



Revax Retained Resilient Hybrid Prosthesis



A bar supported removable prosthesis that is bar and abutment supported in the anterior region, and tissue supported in the posterior region.

Benefits:

- Controlled abutment loading. Tripodization provides function stability and eliminates prosthesis tipping or tilting
- Excellent prosthesis retention and stability
- Bar provides for abutment splinting
- Provides for open palate

Indications

When a limited number of implants are present in either the mandible or maxilla, the tissue supported overdenture is a preferred prosthetic option to protect the implant abutments.

Prosthetic Concept

The goal of the prosthetic design is to accomplish excellent esthetics, phonetics, and stabilization of the prosthesis as well as to ensure optimum conditions for oral hygiene and patient comfort. The hybrid concept is to separate prosthesis support, lateral stabilization, and retention. Each of these aspects may be altered according to the individual situation without influencing the other aspects.

Support

Support is derived from three elevated areas: on the midline and on the extensions of a bar that primarily splints the implants. The distal support elevations are positioned in the axis of rotation of the resilient hybrid prosthesis.

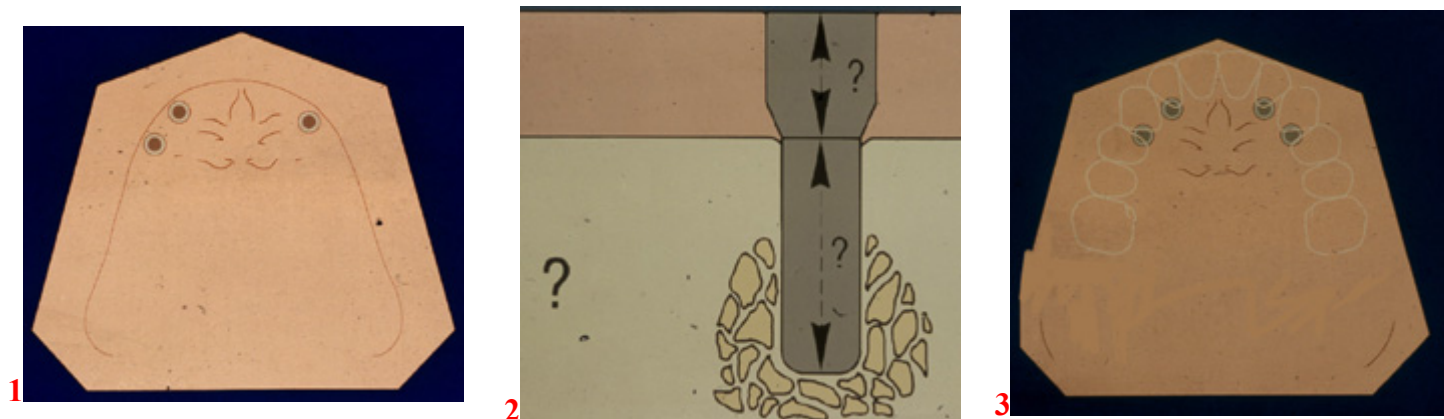
Lateral Stabilization

Lateral Stability is achieved by incorporating a cast frame into the removable prosthesis that closely fits the bar in a passive state.

Retention

Retention is derived from 2 or 4 Ceka Revax attachments with adjustable, serviceable retention without affecting support or stability.

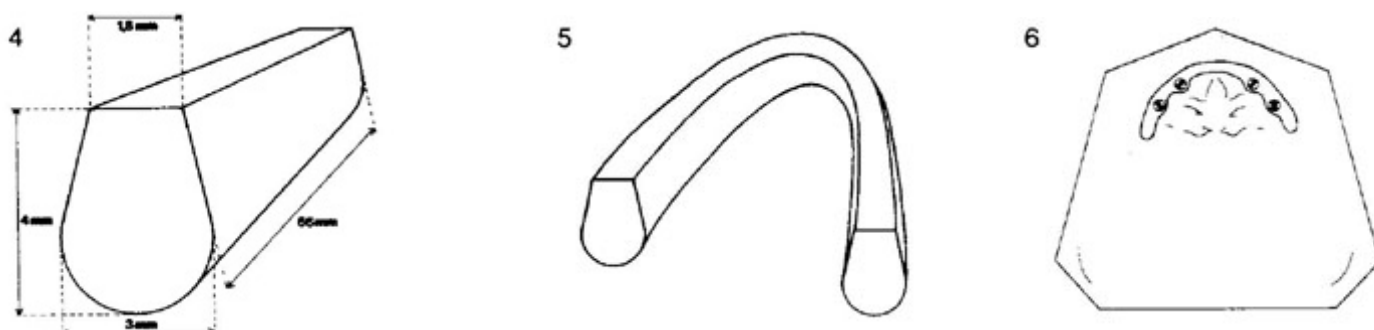
The Resilient Hybrid Prosthesis



1. The concept is equally applicable in the maxilla and mandible. The resilient hybrid prosthesis may be considered with 2 or more abutments.

