

A Bulletin Dealing With Issues For Dental Health Professionals

Bredent's Over Denture Design

One of our dental lab customers recently discussed an interesting case with us. The lab had received a lower rubber base impression that was edentulous except for the lower left centrals, cuspids and the 1st and 2nd bicuspid. The dentist had prepared the abutments to approximately 4 mm, and selected an over denture as the appliance of choice. The treatment plan was to provide adequate retention for the patient and to preserve and stabilize the abutment teeth. Moreover the dentist did not want to devitalise the abutment retainers to provide root cap attachments as was done in the upper. The decision was to splint all five abutments with a one piece gold alloy (270 HV - recommended), that would prevent movement and be an effective stabiliser. To reduce torque, the area of the splinted abutments must be passive when the denture base is completely seated even under very little compression. A

telescopic effect was created with the denture base over the splinted gold framework to provide horizontal and vertical stabilisation. To facilitate the retention the Bredent OC mini male attachments were placed mesially and distally off the free end abutments. The plastic OC male burnout pattern was adjusted to the gingiva and blended into the waxed abutments to provide a smooth exterior. The Bredent mini was selected because it offers many advantages, such as **superior aesthetics**. The complete attachment is small and hidden in the denture base. Once it has been inserted it only requires a gentle snap in to engage the retention sleeve. There is also **improved hygiene** since the open embrasures provide space for self acting rinsing and cleaning. The gingival papilla is not disturbed and may be easily accessed and stimulated. **Design flexibility** is assured with angles of 30 and 60 degrees that can

be adapted to situations by fitting it to the abutments or the gingiva. Three retention choices are also available to extend the life of the restoration. In conclusion after providing retention, horizontal and vertical stabilisation, the **neutral zone*** of the over denture should be restored. The neutral zone takes in the balanced forces of the tongue, periodontal musculature, cheeks and lips. Any interference in the neutral zone may cause patient discomfort or may contribute to failure of the over denture. Although proper attachment selection is important, it is only a part of the overall approach to successful outcomes in the laboratory and in the dental chair. **Source; Peter T. Pontsa, RDT.**

** For more information on the neutral zone, visit our Dent-Liner Spring 2002 Issue at www.dent-line.com, just click on our Library for all Dent-Liner back issues.*

The Enigma Colour Tone System

The Enigma Colour Tone reproduces the natural pigmentation of the gingival tissue. The enigma teeth are shown off to their best advantage when they are enhanced with a beautiful acrylic base and colour tones which replicate the appearance of natural gums. The Colour Tone System comprises of eight assorted powders such as ivory, light pink, medium pink, dark pink, blue pink, light brown and dark brown. In order to utilise them to their best advantage the denture wax up should be

carried out paying particular attention to the anatomical details that will be highlighted in the final dentures by the Enigma Colour Tones. Root eminences, gingival recession and areas of greater vascularity should be clearly defined at this stage since alteration later on is not recommended. Flasking is done in three stages, the denture is flaked in the normal manner with all the wax contours exposed. Then the upper section is filled just up to the teeth with vacuumed white die stone. A separating

medium is used and final topping is done with plaster. Wax removal is done in the normal manner and allowed to bench cool. Check all margins, repair all bubbles and inflask corrections like blow holes. Then paint on separator around the teeth. A cold mould allows you to apply one thick layer of separating medium (Bredent's Isoplast). Allow to dry before continuing. If pictures of the patient's gums are available, choose colours from the Enigma Colour Tone range to match **continued on page 2**

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The Enigma Colour Tone System cont'd



The Enigma Colour Tone now consists of eight colours.



Used together, the components of the Enigma System present you with a range of aesthetic possibilities which is almost endless and will provide your patients with the "prosthetic privacy" they deserve.
Peter T. Pontsa, RDT

them. Familiarize yourself with the various colours. A custom shade chart can be created by pouring out a little of each colour and adding monomer to it on white backed paper. This will give an indication of the true colour as you can choose pigments for Asian, African, Caribbean or for Caucasian patients. Layer thickness is 1 to 2 mm and it should be sufficient to block out an implant substructure or a removable partial framework. The Enigma Colour Tone powders have been designed to have very good flow properties so that they can be applied in thin layers. It is not desirable to squeeze out the powders since the flow properties are fine grained and are more suited to be tapped out of the bottle which allows uniform blending of the colours. Sift on in layers in a room temperature flask and avoid sharp demarcations. Dispense a little Enigma Colour Tone liquid into the dappen dish provided and use a brush to apply small quantities of monomer just above the powder so that it seeps down the walls of the flask and is absorbed by the powder. Continue until no areas of dry powder remain. It is important to cover all areas since a veined acrylic would show through and alter the "Colour Tone Effect". The colour tone powders can be applied to the palatal aspect; specifically the rugae. A base shade should be chosen with care since it will be able to change the colour tone shades. Colours and suggested applications;

