New techniques have been developed for the construction of a Hybrid Implant Prosthesis that provide an exact fit while minimizing the chair-side and laboratory time required.

This method establishes three important criteria in one clinical appointment. A passive fit, the jaw relationship and the ridge form will be related.

The importance of an accurate “passive” fit between frameworks and implant abutments has long been acknowledged. The ankylosed nature of implants does not allow for fit discrepancies of screw-retained restorations. A non-passive fit transfers vertical and lateral stresses to the implants and restorative components and may be responsible for loss of osseointegration and component loosening or failure.

To achieve a passive fit, the framework is made separately from titanium cylinders, which are cemented together intraorally. This method called the “CAL Technique” (California Abutment Luting), utilizes a spacer sleeve which creates a space between the final titanium cylinders and the framework. Figs. 1 & 2

The framework and titanium CAL cylinders are sandblasted to provide a roughened surface for the cement. Fig. 2

The titanium cylinders are cemented intraorally to the framework with Panavia F™. Panavia F is a dual (light cure/auto cure) cement that is used to bond metal to metal. Only at this time will the permanent relationship of the cylinders to the framework be established. This is the essence of the technique. Fig. 3

Once the cement has set, the assembled framework is removed. Polishing protectors are attached to cylinders and all excess cement is removed from assembled framework. Fig. 5
The jaw relationship is then recorded as well as the tissue contours. Figs 6-8

Analogs are attached to the assembled framework and a new master model is fabricated and articulated. The final prosthetic teeth and acrylic can now be processed to the assembled framework. Figs. 9-11

Summary:

This technique ensures a passive fit with the implants and minimizes the chair time required by relating the occlusal records as well as the tissue contours at the same appointment. The method is also very cost effective since it eliminates the need for soldering and expensive gold cylinders.

Special Thanks for Slides and Concept To:
Lambert Stumpel III DDS • San Francisco, CA
Dr. Stumpel maintains a private dental practice in San Francisco and is Associate Professor at UCSF School of Dentistry.

About the Authors:
Peter E. Staubli MDT, CDT
President of Attachments International
Mr. Staubli, inventor of the UMA (Universal Modification Abutment) System has co-authored the highly praised Attachments & Implants Reference Manual now on its 7th Edition.

Darwin Bagley CDT, AS
Director of Education & Senior Tech at Attachments International
Mr. Bagley attended University of Utah and received an Associate of Science Degree from Utah Technical College. He authors newsletters and technical articles published in professional journals and maintains Attachments International’s website at www.attachments.com