



The Dent-Liner™

A Bulletin Dealing With Issues For Dental Health Professionals

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Partial Denture Aesthetics Utilizing the Exchangeable Stud

Generally speaking in partial denture construction, removable partial dentures incorporating premanufactured attachments are more cosmetic than partials retained by conventional metal clasps. One drawback in the case of

metal clasps are that they can trap food underneath whereas the attachments do not, thus eliminating any embarrassment to the patient.

Usually indicated metal clasps are often located in the anterior and can be seen, resulting in a lack of prosthetic privacy for the patient. Used in combination with porcelain fused to metal crowns the partial denture is the most aesthetically removable prosthesis produced today. The patient will appreciate the cosmetic advantage of plastic retentive attachments, however the bio-mechanical advantages may be

even more important than the cosmetic appearance.

Conventional thinking suggests that if aesthetics are not a major concern and the abutments are strong, a properly engineered clasp, such as a distal occlusal rest and indirect retainer, may serve the purpose.

There are a number of functional drawbacks that can occur with the clasp design. Initially the chrome cobalt clasp can distort slightly during casting. Also the abutment could display excessive or an inadequate undercut.

The movement of the clasp when the patient chews may twist the tooth orthodontically. This movement may also cause the periodontal ligament to loosen, causing the tooth to drift. Finally, the retaining clasps exert forces on the tooth even when the partial is at rest.

The constant compression of the sensitive periodontal ligament may effect the abutment and limit proprioception, which is the reception of stimulation of sensory nerve terminals within the tissue. Clasps have a tendency to abrade the tooth as the clasps can slide back and forth over the enamel. If the undercut is large and the retention excessive, insertion may traumatize the mobile ligaments.

Precision and semi-precision attachments allow us to direct the occlusal forces away from the retaining abutments and onto the soft tissues to support the prosthesis.



The exchangeable stud extends the life of the prosthesis far beyond normal expectations.

The VKS exchangeable stud attachment has the retention and stability built into the attachment, provided a milled lingual arm and stabilizer have been incorporated to defuse the loading on the abutment. Unlike clasps, attachments do not require undercuts and can be utilized regardless of tooth contour and the patient will not damage their teeth trying to engage a deep undercut.

In bilateral extension cases, attachments can act as a direct or indirect retainer. They not only retain the partial but also prevent the prosthesis from rotating around the abutment. Double abutting is recommended when economically possible since splinting prevents orthodontic drift and may stabilize periodontally involved teeth. There is evidence that under similar loading conditions, the precision partial denture shows significantly lower stress on abutments than a fixed cantilevered bridge.

Some attachments connect the partial denture at a point inside the abutment crown contour. These attachments are intracoronal and are of a dovetailed or slotted design. The VKS attachment system is extra coronally designed. ***Is one better than the other?***

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Renfert's MT3 and MT3 Pro: The new standard in wet trimmers!



Recently, a new addition was made to the much loved Renfert family of model trimmers. The MT3 and MT3 Pro units are compact in sized but are priced economically, and yet still come with the quality and super performance to which our Renfert customers are accustomed.

Pure Power: These trimmers have above average strong motors with very high torque (1.300 W MT3 and 1.650 W MT3 pro). This power means even the hardest plaster is removed with ease.

Comfortable and quick cleaning: Both trimmers are designed in such a way that their robust front can be completely removed without the use of tools, in just a few steps.

The MT3 series of trimmers are compact in shape making them ideal for usage in any working environment. The robust and durable housing is 100% corrosion free which is ideal for the wet trimming environment.

The trimmer table and water pipe are quickly removable for easy cleaning and maintenance. The new water pipe concept and water regulation guarantee optimal cleaning using little water consumption.

The large door and ergonomic construction design guarantees a high degree of working comfort and a clear view.

The MT3 has a built-in tilting mechanism which can allow for quick changes between 90° and 98° angles. Its sister model, the MT3 Pro goes one step further by allowing for incremental adjustments to the trimmer table, thus ensuring a high

level of comfort and unobstructed view of the working area.

As soon as the MT3 Pro is switched off, the trimmer disc is actively slowed down, thus providing a higher level of safety. In addition to this, the overheating display gives the unit a longer service life.

Both units are available with your choice of either the Klettfix discs or the Marathon disc. The **Klettfix** is a quick change silicone carbide disc with micro hooks with affixes to a carrier disk and is a cost efficient alternative to the diamond coated discs. The **Marathon** is a partially diamond coated trimmer disc with very aggressive grinding properties.

