

Laboratory Project # 6

Setting Maxillary and Mandibular Posterior Denture Teeth

a) Mark the land areas of the mandibular cast with a pencil to serve as a guide in tooth arrangement. With the mandibular record base removed, place a mark on the land where the mandibular ridge turns superiorly (A). This will represent the posterior limit for tooth arrangement(don't set teeth beyond this point).

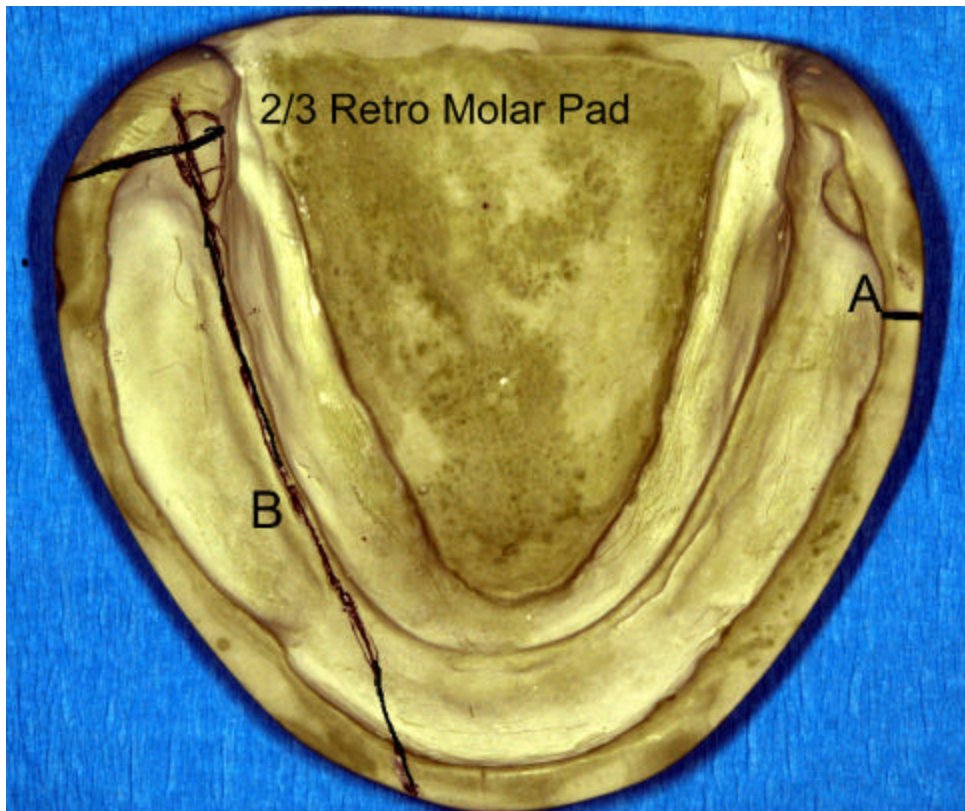


Fig (1)

b) With a pencil, use a ruler to mark the **crest of the mandibular ridge** from the base of the retromolar pad to the canine area fig (1) . This will identify the crest of the mandibular ridge (B). Replace the mandibular record base and occlusion rim, and using a straight edge, extend the previous markings **onto the wax rim to serve as a guide** when arranging the maxillary teeth. Repeat this procedure for the other side fig (2).



fig (2)

Arranging the Maxillary Posterior Teeth fig (3,4,5) :

- a. Place the right maxillary first premolar with its long axis at right angles to the occlusal plane. The buccal and lingual cusps are placed on the plane.
- b. Place the right maxillary second premolar in like manner. Align the buccal surfaces of the premolars and the canine with the edge of metal or plastic occlusal plane template.

