RESTS AND REST SEATS

A. Definitions

i. Rest: A rigid component of a removable partial denture which rests in a recessed preparation on the occlusal, lingual or incisal surface of a tooth to provide vertical support for the denture. Although a rest is a component of a direct retainer (retentive unit, clasp assembly), the rest itself is classified as a supporting element due to the nature of its function.

a. Occlusal rest

- a rest placed on the occlusal surface of a bicuspid or molar.

b. Lingual (cingulum) rest

- A rest placed on the cingulum of an anterior tooth (usually the canine). Rests may also be placed on the lingual of posterior teeth by creating a ledge of the tooth surface (prescribed for surveyed crowns).

c. Incisal rest

- A rest placed on an anterior tooth at the incisal edge.

d. Intracoronal (precision) rest

- A rest consisting of precision manufactured attachments that are placed within the coronal contours of a crown or retainer.

ii. Rest Seat: A portion of a tooth selected and prepared to receive an occlusal, incisal or lingual rest.

B. Functions of Rests

1. To direct forces along the long axis of the abutment tooth.
2. To prevent the denture base from moving cervically and impinging gingival tissue.
3. To maintain a planned clasp-tooth relationship.
4. To prevent extrusion of abutment teeth.
5. To provide positive reference seats in rebasing and/or impression procedures.

6. To serve as an indirect retainer by preventing rotation of the partial denture (Class I or II RPD's only).

C. Preparation of Rest Seats

Rests seats should be prepared using light pressure with a high-speed handpiece with or without water spray. Since minimal preparation is usually performed, minimal heat is generated. Good visibility is required so that water coolant can be eliminated. Since preparations are usually, entirely in enamel it is best to avoid anesthesia so the patient can inform the dentist when sensitivity is felt. Occlusal rest seats can be prepared with medium round burs (2 and primarily the 4 sizes) or diamonds. Guiding planes and cingulum rest seats can be prepared with a long, medium diameter cylindrical bur or diamond.

D. Rest Seat Form

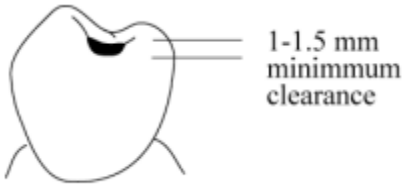
Rest seats should have a smooth flowing outline form (i.e. no sharp line angles).

Occlusal Rest Seats

(a) The outline of an occlusal rest seat is a rounded triangular shape with its apex nearest to the centre of the tooth.

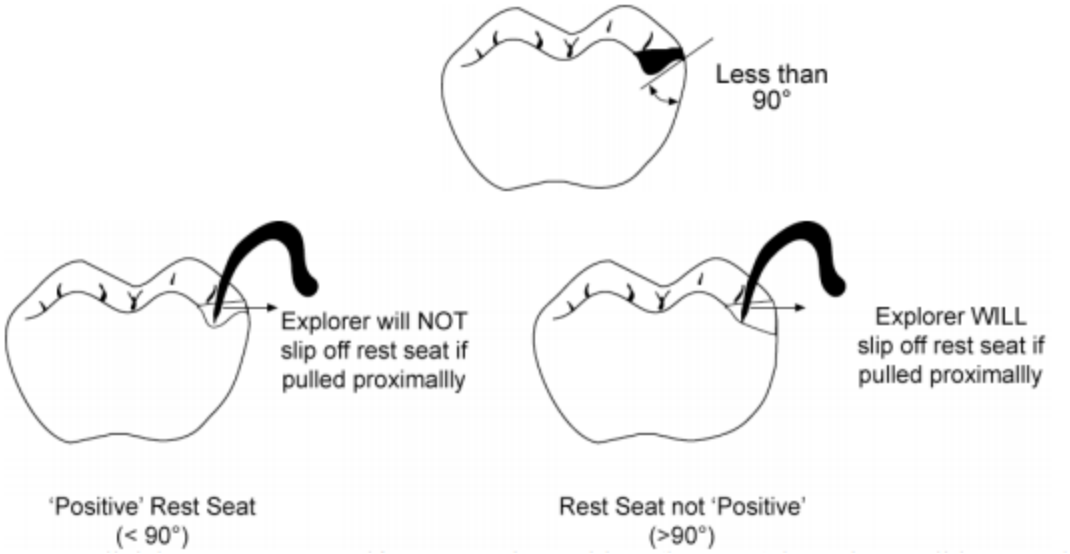
(b) The base of the triangular shape is at the marginal ridge and should be approximately one third the bucco-lingual width of the tooth.

(c) The marginal ridge must be lowered and rounded to permit a sufficient bulk of metal to prevent fracture of the rest from the minor connector (1 to 1.5 mm.