Both units provide an automatic safety feature which will cut off the motor and water supply should the door not be fastened securely.

The MT3 series of trimmers, is fully compatible with Renfert's suction units, the Vortex 3L and the Silent TS. ESA certification is available on both the MT3 and the MT3Pro. For further information contact our customer support staff at 1-800-250-5111.

Product Show Case

Renfert's New Silent TS This extractor unit combines power, flexibility and profitability in a single device.

Advantages at a glance:

- New motor technology achieves up to 3 times longer service life in comparison to conventional collector motors.
- Motor is easily replaced in minutes due to modular design.
- Easy, exact calibration makes it suitable for use with critical micro-motors.
- Multifunctional: thanks to its higher volume flow it is possible to connect two units/working places for effective dust protection (clean working environment)
- Comfortable operation for functions such as fine adjustment of automatic switch-on and filter-change-recognition, and individual adjustment of suction performance in a matter of seconds
- Compact, slim design is ideal for any practice or laboratory environment.
- Optional external air-outlet featuring directed flow of air for better air quality and less heat and noise development at the working place.
- ESA field tested and approved.



Tricutter, a unique three-sided carbide bur.
H468GG16 Tricutter CarbideBur 1.6mm
H468GG23 Tricutter Carbide Bur 2.3mm

Bredent's Tricutter Bur

The Bredent Tricutter is the easy cut bur for removal of your Thermoformed sheets effortlessly. The three sided bur will not jam in the material because of the advanced blade concept. It will cut and separate impression trays, occlusal splints, bite templates, bleaching trays, fluoridation trays and bruxism splints. For further information please contact us at 1-800-250-5111 Toll Free or email info@dent-line.com.

Silent TS



Partial Denture Aesthetics Utilizing the Exchangeable Stud



Combination PFM crowns with accompanying upper and lower partials look aesthetically pleasing.



Patients will appreciate the cosmetic look in the aesthetic zone along with the bio-mechanical advantages.



A milled lingual arm and stabilizer will defuse the loading on the abutments.

The Bredent VK-OC-SG Exchangeable Studs provide the perfect solution for extending the life of the restoration since replacement of the titanium stud screw can be done quickly at the convenience of the patient.

There are varying opinions as to which one may be better. In recent years, studies have indicated that *metal to metal* attachments do not wear as well as *plastic to metal attachments* do.

The intra-coronal attachments are primarily a metal to metal type. The point of connection is deep within the abutment which means that if the mesio-distal dimension is too small or the pulp chamber too large, it should not be used as a retaining abutment. The deep slotted attachment may very well become a food trap which will make seating the partial difficult at the very least.

The VKS attachments are extra-coronal which means that the point of connection will be outside the crown, since the abutment tooth is easier to prepare.

The plastic retentive female permits a slight vertical movement or hinging action as the patient bites. The vertical movement also brings the saddle area into heavier contact with the mucosa, so the tissue bears much more of the occlusal load. The lingual arm transfers stresses to further reduce the load on the abutment. This is why the extra-coronal attachment systems are much more superior. Precision attachments also have their limitations.

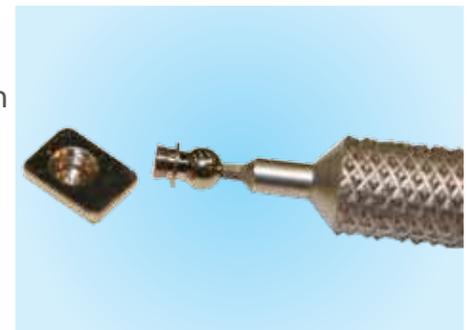
A study by M. Wichmann and Kunz. "Wear Study of Attachments", Journal of Postodontics 12-404-9; 1999 had determined that conventional metal attachments showed significant wear

and retention loss. By contrast, the plastic showed only negligible friction loss and the most consistent retention force. In addition, replacement of the plastic inserts restored friction to the initial manufactured retention, thus prolonging the life of the prosthesis. Furthermore, the study concluded wear induced loss of retention in attachment retained dentures poses a major clinical problem. In order to circumvent the unwanted wear, most prefabricated precision attachments can be activated to restore wear induced loss of friction. This can be achieved by design elements such as resilient metal tongues, partially or completely slotted male components or set screws.

