



The Dent-Liner®

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The VKS-OC Radicular Attachment; *A Root Cap Application that has stood the test of time!*

Bredent's VKS – OC universal attachment has been on the market for close to 20 years. Many manufacturers have tried to duplicate it to no avail, because the "duro-plast" retention cap is made with thermoplastic which provides a very

resilient snap when inserted. Because of this innovation this radicular or ball attachment is still the most popular amongst dental health professionals and vindicates the success of this simple and reliable root cap "snap" attachment.

The success of the root caps overdenture treatment depends upon the proper attachment selection for the particular case. This selection is based on available buccolingual and interarch space, amount of bone support, opposing dentition, clinical and technical

experience, maintenance problems and cost. Ball or stud attachments work very well with overdentures, as they are the simplest and most cost effective of all. They occupy a small vertical space and require parallelism to establish the proper path of insertion. The ball and cap attachment allows rotation of the denture attachment. The relatively small head of the attachment limits the amount of material that has to be removed from the denture. The initial duro-plast caps (green) provides 3 to 5 pounds of initial retention and as the ball wears over time the retention can be increased as there are nine levels of retention for the VKS-OC system.

When it comes to removable partial or complete dentures, most patients are dissatisfied with their retention and stability. Semi-precision attachments are a viable alternative to implant retained overdentures and offer considerable advantages, such as increased retention of an overdenture, preservation of teeth which are otherwise indicated for extraction and the ability to obtain parallelism in divergent abutments. Semi-precision attachments as a denture stabilizer are particularly important, and implants have opened up new treatment modalities. However not everyone can afford implants, and those who can, may not have the necessary amount of bone required to enable an implant to be used in stabilizing dentures.

The most important priority to consider is what can be done to improve the



Bredent's VKS-OC

Provides a simple and reliable root cap "snap" attachment. Quality and design ensures longevity.

survival of those remaining teeth that will make a difference between the patient being able to cope or being miserable with dentures? There are several factors leading to premature loss of teeth that support prosthesis. Occlusal overloading is one, as most patients wearing a partial denture are aware. This problem can be demonstrated best when the patient wants to bite on something hard and chooses to locate it between their remaining natural teeth and the opposing denture. They then apply more force and achieve better proprioception than in areas without natural teeth, unfortunately this behavior results in the inevitable overloading of such teeth and leads to bone resorption. Bone resorption results in pocketing and loosening. With a lower bone level creating longer anatomical crowns, the leverage on the remaining supporting structure perpetuates the cycle of bone resorption and premature loss of another tooth which should be avoided at all costs.

Also the leverage, both by natural opposing teeth and by the prosthesis on the tooth is often considerable. The free end saddle resting on soft tissue that moves during mastication and the mouth closing when the prosthesis is not being worn are just two examples of causing leverage. The presence of clasps and occlusal rests on RPD can have detrimental effects on existing dentition.

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Product Show Case: The Bredent VKS-OC System: available in 2.2 mm or 1.7 mm

Vario-Kugel-Snap vks
for root cap



- ▶ Three Retention Levels.
- ▶ Few auxiliary parts.
- ▶ Easy to use by patient
- ▶ 1.7 and 2.2 mm sizes for the space available.



OC Green
43005440-2.2mm
43006550-1.7mm



OC Yellow
43005450-2.2mm
43006590-1.7mm



OC Red
43005460-2.2mm
43006560-1.7mm



Universal Males
43005380-2.2mm
43006760-1.7mm



HL Cast-On Males
43007000-2.2mm
43007010-1.7mm



Block out discs
43005400-2.2mm
43006520-1.7mm



Metal Housings*
43005470-2.2mm
43006610-1.7mm
* metal housings are now available in 2 piece packs.

Radicular stud type attachment advantages:

1. Promotes better oral hygiene.
2. The crown root ratio is also enhanced with the low profile of the stud type attachments.
3. Indicated for overdentures for partials and can also be used on bars.
4. The system has nine levels of color-coded retention to improve longevity of the restoration.
5. Female inserts are retained in the metal housing allowing them to be easily replaced at chair side.
6. Cast-on high precision CAD CAM male balls made of gold alloy allows soldering.
7. Low profile to reduce leverage upon retaining roots, makes patient hygiene easy.
8. Allows physiologic independent movement of abutments and are easy to service.
9. Time proven as the most reliable and effective overdenture connector.
10. Permits both vertical and rotational movement.

