

Mandibular second molar

It is the seventh mandibular tooth from the median line. It supplements the first molar in function. Its anatomy is similar but differs in some details. In describing this tooth, direct comparisons will be made with the mandibular first molar.

Buccal Aspect

- The crown is shorter cervico-occlusally & narrower mesiodistally than in the first molar.
- There is one developmental groove buccally, the buccal developmental groove between the mesiobuccal & distobuccal cusps, which are equal in mesiodistal measurements. There is no distal cusp.
- The roots may be shorter than those of the first molar, but they vary considerably in this as well as in their development generally.
- The roots are usually closer together & their axes are nearly parallel. (They may spread as much as those of the first molar, or they may be fused for all or part of their length).
- The roots are inclined distally in relation to the occlusal plane of the crown, their axes forming more of an acute angle with the occlusal plane than is found on the first molar.
- The distal root is longer than the mesial root.

Lingual Aspect

- Only the lingual cusps are in view because the tips of the lingual cusps are higher than the buccal cusp.
- Part of the distal portion of the mesial root may be seen through bifurcation because of the twist of the mesial root.
- The crown & root of the second molar converge lingually but to a slight degree, little of the mesial or distal surfaces may therefore be seen from this aspect.
- The mesiodistal measurement at the cervix lingually is always greater than that of the first molar.
- The curvatures that describe the contact areas mesially & distally are more noticeable from the lingual aspect. They are at slightly lower level, especially in the distal area, than those of the first molar.

Mesial Aspect

- The cervical ridge buccally is less pronounced.
- The occlusal surface may be more constricted buccolingually.
- The cervical line shows less curvature, being straight & regular.
- Parts of the distal root may be seen buccally & apically. In the first molar, when the distal root is in sight from the mesial aspect. It is in view lingually.

Distal Aspect

- There is no distal cusp & distobuccal groove.
- The contact area is centered on the distal surface buccolingually & is placed equidistant from cervical line & marginal ridge.
- Parts of the mesial root may be seen from this aspect on the buccal side. On the first molar the opposite is true, it is to be seen on the lingual side.

Occlusal Aspect

- Instead of ht 5 cusps of varying size in the first molar, there are four cusps here that are nearly equal in size.
- The occlusal developmental grooves are centered between cusps.
- The buccal & lingual developmental grooves meet the central developmental groove at right angles at the central pit on the occlusal surface.
- These grooves form a cross, dividing the occlusal portion of the crown into four parts that are nearly equal.
- There is no distal cusp & distobuccal groove.
- More supplemental grooves radiating from the developmental grooves.

Mandibular Third molar

It is the eighth & the last mandibular tooth from the median line. Because it supplements the second molar in function, the fundamental design is similar. It is smaller & not so well developed.

It varies considerably in different individuals, presenting many anomalies both in form & position, tending to be oversized & malaligned. In making comparisons with the second molar, the following points are to be observed.

Buccal Aspect

- The crown is about the same length cervico-occlusally but is narrower mesiodistally.
- The roots are fused together, functioning as one long root, & they are shorter cervicoapically.
- The fused roots divide sufficiently at the apex to form 2 distinct apices.
- The outline mesially & distally of the fused roots has a more extreme inclination toward the distal, placing the apices of the roots in a more distal relationship to the center of the crown.

Lingual Aspect

There is no outstanding variation here except those mentioned under buccal aspect.

When the third molar well developed, it corresponds closely to the second molar except for size & root development.

Mesial Aspect

From this aspect, this tooth resembles the second molar except in dimensions. The roots are shorter, with the mesial root tapering more from cervix to apex. The distal root apex can't be seen.

Distal Aspect

The outline of the distal aspect is quite similar to that of the second molar.

In specimens that have oversized crown portions are more spheroidal above the cervical line.

The distal root appears shorter both in length & in buccolingual measurement, when compared with the large crown portion.

Occlusal Aspect

It is quite similar to that of the second molar except: -

- The crown is narrower mesiodistally & buccolingually.
- The crown tapers more distally, & the line angles are more rounded, this places the distobuccal & distolingual cusps close together.
- There is greater number of supplemental grooves.

END