2. Implant length and diameter, abutment length, and bone quality information is necessary information for the prosthetic team to plan and design the loading, retention, and possible axis of rotation for each individual patient.

3. Use a labial index of the esthetic wax-up to visualize the tooth position in regard to the implant position. The implants should be splinted rigidly with a conical or tapered cast bar.



4. The 8° tapered Plasti-Wax bar is ideal, due to the conical sides for ease of insertion and friction-free removal of the suprastructure. It may be further shaped with carving instruments by hand, or by a milling machine or [wax milling burs](#) (available from Preat Corporation). 5. The 8° tapered Plasti-Wax bar is specially designed for ease and speed of wax-up. Bend and adapt in warm water. Cool in cold water and attach (stress-free) with wax to gold or plastic cylinders.

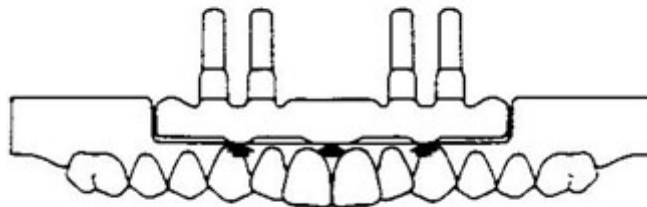
6. The implants should be connected rigidly with the 8° tapered bar. The bar should be placed directly underneath the occlusal table of the tooth setup for occlusal loading. Straight connections might create unnatural contours to the hybrid prosthesis.

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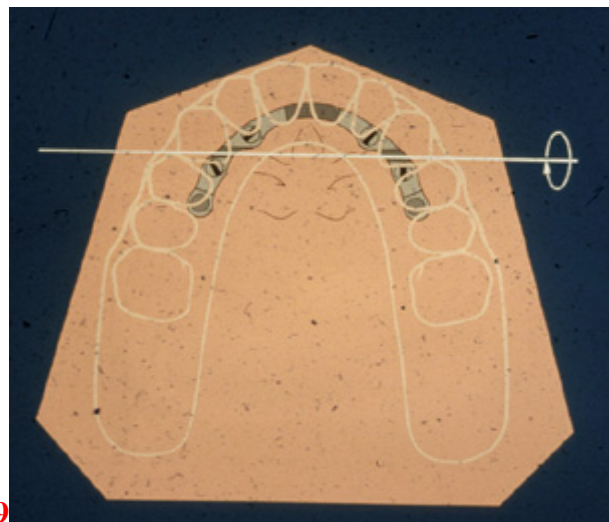


7. Especially in an atrophied maxilla, fixtures may be located palatal to the bar configuration. Reduce the bar from the labial aspect and in the proximal areas of the implants for good hygiene access. This reduction is preferably done after casting.

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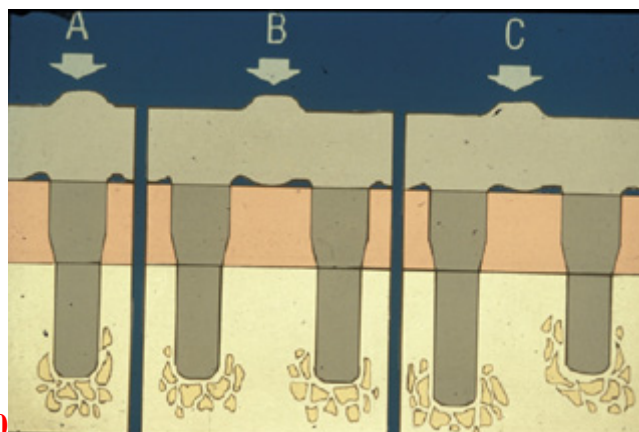


8. The support for the prosthesis is provided by 3 elevated (0.3mm) areas on the bar construction: one on the midline, and two distal support areas. Only these areas will make contact with the prosthesis.



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9. To provide posterior tissue support and implant protection from overloading, the location of the distal elevated support zones is very important. They will be the main loading area on the bar when load is applied on the tissue born saddles.

