

The Dent-Liner™



Peter T. Pontsa, RDT has over 40 years of experience in the dental profession. In 1991 he established Dent-Line of Canada Inc. and is currently president of this dental supply company. He is a leader in superior professional techniques in fixed and removable restorations and he shares this knowledge through articles and seminars which he regularly provides. Peter is a past president of the College of Dental Technologists of Ontario. He is also pleased to be involved as co-publisher of Spectrum Denturism.

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A Bulletin Dealing With Issues For Dental Health Professionals

The Security Lock System for Retrievability

There are many advantages to having the ability to be able to retrieve an inserted restoration when necessary. The Security Lock System (Bredent) is a precision CAD/CAM premanufactured transverse screw system that can be cast into or can be bonded into the restoration. The purpose behind the system is the retrievability of the restoration under certain situations or when absolutely necessary. Many restorations today are cemented permanently to implants. Unless there is any provision for removal, it may be a problem in the future. The use of resin based cements such as Neo Temp (Teledyne) is retentive, but the bond can also be broken from the restoration if retrievability is necessary. However, other adhesive cements are not and when a patient chips porcelain or an abutment screw loosens under a cemented multi unit restoration, forces applied to it can damage the internal threads of the implants. There is also very little chance of getting the abutment screw out undamaged. In situations like this patients expect a simple repair bill only to find they need a replacement restoration at considerable cost. Another disadvantage to cemented restorations is when the abutment crown margin is quite deep in the peri-implant sulcus, it may be difficult to remove the excess cement which may lead to inflammation of the soft tissues. The margin should be positioned 1.0mm to 1.5mm subgingivally. A study of cement retained versus screw retained implant restorations investigated 1,939 implants. The analysis of clinical trials show the existence of several factors essential

to the long term success of any implant prosthesis; they are aesthetics, retrievability, passivity of framework, occlusion, ease of fabrication, retention and cost. Clinicians who restore enough implants over time will find that abutment screws will loosen and break, porcelain will fracture, solder and solid joints will break and implants will fail. When bridges that do not have a passive fit are torqued down, a lot of damage can occur to the restoration. Obtaining passive frameworks that are screw retained is difficult due to the dimensional discrepancies inherent in traditional fabrication. However, CAD/CAM milling in titanium is improving the passive fit of implant bars. Screw loosening is not related to implant design, but rather bruxism, loading and other controllable factors. Patients put higher bite forces on implants than normal teeth because of the patients lack of proprioception and as a result of this, increased stress overload conditions go undetected. It is common knowledge that by narrowing the occlusal platform of the implant restoration there will be less loading and therefore less screw loosening. The current second generation implant systems utilize a conical interface and other internally designed connector features between the implant and abutment. When compared to the external hex these 2nd generation implant systems reduce the incidence of screw loosening. However the current system does not address the other conditions for retrievability. All implant systems require tightening to the requisite torque

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Bredent's Pi-Ku-Plast - Tried & Proven!

In our Spring Issue of 2004 we told you about a new and improved version of modelling resin called Pi-Ku-Plast HP36 that Bredent had recently developed. Five years later we are proud to say that this product has become an integral part for many of our customers's lab operations who require a high precision pattern resin. Pi-Ku-Plast has a contraction value of only .036% which means it has the lowest

shrinkage of any pattern in the market. To give some perspective, even the finest modelling waxes still have a shrink rate of between 1 to 2%. The Pi-Ku-Plast HP36 has seven different particle sizes which ensure molecular density and that provides the stable qualities which sets it apart from the others resins. This property also means that it does not generate heat

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The Security Lock System for Retrievability **cont'd...**



The gold custom abutment has been milled, prepared and then drilled to accommodate the security lock pin.

value. But there can still be a problem even when screws have been tightened properly and that is cyclic loading on the implant. There have been studies done documenting dental implant component deformation over time, preload loss and screw loosening. That is why long term ease of retrievability is critical to patient satisfaction and maintenance. Retrievability may be critical when the clinician decides to

reassess the soft tissues around the retainers; if the aesthetic demands of the patient necessitate modification to the prosthesis; if there are changes in pontic or ridge adaptation; or if there are complications because of failure of porcelain metal framework or implant. Any required modifications can be made in less time and at a lower cost than would be

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Bredent's Pi-Ku-Plast - Tried & Proven! **cont'd...**



The assortment kit comes with an ergonomic clinical white tray.