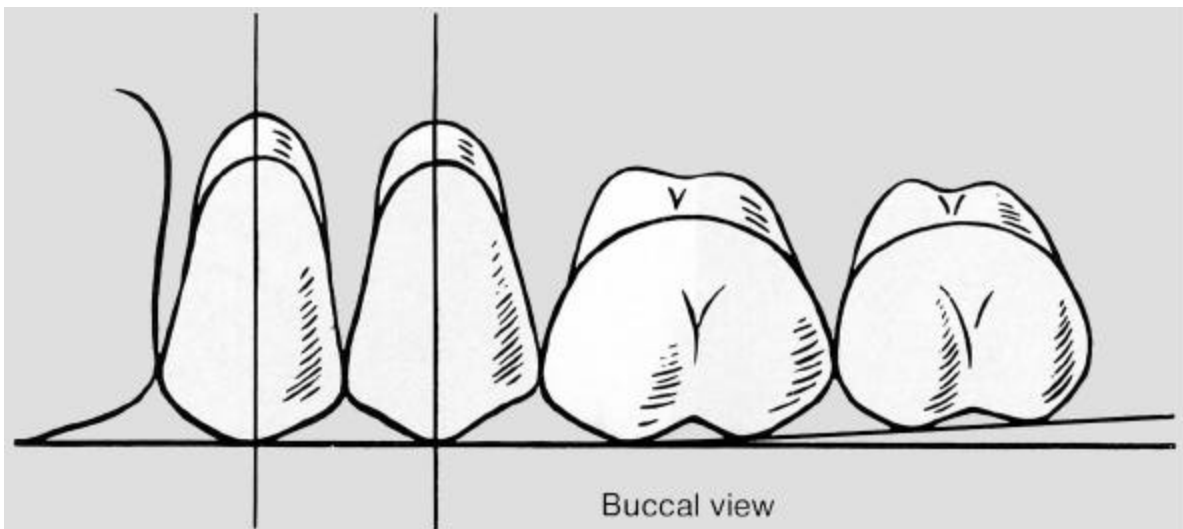


fig (3)

c. The mesio-buccal and mesio-lingual cusps of the right maxillary first molar touch the occlusal plane. The **disto-buccal cusp** is raised about **0.5 mm** and the **disto-lingual cusp** is raised about **0.5 mm** above the occlusal plane.

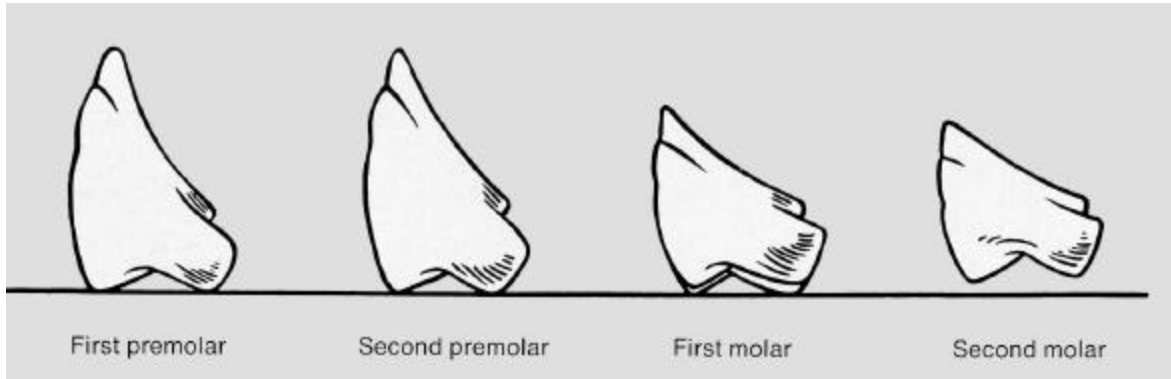


fig (4)

d. All of the cusps of the second molar are raised from the occlusal plane following the position of the first molar. The **mesio-buccal cusp** should be about **1 mm** from the occlusal plane.

e. Follow the same procedure in placing the posteriors on the opposite side.



fig (5)

Arranging the Mandibular Posterior Teeth fig (6,7):

The mandibular 1st molar is a key tooth in articulation. If careful attention is paid to setting this tooth, it will facilitate considerably articulation of the remaining posterior teeth.

- a. Remove enough wax from the mandibular occlusion rim on the right side to have space for the posterior teeth.
- b. Set the right mandibular first molar in its correct position but slightly high in occlusion. Close the articulator carefully to bring the mandibular molar into its proper position. Guide it to the correct occlusal relation with the maxillary first molar and maxillary second premolar, making certain that the incisal guide pin remains in contact with the incisal table during all excursions.
- c. Follow the same procedure in placing the right mandibular second molar and second premolar.
- d. In some instances, there is not sufficient space for the mandibular first premolar. For esthetic reasons, it is usually advisable to grind the mandibular first premolar to fit the available space rather than altering the anteriors.
- e. Follow the same procedure in placing mandibular teeth on the left side.
- f. Remove all wax from the teeth. Flame the wax to smooth it.

