Treatment planning for the Class 2B dental arches

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Factors influencing denture design for partially edentulous arches

- number of remaining teeth in the arch
- position of remaining teeth in the arch
Torquing movement (vertical dimension of occlusal load) on tooth supported denture:

- Denture does not exhibit functional movement, has no axis of rotation totally tooth-support
  Class 1
- Denture rotates in one direction around the fulcrum line (depression) tooth and tissue support
  Class 2
- Denture rotates in more than one direction around the fulcrum line (tilting) tooth and tissue support
  Class 3
Basic principles of Class 2

- Tooth and tissue support
- Depression of the base denture exhibits movement in one direction under vertical occlusal load: rotation about an axis, the fulcrum line
Class 2B

• Tooth and tissue support
• Remaining teeth or edentulous area in the arch not in one block (tooth bounded edentulous regions combined with uni or bilateral edentulous area posterior to remaining teeth)
• RPD recommended

I. RPD with clasp retainers
II. Transformation into a Class 2A type edentulous arch
III. Interdental bar applied
   • Major connectors: reduced extension
   • Metal base
Principles of treatment planning in Class 2B

I. RPD with clasp retainers

II. Transformation to a Class 2A type edentulous arch

III. Interdental bar applied
   • Major connectors: reduced extension
   • Metal base
Retainer selection:

- Clasps
  - Clasp assemblies
  - Indirect retainers
  - Resistance to upward dislodging forces is better than in class 2A due to position of remaining teeth in the arch

and/or

- Precision attachment
  - Ball attachment
  - Bar attachment
  - Splinting of abutment teeth
Clasp assemblies:

• Retentive arm and reciprocating elements ensure retention: resistance to horizontal components of masticatory forces
• Rests give dental support: resistance to vertical load, restrict movement of clasp assembly in a gingival direction

Vertical load applied to abutment teeth assists periodontal ligaments to better resist horizontal forces. „Water-tower” theory
Denture base design

- Straight contour of a well designed major connector ensures convenience for the patient (does not interfere with speech, not uncomfortable for tongue), makes cleansing of denture easy to maintain.
Denture base design

• Marginal gingiva must never be used for support of an RPD. Margins of major connectors should be located in a favourable location to assure maximum freedom of gingival margin (Dekoltage).
Denture base design

- Distal extension denture bases: occlusal area reduced to a sagittal direction

Occlusal forces transmitted to residual ridge tissues depend on lever arm distance of functional occlusal surface
Denture base design

- Borders of denture base never contact those teeth not used for retention neither for support
I. RPD with clasp retainers

- Clasp retained RPD with uncrowned abutment teeth
  no tooth preparation needed
- Clasp retained RPD with abutment crowns
  remaining teeth prepared to provide optimal occlusal rest support, stabilization, ideal retentive contours
II. Transformation into a Class 2A type edentulous arch

- Fixed partial denture to restore tooth bounded edentulous regions
- Removable partial denture design according to Class 2A

retainer selection: clasps (and indirect retainers) or precision attachment
III. Interdental bar applied

Bar attachment applied in tooth bounded edentulos regions:
- retains removable partial denture
- ensures splinting of abutment teeth
- gives dental support
- resists dislodging forces

Tooth bounded edentulos frontal region:
   FPD-esthetics

Tooth bounded edentulos lateral region:
   Bar attachment
III. Interdental bar applied

Bar attachment applied in tooth bounded edentulos regions:
• retains removable partial denture
• ensures splinting of abutment teeth
• gives dental support
• resists dislodging forces

Tooth bounded edentulos frontal region:
  FPD-esthetics

Tooth bounded edentulos lateral region:
  Bar attachment
Combined fixed-removable prosthodontic restorations
Thank You for Your Attention!