(d) The floor of the rest seat should be inclined towards the centre of the tooth, so that the angle formed by the rest and the minor connector should be less than 90°. This helps to direct the occlusal forces along the long axis of the tooth.

An angle of more than 90° fails to transmit the occlusal forces along the long axis of the tooth and permits movement of the clasp assembly away from the abutment and orthodontic movement of the tooth.



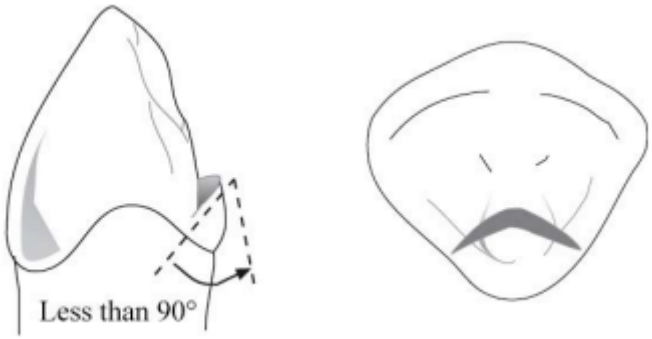
(e) The floor of the rest seat should be concave or spoon shaped to create a ball-and-socket type of joint. This will prevent horizontal stresses and torque on the abutment tooth.

Lingual or Cingulum Rest Seats

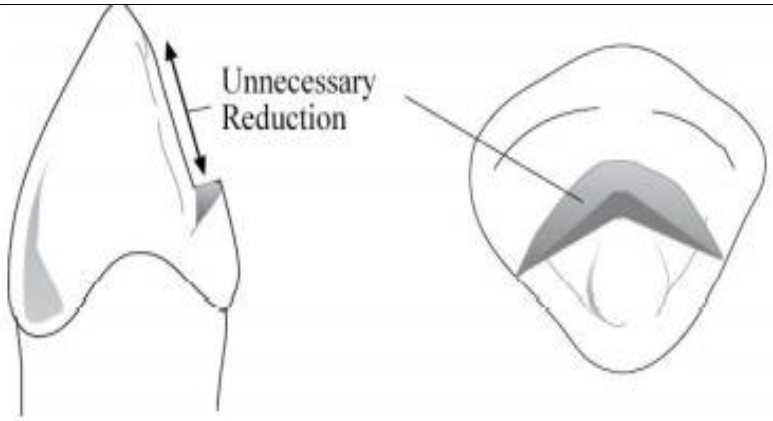
Lingual or cingulum rests on anterior teeth are often utilized when no posterior teeth are present or when indirect retention is necessary. The anterior tooth most readily adaptable to a cingulum rest is the canine, due to its well-developed cingulum. When a canine is not available, the cingulum of an incisor may be used. In some instances, multiple rests spread over the cingula of several teeth may be required, in order to minimize stress on the teeth. Root form, root length, inclination of the tooth, and the crown-root ratio must be considered in the planning for the use of such rests.

Cingulum Rest Seat Form

a. The rest seat, from the lingual aspect assumes the form of a broad inverted "V' maintaining the natural contour often seen in the canine cingulum. From the incisal view the rest seat is broadest at the central aspect of the canine (approximately 1 mm). The proximal view demonstrates the correct angulation of the floor of the rest seat (< 90°). The borders of the rest seat are slightly rounded to avoid sharp line angles in its preparation. As with occlusal rest seats, a preparation will test as 'positive' if an explorer tip does not slip off the rest seat when pulled lingually from the base of the rest seat.



The cingulum rest seat should be prepared in the bulk of the cingulum to minimize tooth reduction. The cavosurface should be less than 90° to prevent orthodontic movements of the tooth.



b. Care must be taken not to create an enamel undercut that would interfere with the placement of the denture. A medium or large diameter cylindrical fissure bur should be utilized approaching along the long axis of the tooth. Approach from a horizontal direction will often result in creation of an undercut incisal to the rest seat.

Incisal Rests

Incisal rests are inferior to lingual rests both mechanically and esthetically. Normally they should not be used unless it is impossible to place a lingual rest seat or a composite bonded rest seat.

a. An incisal rest seat is usually placed on the mesio- or disto-incisal angle of the incisor teeth with the deepest portion towards the centre of the tooth. It is predominantly used as an auxiliary rest or an indirect retainer.

b. It is usually used on the mandibular incisor where the lower lip can cover, as much as possible, the metal of the rest that shows at the incisal edge. Mechanically, a lingual rest is preferable to an incisal rest, because the lingual rest is placed nearer to the center of rotation of the tooth and therefore, will have less tendency to tip the tooth.