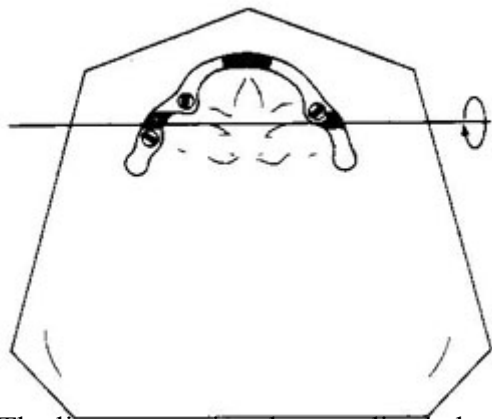


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10. The distal support zones may be placed to control the implant loading:

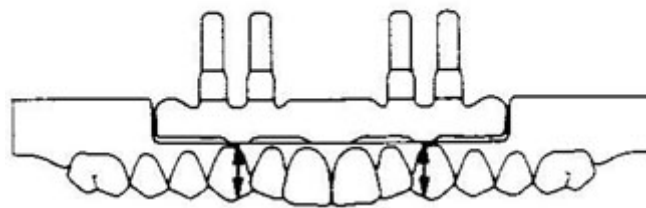
- A) close to the long axis of fixtures
- B) between fixtures of equal stability (length, width, bone quality)
- C) or closer to the stronger implant

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11. The line connecting the two distal elevated support zones is the **axis of rotation** of the prosthesis and is recommended parallel to the condylar axis. Implant length, width, location, and opposing dentition may alter the locations illustrated in **Figs 8-9-10**. This allows the prosthesis to rotate about the distal elevations and be tissue supported in the posterior. It also eliminates destructive canted loads to the implants.

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12. The distal support zones should be placed at equal vertical distance from the occlusal plane. This is determined with the labial index.

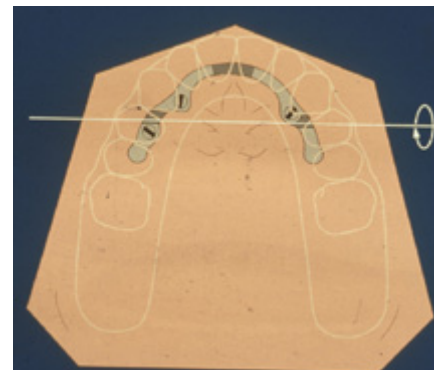
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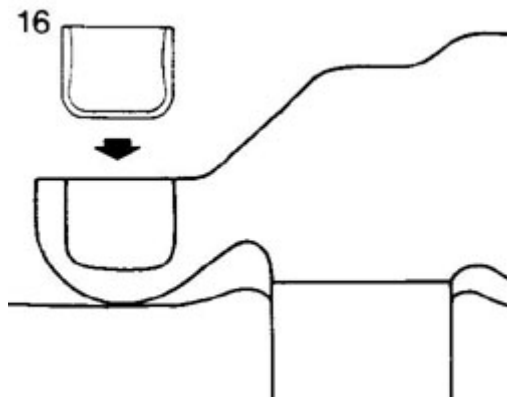


13. The retentive attachment of the hybrid prosthesis should be placed in the premolar region, the masticatory center where retention is needed most. **14.** Select the appropriate female keepers that best fit the ridge anatomy.

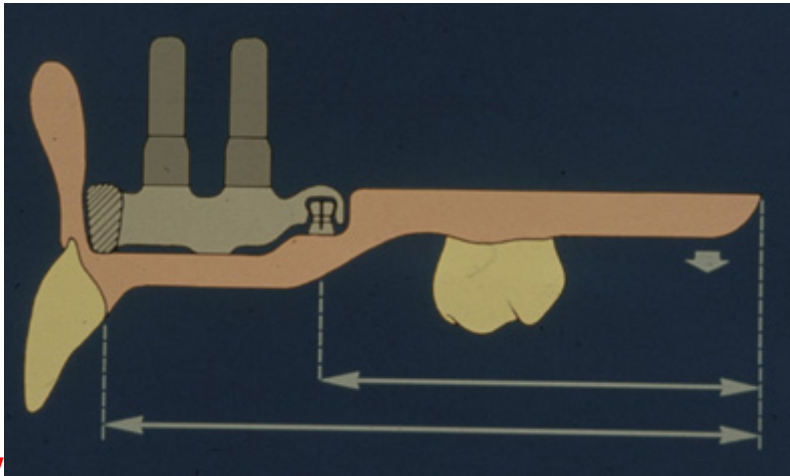
30°, 45°, and 60° keepers are included in each attachment kit.

15. Use the **REP7** paralleling mandrel to position the Revax female keepers parallel to each other and the previously determined path of insertion. To allow free resilient movement of the prosthesis, the females are positioned **distal** to the **axis of rotation**.

