Removable Partial Denture Considerations in Mandibular Prosthetics

Type II Resection

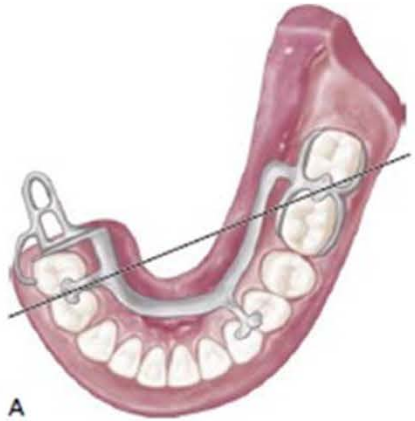
In the type II resection, the mandible is often resected in the region of the second premolar and first molar. If no other teeth in the arch are missing, a prosthesis usually is not indicated.

Type II Resection

However, in some situations a prosthesis may have to be fabricated to support the buccal tissue and to help fill the space between the tongue and the cheek to prevent food and saliva from collecting in the region.

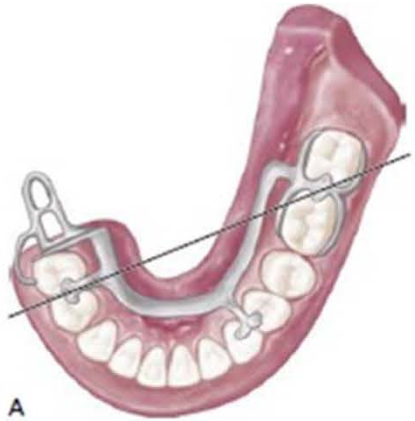
Type II Resection

Framework design should be similar to a Kennedy Class II design, with extension into the vestibular areas of the resection. This area would be considered nonfunctional and should not be required to support mastication.



Type II Resection

The extension into the defect area can place significant stress on the remaining abutment teeth; therefore, occlusal rests should be placed near the defect, and an attempt should be made to gain tripod support from remaining teeth and tissue where possible.



Type II Resection

The choice of major connector depends on the height of the floor of the mouth as it relates to the position of the attached gingival margins during function. An extension base with artificial teeth can be used on the surgical side if space is available.

Type II Resection

Use of an infrabulge retainer on the surgical side may be difficult if a shallow vestibule results from surgical closure. Wrought-wire circumferential retainers are acceptable alternatives.

Type II Resection

In a type II mandibular resection, where posterior and anterior teeth are missing on the defect side, the remaining teeth on the intact side of the arch are often present in a straight-line configuration.

Type II Resection

Embrasure clasps may be used on the posterior teeth, with an infrabulge retainer on the anterior abutment. In some situations, a rotational path design may be used to engage the natural undercuts on the mesial proximal surfaces of the anterior abutments.

Type II Resection

Lingual retention with buccal reciprocation on the remaining posterior teeth should be considered. The longitudinal axis of rotation in this design should be considered to be a straight line through the remaining teeth.

Type II Resection

This prosthesis may have a straight-line longitudinal axis of rotation, as previously discussed. Rests should be placed on as many teeth as possible, minor connectors should be placed to enhance stability, and wrought-wire retainers represent an acceptable alternative to the bar clasps.

Type III Resection

A type III resection produces a defect to the midline or farther toward the intact side, leaving half or less of the mandible remaining.

Type III Resection

The design of a framework for this situation would be similar to the type II resection.

Type IV Resection

A type IV resection would use the same design concepts as type II or III resections with the corresponding edentulous areas.

Type IV Resection

If the type IV resection extends beyond the midline, with less than half of the mandible remaining, the design will be similar to the type II resection that has an extension base into the surgical defect area.

Type V Resection

In the type V resected mandible, when the anterior or posterior denture-bearing area of the mandible has been surgically reconstructed, the removable partial denture design is similar to the type I resection design.

SUMMARY

Maxillofacial prosthetic treatment of the patient with an oral defect is among the most challenging treatments in dentistry.

Defects are highly individual and require the clinician to call upon all knowledge and experience to fabricate a functional prosthesis. The basic principles and concepts described throughout this text will help the clinician to successfully design maxillofacial removable partial dentures.

References

- Cantor R, Curtis TA: Prosthetic management of edentulous mandibulectomy patients. I. Anatomic, physiologic, and psychologic considerations, J Prosthet Dent 25:446-457, 1971.
- Carr A, Brown D. McCracken's Removable Partial Prosthodontics, Thirteenth Edition ISBN: 978-0-323-33990-2.