when setting, making it safe to use in combination with waxes. Dimensional stability is assured during grinding as it produces very fine shavings not like some other resins which heat up, stick to the burs and produce rough surfaces. Workability is another benefit, when applying with a brush, Pi-Ku-Plast HP36 can be dosed out from the smallest amounts to much larger volumes. The amount and firmness of the Pi-Ku-Plast can be controlled by the amount of monomer on the brush and the time immersed in the polymer. Over the last number of years we have noticed an increased need for the use of HP36 since there is a "no-residue" burnout which is critical for the wide number of pressable ceramic systems now on

the market. Other recommended applications are telescopic crowns, inlays, attachments, lingual bars, connectors, Maryland bridges and construction of implant superstructures. Clinical uses are temporary splints for soldering or post and core build up. The assortment kit comes with an ergonomic clinical white tray and presents well in the surgery or laboratory. The stable design eliminates spillage while the covered glass jars provide fresh material for each procedure, ensuring the resin's properties are maintained. There is also a brush cleaner which will remove residue and ensure there is no contamination of the resin material.

Source: Peter T. Pontsa RDT



An entirely gap free fit of the Pi-Ku-Plast HP36 outer coping guarantees perfect precision.

Featured Product: Renfert's New Vortex 3L Suction Unit

This new extraction unit in Renfert's product range replaces the former model Vortex Compact 2L and offers even higher health safety, flexibility and economy. Renfert has redesigned the Vortex 3L to now provide both a DRY and WET suction. The unit can now vacuum a wet mixture of zirconium oxide and water. Another new feature is easy FILTER CLEANING at the touch of a button! The average amount of dust a dental technician is exposed to per year is an unbelievably high 12 kg of health endangering material. Inhalation of ceramic, acrylic, plaster, nickel, quartz and other dangerous materials can cause not only allergies and toxification, but also the dreaded lung disease silicosis. The Vortex 3L reduces

exposure to these dangerous materials due to its even more efficient design due to their two-stage filtering system and effective fine filter which now achieves a successful extraction of 99.9% of dust. The new wet suction function means it can be used with a water cooling laboratory turbine to extract the trimmed ceramic/zirconium oxide mixed with water. The infinitely variable suction control means the suction power can be perfectly adapted to suit either the dry or wet process. There is also a choice between continuous operation or the convenient automatic switch-on function.

For more information contact Dent-Line of Canada Inc today at 1-800-250-5111!

Featured Product: Renfert's New Pro-Fix Precision Pins

The Pro-Fix pins set a new standard because of the highest precision that has been achieved with the Easy-Glide function. The Pro-Fix has parallel guide rails within the plastic sleeve which provide even friction. This feature allows quick release of the dies because of a short friction path. This means that dies can be removed without jolt or stress resulting in no distortion of the NEW wax patterns. There is a minimal production tolerance which gives

an even degree of friction in all pins which produces a high fitting accuracy. The special plastic is dimensionally stable against moisture and heat (such as exposure to steam cleaning). The plastic sleeve has an integrated cap on the end which eliminates complicated trimming with a bur around the end of the pin which could damage the sleeve and pin. A special metal pin facilitates simple cap removal. **For free samples call us today at 1-800-250-5111!**



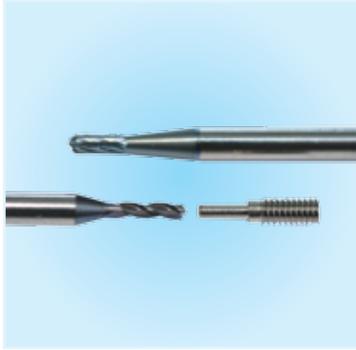
Renfert's NEW Vortex 3L offers both wet and dry suctioning.



Renfert's NEW Pro-Fix Precision Pin with Easy Glide.

The Security Lock System for Retrievability

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The centre drill starts the hole (pictured top). The diatit drill is the same diameter as the pin (bottom).



The screwdriver fits the pin quite snugly for fast, easy turn-ins and removals.



The cast on housings are made of gold and are CAD/CAM machined.



The threaded rods are made of high grade titanium and the design eliminates micro-motion.



Retrievability is quick and easy in case any complications need to be addressed.



The bond in titanium housing does not require the fixation pin usually used for the cast-on system.



The bar is perforated with either the 1.0 mm, 1.4 mm or 1.8 mm drill to accommodate the pin.