Product Show Case: Renfert's NEW! lay:art Natural

- ▶ Agate Porcelain Tray:
- ▶ lay:art Natural (1046-0000) is made from natural agate, this tray is a real gem because the typical colors and patterns of agate integrate with the lay:art design.
- ▶ The pattern of this natural product is completely individual and its characteristics are ideal for mixing porcelain professionally. The tray is selected, shaped and trimmed manually.
- ▶ Works great with Renfert's Agate mixing spatula (1157-0000).



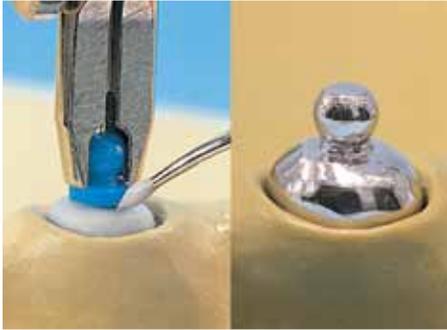
Product Show Case: Renfert's Scanspray

1731- 0000 200 ml

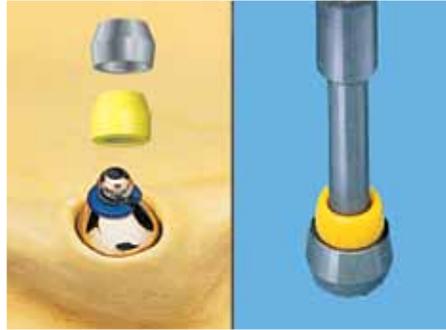
- ▶ High end surface matting.
- ▶ The container size of 200 ml provides an optimal price-performance ratio
- ▶ Maximum precision thanks to very thin layer application and uniform grain size
- ▶ Economical to use due to its high covering power
- ▶ The special valve technology ensures spraying without clogging

VKS-OC Radicular Attachment stands the test of time

...cont'd



The plastic ball is waxed to the root cap and is cast in a hard type IV alloy.



The block-out disc is placed around the neck. Insert the female cap into the housing with the insertion pin.



For try-in, fix the metal housing of the acrylic base plate using a small amount of acrylic.

The clasps can abrade the teeth and also act as a lever (bottle opener) which can cause irreparable damage to the periodontal ligaments. This can happen during function or at rest. Rehabilitation of partially

edentulous patients can be challenging in bilateral situations where a fixed prosthesis cannot be fabricated properly. Wearing a mandibular overdenture is something most patients find difficult, especially as they get older because neuromuscular control diminishes and with it the ability to adapt easily to something new in the mouth.

There is an increasing health consciousness being observed particularly in middle and old aged patients and this group presents the greatest prosthetic challenge. In such cases complete and partial dentures were largely used. They hardly offer satisfactory results regarding the retention, stability and aesthetics. Semi-precision attachments have long been considered the highest form of removable denture treatment. These attachments have been largely disregarded by most dental health professionals for consequential reasons such as cost and reluctance of a practitioner to grasp the intricacies of its indications and applications.

The VKS-OC semi-precision attachments from Bredent GmbH provide a treatment modality that can improve the patient's aesthetics and facilitate functional replacement of missing teeth and oral structures. In most of the clinical instances where a smaller number of mandibular teeth remain, more careful thought must be applied to the treatment modality involving these few teeth. When only two natural teeth remain a method of preserving them is very critical. When patients present with few lasting natural

teeth in the mouth, the screening of various degrees of overcorrection, tilting and mobility is essential. These teeth should never be extracted before considering the obvious advantages since they may serve a purpose as supporting abutments.