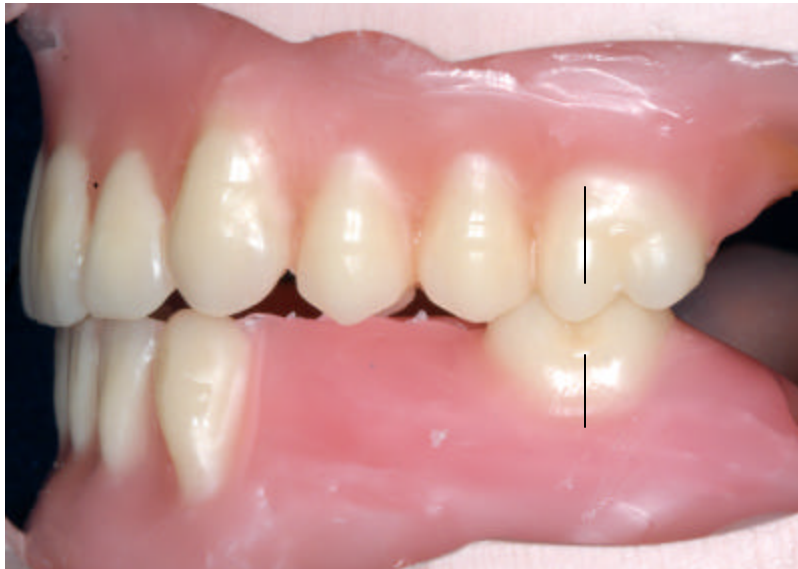


fig (6)



fig (7)

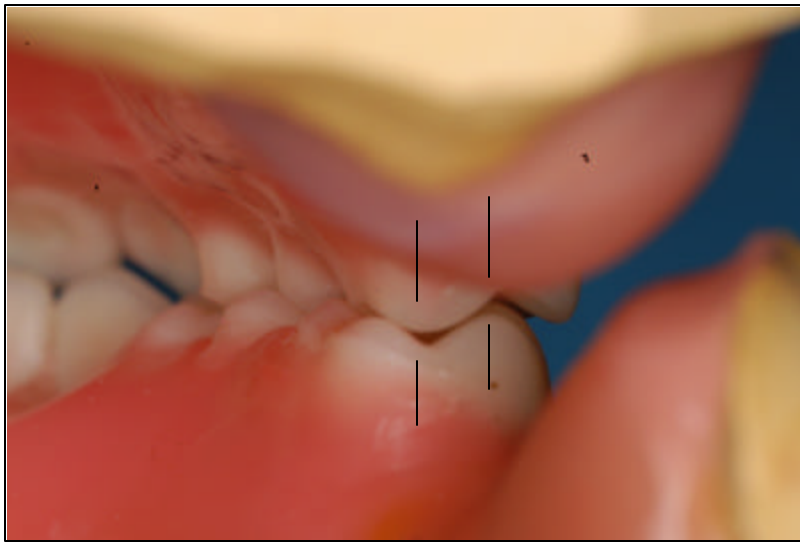


fig (8)

Balancing the Occlusion

a. Occlusal contacts should be perfected prior to attempting to balance the occlusion in eccentric positions fig (7, 8). Set the mechanical incisal guide table. For anatomic posterior teeth, the edge-to-edge relationship of the maxillary and mandibular anterior teeth determines the inclination of the incisal table. The relationship of the maxillary canine to the mandibular canine determines the setting of lateral wings of the incisal table.

b. Now, to balance the occlusion, place the articulator in the right working position. Check the working side contacts on the right side and the balancing contacts on the left side. If the occlusal plane and compensating curve are acceptable, you can reposition the mandibular posterior teeth until you achieve good working side contacts fig (9).

If you find out that your contacts are not ideal, evaluate the position of the maxillary teeth and correct the contacts by repositioning the maxillary posterior teeth.

c. Check the balancing side for ideal balancing contacts. If **one or two contacts** exist between the buccal slopes of lingual cusps of the maxillary posterior teeth and lingual slopes of buccal cusps of the mandibular posterior teeth, your **balancing contacts** are acceptable fig (10).

Note: Ideal working and balancing contacts depend on ideal cast-to-cast relations, ideal ridge heights, a normal resorption pattern, and the esthetic requirements of the patient. Achieving an ideal balanced occlusion is always the goal.

d. Follow the same procedures for the left working side.

e. After stabilizing the lateral balancing contacts, put the anterior teeth in edge-to-edge position. You should have at least one contact bilaterally between the maxillary and mandibular posterior teeth in protrusion fig (11).



Fig (9) Working side contacts



Fig (10) Balancing side contacts



Fig (11) Protrusive contacts