Bite Registration

Objective of bite registration:

To transfer the relation between the upper and lower dental arches from the patient's mouth to the articulator we need bite registration.

When enough teeth are present in both dental arches we can transfer the relation by hand articulation of the casts. i.e., no bite registration is needed in such cases, so we can occlude the opposing casts by hand, and then we mount them on the articulator.

If the remaining teeth are insufficient to produce hand articulation of the casts, we have to record the bite by using either of the followings:

1. Pink base plate wax.
2. Bite registration paste.
3. Bite rim or occlusal rim.

How to record:

Whatever the material used to record the relation between the upper and lower dental arches, we have to guide the mandible to the required relation (centric or eccentric). So, the patient is asked to close and guide him, put reference points, and then we put the record material and register the relation.

The most widely used material to record the relation is pink base plate wax. The procedure is by softening the wax at first, then we ask the patient to bite on it, keeping in mind that we have to guide the mandible to the reference points that we have marked to have the correct bite registration. Meanwhile, the patient is asked to mold the wax at the lingual area by his tongue, while we adapt the wax on the labial and buccal sides by our fingers. After complete setting of the wax, we remove it from the patient's mouth, trim the excess wax, and attach it to the cast and transfer it to the articulator.

Bite rim: The bite rim is used in the following cases:

1. Free end saddle.
2. When we need to restore the anterior teeth.
3. When we don't have enough teeth to obtain the centric relation.

Clinical Try-In

After the laboratory procedure has been completed, the casting restoration is now ready to check it on the prepared tooth inside patient mouth prior to final finishing and cementation.

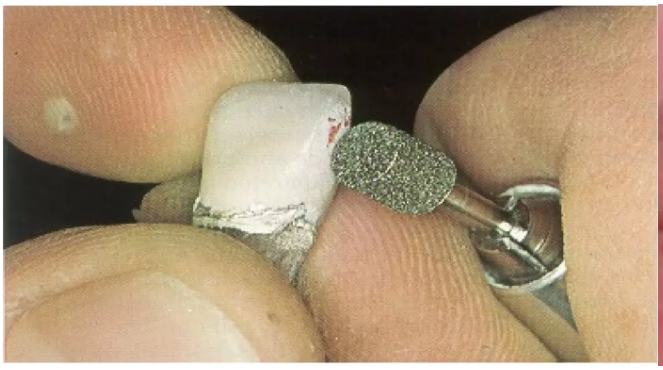
I. With or Without Anesthesia

The procedure can be accomplished in most patient without anesthesia, it gives us the benefit of unimpaired tactile sensation that is of great value during occlusal adjustment. So, Without Anesthesia Try-in procedure is better but sometime we use anesthesia if the patient uncooperative.

II. Seating the Casting

1. **Remove temporary restoration** and clean the prepared tooth from any remnant of cement because it will interfere with seating of restoration. Instruments use to remove temporary restoration:
   a. Backhaus towel clamp
   b. GC Pliers

2. **Seat the restoration:** on the prepared tooth with pressure.
3. **Examine the interproximal contact area:** it should be tight as the other in the mouth. Dental floss is used to check the interproximal contact by passing it between the restoration and the adjacent natural teeth, it should have slight resistance otherwise we have either;
   a) Heavy resistance; the dental floss can't pass through the contact; this indicate that the contact is heavy and it must be reduced.
   b) No resistance; if the floss passes easily, it indicates that the contact area is under contoured, either you have to repeat the restoration or to correct this defect by adding solder to that area.

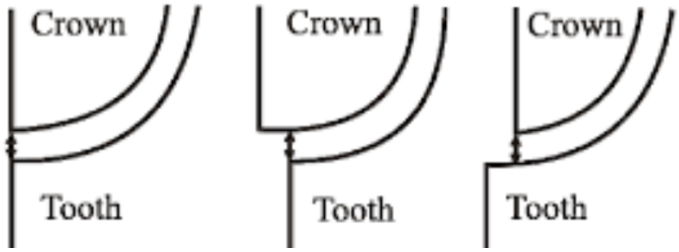


4. If the contact area is perfect and the crown is not seat completely this might mean that, there is interference from inside (metal bubbles or undercut) we use pressure indicating past (light body impression material) or spray to identify the interferences. We place it into the inner surface of the crown restoration, the crown was then seated on the prepared tooth with pressure, the restoration was then removed and inspected for any pressure (shiny) area which indicates an interference area that should relieved

5. **Evaluating Complete Seating**; the margin of the restoration is the most critical area of the restoration; we should have complete fitness between the restoration margin and finishing line of the preparation.

6. **Evaluating marginal integrity**

To check the marginal integrity of the crown restoration, we use sharp pointed probe, the probe should be move in a two direction, the direction of the movement during checking is very important. We should have complete fitness between the restoration margin and finishing line of the preparation.



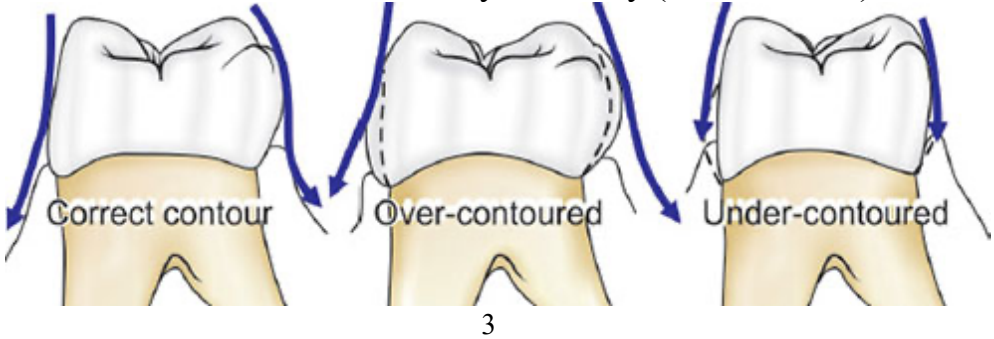
Types of Marginal Defects

A. Short margin (under extension, Shoulder or ledge);
margin of the crown restoration lies short of finish line of prepared tooth

B. Long margin (overextension, Overhang);
margin of the crown restoration lies beyond finish line of the prepared tooth.

C. Open margin;
margin within finish line but there is space between the restoration margin and the prepared tooth

D. Over contoured;
margin within finish line furthermore, they are bulky (overcontoure).



How to check:

A) Move probe from the restoration toward tooth surface, if it passed smoothly without any interpretation the margin is OKY however if there is any interpretation during this movement--- this indicates under extended margin.

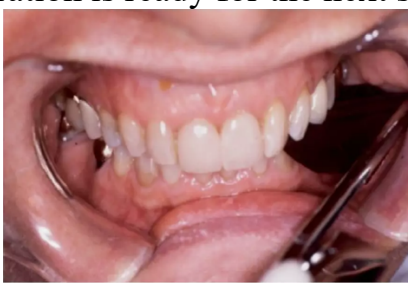
B) Move from tooth surface toward restoration margin, if the probe catch by the margin, this indicates over extended margin.

C) If the probe passes smoothly in the two direction this mean the margin extension is correct.

D) if there is space between the restoration and tooth surface at area, this means open margin.

The restoration should then be examined for stability, it should not rock or rotate on the prepared tooth when force is applied on.

7. **After complete seating:** adjust the occlusal relationship in all mandible movements (centric and eccentric) using articulating paper, any occlusal prematurity should be relieved using green stone bur. Now the casting restoration is ready for the next step.



8. The restoration now is ready for cementation.