



Healthcare Alert

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Dental Restoration for the Adult Cleft Palate Patient: A Superior Treatment Option Rarely Offered to Patients

The Double-Tilt Precision Attachment Partial Denture

Adult cleft palate patients and accident victims often have endured a lifetime of wearing awkward appliances to replace the missing structures that never formed intra-orally or were lost in a traumatic accident. These patients are often poor candidates for dental implants even with repeated grafting surgeries. Many choose the implant option because dentists and patients alike have long assumed that fixed bridgework is always better than removable bridgework. However, implants have drawbacks. They are feats of engineering and—like any engineered structure—they will fail if they are required to withstand excessive loads with inadequate support.

Patients generally do not like the thought of removable bridgework for several reasons. First, removable bridgework can dislodge, causing embarrassment and loss of confidence. Second, most patients have removable bridgework that is retained with hooks (clasps) or other gripping mechanisms that are unsightly or apply uncomfortable pressures on the remaining teeth.

Anterior cleft palate patients often have the added discomfort of wearing a foreign object on the anterior palate that interferes with speech, taste and function. Sometimes the prosthesis is so bulky that it never leaves conscious awareness—just like a "horse's bit".

However, there is a removable bridge that has none of these drawbacks, and *implants are not required* as long as natural teeth are present: the **double-tilt precision attachment partial denture**. This type of restoration has a long track record, but is rarely offered as a treatment option by most dentists. In fact, most dentists have never been exposed to this type of restoration and it is not taught in dental schools. When dentists use precision attachments for a removable partial denture, they are rarely used with the double tilt concept. Instead they are often employed in a non-precision manner or in conjunction with supplementary gripping devices such as clasps.



Above: Clasp Partial covers the palate (left) vs. Anterior Precision Attachment Case (Right)

Below: Anterior Precision Attachment Case with Porcelain anterior teeth supports the lip, closes the oro-antral fistulae, is highly esthetic and does not require denture paste.

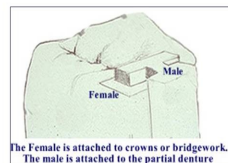


of precision attachment cases we created during the past 64 years are those in which the removable prosthesis replaces missing posterior teeth. Decades of patient follow-up indicate that these cases last *longer* than almost every other type of case, and precision attachment cases have proven successful even on the weakest abutment teeth imaginable.

What is a Precision Attachment?

The male-female precision attachment mechanism was conceived by Chayes in 1906 and patented by the Sterngold Company in 1921. Our office has been using this type of attachment with the double-tilt concept since 1950. The vast majority

The Precision Attachment is a precision-machined male and female housing that connects a partial denture to fixed bridgework.



Invented in 1906!

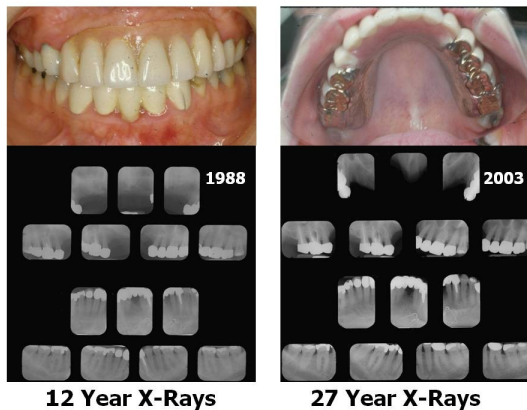
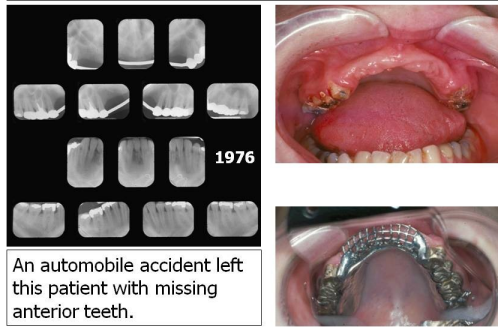
Advantages of Precision Attachments:

1. Longevity
2. Maintainable Periodontal Health
3. Esthetic Appearance
4. Comfort

The precision attachment case consists of a removable partial denture that is connected to crowns and bridges with precision attachments. The attachment consists of a precision-machined female that is embedded in fixed crowns and bridges and a male that is attached to the partial denture. The male is machined by the manufacturer to .002" tolerance fit the female lock with such precision that any male will fit any female with an equal degree of perfection. All of the attachments in a precision partial denture are positioned so that they are *exactly parallel* to each other. A precision attachment case must be made with precision so *that it can function with precision.*

The double-tilt precision attachment case, by contrast, does not need gripping forces to keep the removable partial denture in place. Instead the removable is retained by the path of insertion and withdrawal. This path is tilted in two directions so that it is different from the direction of pull by the musculature and gravity. As a result, the partial denture cannot dislodge during function, but it can move slightly to release stress. The outcome is incredible comfort and physiologic stimulation of the abutment teeth and adjacent tissues. Double-tilt precision attachment partial dentures do not require denture powder or paste. They are worn 24 hours a day and only removed for hygiene. Because they are custom-designed, no one—even a dentist—can tell that patients are wearing them! Amazingly, precision attachments employed with the double tilt rarely require replacement—even after *decades* of continuous function under forces, under water and in an environment loaded with bacteria!

The Anterior Attachment Case



Guidelines for the

Anterior Precision Case

1. Precision Attachments must be used with precision. The male or female attachments must never be altered.
2. Use 3-4 precision attachments.
3. The double tilt path of insertion should be employed as the only retentive mechanism.
4. Place the attachments over the ridge on mesial or distal surfaces of the abutments instead of the lingual surfaces.
5. Minimize the extension of the removable partial on the anterior palate.
6. Eliminate the posterior palatal bar. Instead extend support alongside the lingual surfaces of the posterior teeth. Crowns and bridges should be made as thin as possible on their lingual surfaces.
7. Avoid unilateral design. Precision attachment cases must function bilaterally for optimal comfort and function.
8. Do not use metal anterior saddles. The anterior saddle areas must be designed to retain acrylic or composite to allow compensation for future changes.
9. Acrylic, Composite or Porcelain teeth may be used. The teeth can be customized to create ideal esthetics.

The Double Tilt Path of Insertion



Tilt 1: Raise Heels Of Model 10-15° **Tilt 2: Tilt Model Right or Left 10-15°**

The Direction of Tilt Depends on:
 1. Proximity to Key Abutment Teeth
 2. Maximizing the Full Length of the Attachment.



¹Solomon, Milton; "Precision Attachments in Partial Dentures: Gentler on Abutments—More Esthetic than Clasps; *Quintessence*, April 1981.

²Feinberg, Elliot, DDS; [Using the Path of Insertion to Retain a Partial Denture](#); Trends Tech Contemp Dent Lab. 1984 Nov-Dec;1(6):14-7.



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Precision Restorative Dentistry:

- Custom made crowns and bridges
- Perfect Fit partial dentures for natural teeth and implants
- Implant restorations
- Saving "hopeless" teeth
- Pain free, comfortable visits

Have any Questions?

If you have any questions about the information provided in this *Healthcare Alert* please feel free to give me a call on my private line:

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