16. Cast the bar construction in a hard alloy. Do



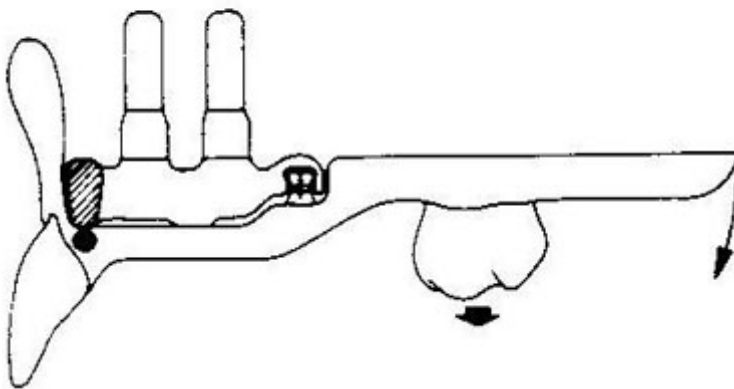
not polish the bar at this stage. The titanium females are bonded in with Ceka Site after the try in.



17. The free resilient movement between the male and female attachment will allow for compression and support from the mucosa in the base extension regions. The prosthesis will rotate around the planned axis of rotation without exerting leverage on the bar or implants.

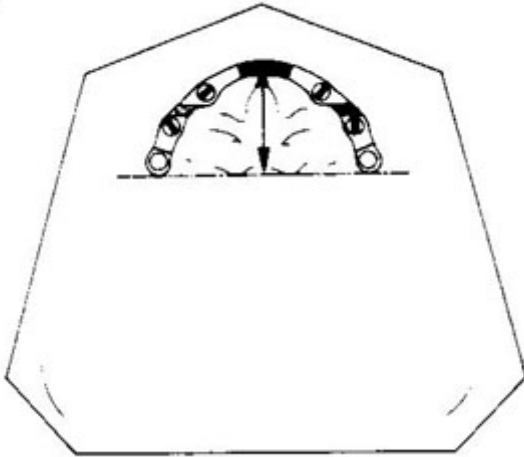
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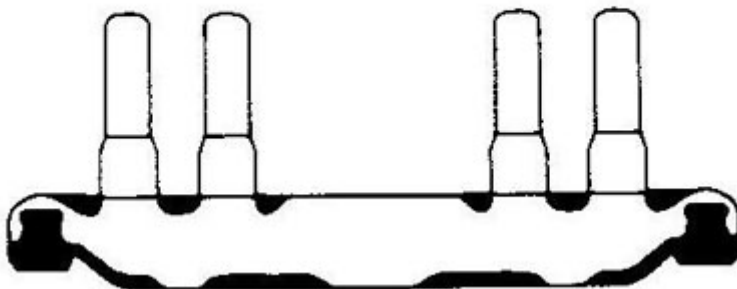
18. Posterior lift off (forces away from the ridge) is prevented by the adjustable direct retention of the Revax attachments and the additional indirect retention of the median support area.

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19. The longer the distance between the Ceka Revax attachment and the median support area, the more effective the indirect retention.

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20. Prepare the model for duplication. Block out all undercuts and relieve (0.3mm) all occlusal surfaces of the bar **except for the support zones**. Do NOT relieve the inclined surfaces of the bar.



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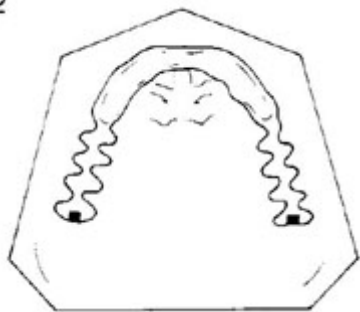


Select the desired method of retaining the Revax male in the prosthesis. Refer to the instructions for:

- [spacer technique](#)
- [solder technique](#)
- [acrylic resin technique](#) (2 different retention caps to choose from)



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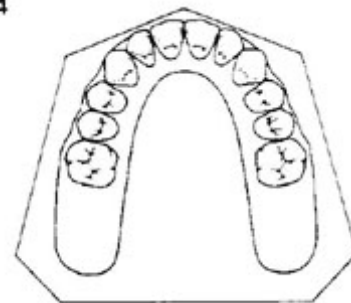
22. Make a refractory model. Cover the replica of the bar construction on the refractory model with a minimum 0.5mm of wax. Provide extensions and retention for acrylic resin. Cast in a hard alloy.

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23. Polish the bar before fitting the framework. The bar should induce NO friction! The close fitting surfaces of the bar with the frame will give the necessary lateral stability so that occlusal comfort is predictable.

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24. Proceed with the fixation of the Revax retention parts. In the maxilla, the palate may be left open for patient comfort and hygiene. Make sure the anterior seal of the palate may be relined. Use Ceka Bond to prevent the male spring pin from loosening in the mouth.

Prosthetic Concept of Rigid Construction

Laboratory Instructions for a Revax Resilient Retained Hybrid Bar

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