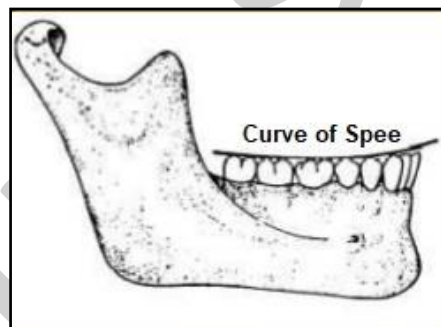


Arrangement of Posterior Teeth

Correct placement of posterior teeth is important for the mastication ability, retention and stability of both dentures. Prior to arrangement of the posterior teeth, we must understand some of the following definitions, which is related to posterior teeth arrangement

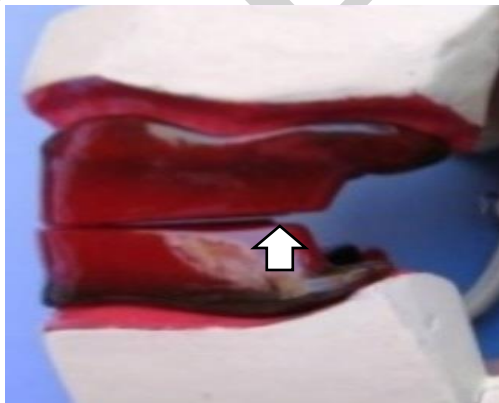
❖ Curve of Spee:

It is imaginary line represent the antero-posterior curvature of the occlusal surfaces of teeth beginning at the tip of mandibular canine and following the buccal cusps of premolars and molars continuing to the anterior border of the ramus of the mandible. The correct orientation of occlusal plane will optimize esthetic, function and occlusal balance.



❖ Christensen's phenomenon:

A space created at posterior area produced in the natural dentition or between the opposing posterior parts of occlusal rims when protruded the mandible (Posterior open bite). In order to compensate this posterior open bite during forward or protrusive movement of mandibular the compensatory curve should be made.

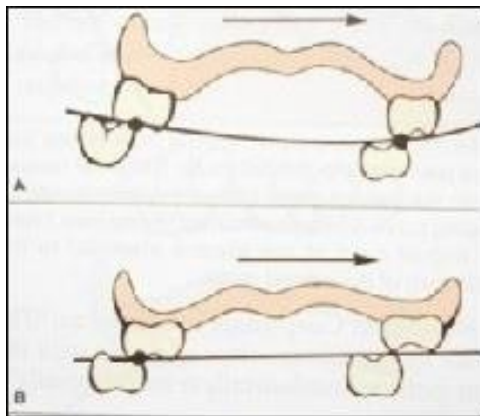


❖ Compensating curve:

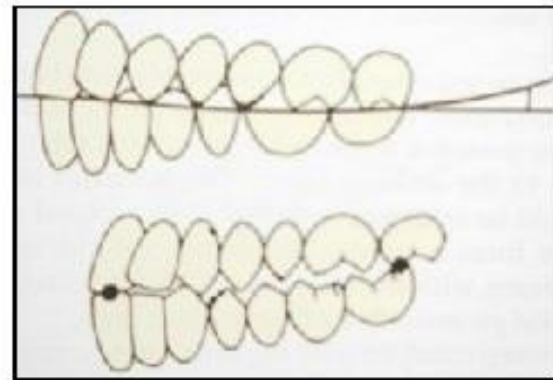
The antero-posterior and mediolateral curvature which produce during lateral movement of mandibular jaw in the alignment of the occluding surfaces and incisal edges of artificial teeth. This curve is used to develop balanced occlusion.

Determined by inclination of posterior teeth and their vertical relationship to occlusal plane and there are two curve:

- 1- Anteroposterior compensating curve
- 2- Mediolateral compensating curve



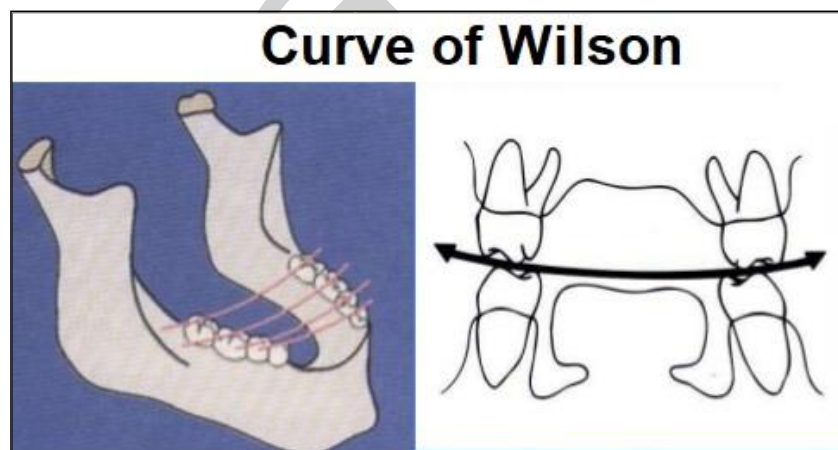
Mediolateral Compensating Curve



Anteroposterior Compensating Curve

❖ Curve of Wilson (Lateral curve):