The modelling pin creates the housing for the bond-in technique. It is removed in the wax stage.

the case with a cemented less retrievable restoration. Over many years of use, proximal contact areas can open up. Teeth are vibrant and constantly react to muscular forces on them through the periodontal ligament. Implants do not and because of that sometimes teeth shift opening the contact between implant and tooth. With retrievability the contact can be reestablished and the restoration can be screwed back in place. Occlusal screw access holes are unsightly and destroy the occlusal pattern and create a weakness in the porcelain to metal interface. To eliminate the presence of screw holes in aesthetically demanding areas, other methods have been used to connect implant restorations to implant abutments or implants. These include the use of pre angled abutments which allow screw retained restorations; cemented implant restorations to angled or custom abutments and transverse set screws in the restoration which would allow for retention to the abutment. Cross-pinning with a transverse screw is an approach to retrievability with a practical application in fixed implant supported restorations. The technique of cross-pinning uses a transverse screw to secure a restoration to a milled implant abutment allowing prosthetic retrievability,

without concern to the implant or abutment alignment. The security lock system (Bredent) is designed for just such an application, where retrievability without occlusal hole access is preferred. This screw system has a patented design which prevents micro movements within the implant being transferred from the restoration to the transverse screw. Only the head section of this screw is threaded whereas the pin section is not and engages into the custom abutment. Micro movements are absorbed by this non-threaded section and prevent the whole screw from becoming loose. This design also considerably reduces the risk of fracturing and has been specifically developed for keeping screw retained super structures on implants. Long term stability through reduced micro motion is essential for retrievable restorations. The system has three screw diameters of 1.0 mm, 1.4 mm and 1.8 mm to ensure that the optimum size is available for space. The security lock system housing is made of gold and can be cast on to the restoration or alternatively a titanium housing is available for bonding into with specialized adhesive cement. With the myriad of complications surrounding cemented

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The housing is blasted with AIOx2 before the titanium pin is bonded with DTK adhesive.



The completed retrievable restoration with the bond-in security lock saves time.

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The Security Lock System for Retrievability

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implant restorations, it is critical that retrievability be utmost when treatment planning is initiated. The security lock system (Bredent) is suitable for cross-pinning restorations to implants when required modifications, repairs or the assessment of soft tissue is essential.

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Source: Peter T. Pontsa RDT

Trade Show News: Donation to College Edouard-Monpetit

DENT-LINE OF CANADA INC. and Renfert USA would like to announce a donation of a Quattro IS Sandblaster to College Edouard-Monpetit made on November 7th. Peter T. Pontsa RDT and Angela van Breemen, BA were on hand to make the donation. Pierre Brazé the director of studies and Élise Tousignant were present as was Émilie Brulé, the Dental Technology Program coordinator who gave a speech about Dent-Line's years of generosity for donating equipment and materials to the Dental Technology Department.



Trade Show News: Dent-Line 6th Annual Achievement Award

At Denttechnica du Québec this past November 7th, 2008, Peter T. Pontsa RDT, CEO of Dent-line of Canada Inc. presented the 6th Annual Dent-Line Award to Mr. Ettore Palmeri CEO of Palmeri Publishing. Mr. Pontsa was quoted as saying "I am very happy to be a part of this important function, where all of us have come together to recognize and celebrate an individual who has given much to our profession". The Dent-Line Achievement Award is given to educators and individuals who have contributed to education and the betterment of our profession. Mr. Palmeri has contributed greatly to our profession and is responsible for 11 dental journals and 10 dental conventions that provide an avenue for continuing

education. To further that end, he has recently become involved in an Implant Study Club. Mr. Palmeri thanked everyone and was pleased to be acknowledged.



Special Announcements: Upcoming Trade Shows

The Dental Industry of Canada proudly presents the 35th edition of **Technorama**, Canada's largest Dental Technology and Denturism Convention. It will be held Friday March 6th and Saturday March 7th 2009 at the Double Tree International Plaza Hotel, Toronto Ontario. Please join us at our booth and meet Mr. Jan Schmogger, Bredent's new export sales manager. We will be glad to answer any questions on the Bredent products. Drop by to see our new products and meet the Dent-line team. Dent-line of Canada Inc. would

like to invite you to **Dent Tech West** in Edmonton Alberta. This dental convention will take place at the Fantasyland Hotel in the famous West Edmonton Mall, on Friday April 3rd 2009 and Saturday April 4th. Please join us at the Dent-line booth to see our new products. Don't miss our informative seminar which will be presented by Mr. Peter T. Pontsa, RDT entitled "Innovative Attachment Techniques" which will describe attachment placement methods and techniques. Hope to see you there!