians in the U.S. who stated he would prefer to have a single crown placed in his own mouth utilizing the double arch impression as opposed to a full arch impression.

It is a fact that a double arch impression gives a dynamic functional impression in centric occlusion with the teeth under occluding loading forces. However, all other criteria such as correct anatomical contour of the tray, buccal lingual width, peripheral height, non absorbent thin mesh, and posterior crossbar have to be satisfied to obtain optimum results.

Over 80% of all Crown and Bridge work constitutes the single unit or 2 crowns and/or a 3 unit bridge. For this reason, the double arch impression is widely used, and is gaining more acceptance among dentists who use them correctly.

I strongly advocate the use of a full half arch tray that captures the cuspid, canine, lateral and central. This impression will simulate a full arch impression in centric occlusion. When mounted properly on the articulator without removing the models from the impression, it will give the most optimum interocclusal record. The articulated models will provide canine rise and incisal guidance to determine the presence of any disclusion or laterotrusive interferences.

Full arch impressions for a single unit or 2 crowns are not as accurate as a double bite impression. You are taking the prepared side of the impression in an open (mouth) position with pressure applied to the periodontal ligaments. The opposing impression is taken in the same manner, usually with alginate, which if not poured up immediately or soon thereafter shrinks. Usually bubbles in the impression create blotches on the occlusal surfaces of the molar and bicuspid areas which have to be removed to provide good occlusion.

The final step involves taking a bite registration in a closed position, which in most cases do not fit the models exactly. They either have to be adjusted or hand articulated to place the models in occlusion. To make matters worse, what if the full arch impression does not have a full complement of teeth and free end saddles are present? How does one obtain a correct bite registration on a free end saddle case involving moveable tissue? A double bite on the other hand captures the bite registration in centric occlusion provided there are enough teeth on the opposite side of the arch that interdigitate.

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01. They should be morphologically designed to fit the arch correctly without any interferences.
02. Test the tray first in the patient's mouth for correct fit.
03. A full half arch tray that fits is recommended for optimum occlusion.
04. Sufficient impression must be used on both sides of the tray to fully capture the teeth and supporting structures.
05. The posterior crossbar should adequately clear the 3rd molars, maxillary arch and hamular notch areas without interference upon closure.
06. Do not cover the crossbar with impression material on either side to verify closure without interference. Biting on the crossbar will cause distortion (flexing).
07. If impression material shows through the buccal and lingual walls of the tray, the impression should be retaken. Items 4, 5, 6 and 7 are major causes for improper fitting crowns that exhibit high bite and narrow castings that do not completely seat in the mouth.
08. Use the proper type of impression material such as a polyvinyl siloxane or polyether.
09. A high durometer material is not necessarily the most optimum choice since you can occasionally experience compression. You need a material with some resiliency that will return to its original state when it is fully set. Rigidity can make removal of the impression difficult when undercuts and periodontally involved conditions exist.
10. Always work with an assistant during the impression procedure to help load the tray while you are simultaneously syringing the material around the sulcus and to facilitate guiding the patient in centric occlusion.
11. The use of half time setting material to speed up the procedure can sometimes be detrimental, especially if you are using a dual phase technique and working with a difficult patient. Usually the material does not set up simultaneously, and you end up with lamination and a restoration that does not fit the mouth.
12. Ask patient to open mouth with a snap. If difficult to remove, use finger and thumb between upper and lower periphery in the mucobuccal fold area to facilitate removal. Do not use excessive force on handle to remove impression.
13. Always make an excellent provisional restoration with proper anatomical contour, marginal integrity, contacts and occlusion. The use of a bisacryl material in a double bite impression tray will give you an excellent provisional. Build up tooth first before preparation.
14. Predictable impressioning - The tissues should be healthy.
15. Proper tissue management - The preparation should be clearly discernible with well defined smooth margins circumferentially.
16. Proper retraction technique to achieve the ideal final impression.
17. Follow manufactures recommendation on setting time and leave slightly longer to avoid tearing of the impression material upon removal.