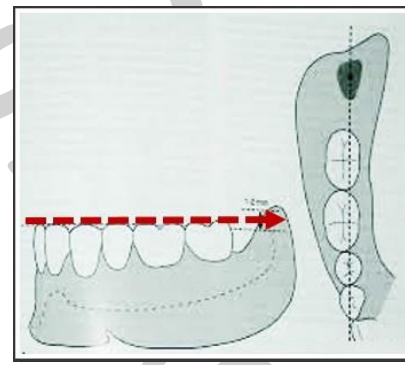
It is a part of the compensating curve extend mesio-laterally from one side of the arch to the other side. This curve compensate the opening that occur when a lateral movement of mandibular jaw is made.



Arrangement of The Mandibular Posterior Teeth

The mandibular posterior teeth will be arranged before the maxillary posterior teeth, because there are more guide lines for arrangement of mandibular posterior teeth:-

- 1- Draw line which represent the crest of residual ridge, which extend from the tip of canine to the middle of retromolar pad. The central grooves of mandibular posterior teeth should centered according to this line.
- 2- The line extending from the tip of canine to the upper (2/3) of retromolar pad (represent occlusal plane) will determine the height of mandibular posterior teeth which should arrange not higher than retromolar pad.



The arrangement of mandibular posterior teeth starts as follow:

1. Mandibular 1st Premolar:

The tooth should be set perpendicular to the occlusal plane. The tip of its buccal cusp should be 1mm below the occlusal plane the central groove should be over the center of ridge.

2. Mandibular 2nd premolar:

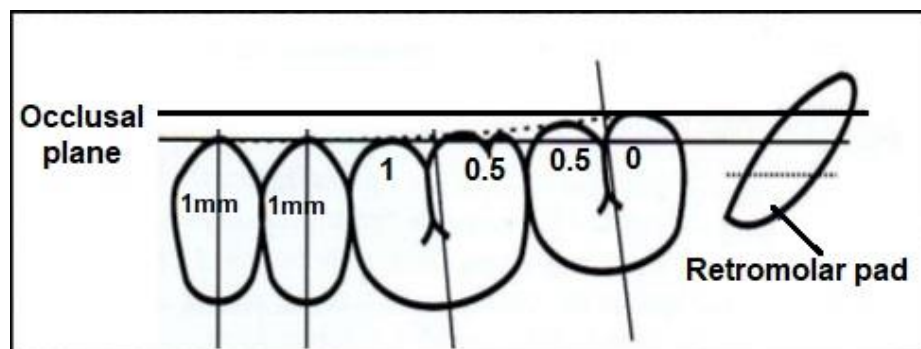
Arranged with the same criteria used in mandibular 1st premolar

3. Mandibular 1st molar:

The mesio-buccal cusp should be 1mm below occlusal plane while the disto-buccal cusp is 0.5 mm below the plane.

4. Mandibular 2nd molar:

The mesio-buccal cusp is 0.5 mm below the occlusal plane, while the disto-buccal cusp touch the plane, in order to give the antero-posterior compensating curve. The mandibular 1st and 2nd molar should be arranged with slight lingual inclination to give the lateral curve (Curve of Wilson).



Arrangement of Maxillary Posterior Teeth

These teeth will be arranged according to the centric occlusion relation to the mandibular posterior teeth.

1. **Maxillary 1st Premolar:** The buccal cusp should be seated into the buccal embrasure between mandibular 1st and 2nd premolar. The lingual cusp should be seated into the occlusal embrasure between the same teeth.
2. **Maxillary 2nd Premolar:** The lingual cusp should be seated into the embrasure area between mandibular 2nd premolar and mandibular 1st molar.
3. **Maxillary 1st Molar:**
In order to get normal molar relation, the mesio-buccal cusp should be sited on the buccal groove of mandibular 1st molar, and the mesio-lingual cusp should be sited into the central fossa of mandibular 1st molar.
4. **Maxillary 2nd Molar:** The mesio-buccal cusp should be sited into the buccal groove of mandibular 2nd molar and the mesio-lingual should be sited into the central fossa of mandibular 2nd molar.



❖ Common errors in arrangement of teeth:

1. Placing the mandibular anterior teeth too labial inclination to meet maxillary anterior teeth.
2. Midline shift of anterior teeth
3. Edge-to-edge contact of anterior teeth
4. Failure to make the canine as turning point of the arch.
5. Failure to establish the occlusal plane.
6. Placing the mandibular posterior teeth more lingual inclination which cause tongue interference and mandibular denture displacement.
7. Placing the tooth on maxillary 2nd molar on maxillary tuberosity