Over time, activation of these metal components will induce fatigue of the metal alloys followed by breakage of the retention elements, if they have not already worn out during daily function.

The question is *how costly will it be to replace the existing abutment restoration with the same attachment system?*

The existing VKS-OC-SG exchangeable stud has been engineered with a threaded screw and recessed hex at the head of the titanium stud which can be replaced whenever it becomes worn out. This exchangeable stud will extend the life of the restoration far beyond accepted



The exchangeable stud can be replaced whenever it becomes worn out.



Indications of use are bilateral combination and root cap treatments.



Implant bars can redirect unwanted forces while supporting an overdenture.

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NOTE: The publication of pictures 1, 2 & 3 were provided courtesy of Dr. Nasedkin, picture 5 by XP-Dent and pictures

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parameters. Whenever the entire retention sequence is used up (about 9 levels), the exchangeable stud is simply screwed out and replaced with a new stud. Then the lightest retention level is used to begin without replacing the substructure or partial denture.

Indications for use of the exchangeable stud are bilateral removable partial dentures, implant supported overdenture and root cap treatment of overdentures.

Attachments have been a treatment modality for many years, usually because they look and function better than clasps. Attachments are not only cosmetic but they can spare abutments by redirecting unwanted forces and by spreading occlusal load between the saddle area and the tooth's periodontal ligament.

Patients who opt for attachments should be reporting an improved function and aesthetics over conventional clasp style partials. This should include phonetics, mastication and satisfactory retention as well. Finally, it is evident that we can not eliminate the wear factor as described by Wichmann and Kunz, however, we can extend the life of the prosthesis by utilizing the VKS-OC-SG exchangeable stud in our treatment planning.

Source; Peter T. Pontsa, RDT

* References are available upon request.

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About Our Organization...

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Why does Dent-Line certify equipment?

For the most part, nearly all of the dental equipment that Dent-Line of Canada Inc. sells is already CSA approved. There are manufacturers, however, who only certify their equipment with CE, and although this is a well recognized European certification, it is not recognized in Canada. The equipment we sell is made in Germany and ranks the highest in quality manufacturing with the majority coming with a three year warranty. There are some pieces of equipment, which although excellent have not been certified by the manufacturer. We at Dent-Line of Canada Inc. work with the Electrical Safety Authority to field certify all equipment we sell which does not already have CSA approval. The process of having an agent come to our offices to document, test and certify by placing a sticker on the equipment incurs extra costs. These costs are passed on to our customers. You may ask, why does Dent-Line go to these lengths when other dealers do not? Simply put, it is against the law to operate uncertified equipment, and we as dealers have a responsibility to ensure products are certified. Also being a member of the DIAC (Dental Industry Association of Canada) requires us to comply to their recommendations, guidelines and by-laws. DIAC has recently

issued a Position Paper on Grey Market Products that requires their members to comply and states "Some foreign manufactured equipment products - that are otherwise not compliant with CSA standards - are subsequently modified in Canada by their authorized distributors to qualify for CSA or equivalent approval". Uncertified equipment purchased through the grey market is rarely modified by the importing dealer to be compliant with CSA or equivalent standards. Uncertified equipment will also invalidate the dental laboratory or the practice's property and casualty insurance policies. We are aware of incidents where after a fire or a CSA inspection the policies were invalidated and in the case of the fire there was no insurance payout for damages. So rather than put the onus to certify on the dental laboratory or dental practice, we take the extra measures necessary to provide this service because we can do it less expensively and we know that you are busy running your business. We are glad to say that Dent-Line is compliant with Health Canada, CSA and other regulatory bodies and that we are selling only licensed products. This is our assurance to you that the products and services we sell will provide you with peace of mind.

Trade Show News and Announcements

For our denturist customers - don't forget to visit our booth at [Perfect Your Practice](#) on September 16th, 2011 at the Blue Mountain Resort in Collingwood, Ontario. On Saturday September 17th, 2011 Peter T. Pontsa, RDT will be presenting two back to back morning lectures entitled; "Attachments for Dental Health Professionals". Also come

see us at the [Annual Winter Clinic](#) on Friday November 4th, at the Metro Convention Centre at which time you can see the new [SonicBrite](#), a unique system that helps kill bacteria and removes stains and odours effectively. In just 15 minutes daily your patient's dental appliances will be clean, fresh and ready to wear!