By retaining the roots and using semi-precision attachments the surrounding alveolar bone and soft tissue management will be preserved. These retained roots can give retention support and stability to an overdenture and also provide proprioception which would otherwise be lost in the case of a usual denture. The commercially available VKS-OC universal extra coronal ball attachment system (Bredent GmbH) consists of a plastic radicular burn-out pattern, metal housings, block discs and retentive caps of varying retention levels. It features a ball and socket type attachment scheme, with the male component being cast with a post and cap coping and directly cemented into an endodontically treated tooth. These attachments are used in overdentures, RPD and with connecting bars on abutments roots or implants.

The case featured in this article focuses on the importance and techno-clinical procedures of pre-manufactured metal housings and retentive caps, VKS-OC universal (Bredent GmbH). Overdentures and abutments can be an alternative method to obtain improved retention and stability in difficult clinical conditions. In this case it was intended to provide the patient with a mandibular overdenture

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Press the metal housing on the ball and onto the silicone material.



Pack the denture according to the usual standards of practice.



View from the base showing insertion cap and housing. It can be replaced later if necessary.

NOTE: The publication of pictures featuring the VKS-OC were provided courtesy of Bredent GmbH.

with extra coronal attachments. The patient rejected the options of implants retained prosthesis because of the certainty of additional surgery, the unacceptable duration of the treatment phase and related expense. Diagnostic models were mounted and the vertical dimension was evaluated. The extra coronal attachment system was selected on the basis of the existing space available and it was decided that the VKS-OC universal by Bredent GmbH fit those needs best. The clinical crown portions were prepared (teeth 33 and 43) to achieve cross-arch stabilization; after attaining optimum post length and space, the castable plastic ball attachments are placed and checked for parallelism and accurate fitting.

There are a number of accepted methods for completing the overdentures such as cementing the post and ball and picking up the female cap and housing in the mouth or in this instance completing the entire case prior to cementation and insertion of the denture. Once the post and caps are placed on the duplicate model, the blockout discs goes around the neck of the ball attachment then either the green or yellow retention is inserted into the pre-manufactured housing and placed onto the ball attachment for try-in. Next, the metal housings can be luted to the UV acrylic base plate prior to set up. After try-in, the stud ball attachment is blocked out with silicone putty and the metal housing

and cap are inserted again over the silicone putty. Once cured the model and dentures are invested into a metal denture flask. Then the denture is processed using the traditional heat cure denture technique; the denture is deflasked, trimmed and polished at which point the root cap attachments are cemented and the overdenture is inserted. The bite is adjusted if necessary. Retention by the VKS-OC universal system is based on the elasticity of the thermoplastic attachment material and friction between the patrix and the matrix which enables it to control flexure and construct a resilient and shock absorbing prostheses.

In addition to good retention, the use of this attachment enhances the aesthetics of the prosthesis compared to conventional clasps and also provides trouble-free oral hygiene maintenance. Other advantages include directing the forces to work along the axis of the tooth and the provision of better tolerance due to the reduced number of components.

Apart from improving the aesthetics and retention of mandibular dentures, the availability of semi-precision attachments make designing of removable partial or complete dentures more flexible. Various cases with aesthetic and retention challenges can be rectified with the correct selection of precision attachments. Following proper diagnosis precision techniques and periodic recall maintenance will result in the successful treatment and preservation of the patient's existing dentition.

Source; Peter T Pontsa RDT

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Upcoming Trade Show Events

If you have travel to Europe in your plans, why not visit the 35th **International Dental Show** which is being held March 12th to 16th, 2013 in Cologne, Germany. The IDS is the world's leading trade show and sector meeting place for decision-makers from dental practices, dental labs, the specialist dental trade, the dental industry and research and development. While there visit Bredent's booth and see the amazing innovative products they have to offer. They will be located Hall 11.1; Stands: C018 D019, B020 C029, B010 and C019.

Make plans to visit the 39th annual **Technorama!** This show is Canada's largest dental technology and denturism convention which will be held on Friday, April 12, 2013 from 3 PM to 9 PM and again on Saturday, April 13, 2013 from 9 AM to 1:30 PM. The event will be located at the Hilton Suites Toronto/Markham Conference Centre and Spa, located at 8500 Warden Ave., Markham Ontario L6G1A5 To book your suite at the special rate visit www.technoramadiac.ca. Please drop by our booth for new and innovative products.