"Ivory" - root eminences and in thin layers over gingival roll. "Light Pink" - Bony buccal prominences, transition from roots on very pale healthy gums and where the density of just ivory on its own is too pale and unnaturally white. "Natural Pink" - the main colour which is used to blend with the other colours, base canvas specifically as a colour matched base mucosal colour. "Medium Pink" - an alternative base to the natural pink, this base colour canvas is more orange in colour and works specifically as a colour matched base mucosal colour. "Dark Pink" - Vascularity and inflammation areas, e.g. papillae. "Blue Pink" - to accent vascularity or inflammation in patients with darker red tones. For the gingival layer overlay with the "Dark Pink" in buccal and labial areas. "Light Brown" - used when natural gums have brownish patches, this is often used in conjunction with "Dark Pink"; it can also be used on papillae. "Dark Brown" - for heavier pigmentation, such as papillae and in areas of greater vascularity, apply "Dark Pink" to the surface of the flask and then layer with Dark Brown so that on the denture the dark brown can be seen throughout the Dark Pink. Immediately after application of the Enigma Colour Tone mix, process and pack the base material. The recommended ambient temperature for mixing and packing is 23°. When using an injection processing system, a small amount of the denture base dough

should be placed on the Enigma Colour Tone and let set for one half hour. This should protect it before connecting the injection line. To cure, cover the flask completely in warm water and bring the water bath to 100° C. Hold at this temperate for 45 minutes. When dry curing, follow the instructions of the oven manufacturer. The care taken with waxing and flasking will leave very little finishing to do. Place the denture in an ultrasonic bath with plaster remover (Bredent) to remove all plaster from between the teeth, trim away any flash and smooth and pumice the borders of the denture and palatal area. Limit polishing of the buccal and labial areas to a light buffing. In these areas avoid the use of pumice, which will tend to remove outer colour layers and any stippling. In conclusion, the Enigma Colour Tone System comprises of natural looking denture teeth, Hi-Base acrylic and the Enigma Colour Tone for life like replication of your patients' natural gingival pigmentation. Used together, the components of the Enigma System present you with a range of aesthetic possibilities which is almost endless and will provide your patients with the "prosthetic privacy" they deserve.
Source; Peter T. Pontsa, RDT

We are planning to hold a Colour Tone Course in the spring of 2004, call to sign up for pre-registration if you would like to attend.

Bredent Dentaclean Plaster Removing Agent

Dentaclean plaster removing agent can be utilised on various areas. It removes plaster from deflasked dentures quickly and gently while it protects the acrylic surface and the denture colour. Hard plaster or investment particles are carefully removed from

vacuum mixing bowls with out damage. The ready to use solution is easy to use, articles to be cleaned can be placed in temperature resistant open plastic or glass receptacles with the solution. Slight heating or sonicating in the ultrasonic unit will reduce the cleaning

time. Comes in two sizes, 1000 ml (52000119) and 2500 ml (52000993).

For more information call us at 1-800-250-5111 or visit us at www.dent-line.com.

Featured Product: Renfert Tropical Trays

Tropical Trays are featured with a water retention function. The porcelain palette rests in an acrylic tray of water and the diffusion of the water takes place through the palette surface. Millions of micron sized pores provide the porcelain with a surface which allows the porcelain to maintain its optimum moist consistency.

Post and Core Analysis

Post and core analysis is comprised of both structural and retentive strength collectively. In over denture construction, the post and core is integrated into the natural root. It becomes evident that the construction of retentive ball/post core combinations is the foundation upon which the restoration relies. It is with this in mind that we will review published reports on post & core analysis. The first study examines the structural analysis of metals used in the construction of post & cores. It was carried out by L.Hassler, R.Milde, K.Krowsznsky and G.Gehre; this report was prompted by the results of their earlier investigations. They combined Pd. Co. and Ni. based alloys with prefabricated posts made of Pd/Ir and Fe/Cr/Ni as well as customized posts cast from the above mentioned base alloys. With the aid of physical and metallographic analysis, the micro hardness, the particle size

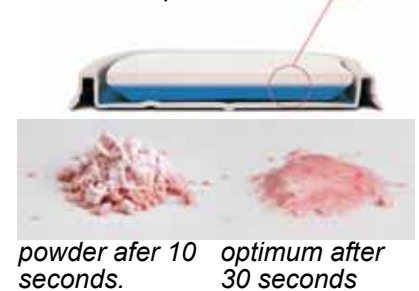
As a result, every gram of porcelain is used while there is no continual re-moistening of the porcelain powder. The porcelain remains consistently moist for days and weeks. There is minimal evaporation during work breaks due to the airtight lid. Another advantage of this system is that there is no additional purchase required

of the structure, the width of the gap between root post & core and the percentage distribution of shrinkage voids (porosity) in the cast post & cores systems were assessed. Based on the results of these analyses and considering their earlier studies of the corrosion resistance of these similar systems, they recommended in order of preference the combination of copper free Pd/Ag, alloy with a prefabricated Pd/Ir post & core and as a second preference, a one piece cast post & core system using Pd/Ag, Co/Cr, Ni/Cr alloys. It should be noted here that Bredent recommends a least a 270 HV on cast balls and post to prevent premature wear on the supportive retention balls in the VKS attachment system. Another critical aspect of post & core for over denture is the retentive strength of root posts. This study carried out by I.Nergiz, R.Schnage and U.Platzer was to measure the retentive

of wear and tear parts such as membranes or filters. Technicians can choose from two trays with three glazed wells in small (Tropicolino) or large (Tropical) or a larger tray (Tropicana) with 4 glazed wells, 7 small and 12 large wells. **Contact us at 1-800-250-5111 for more information.**

strength of a tapered root post with smooth or grooved surfaces. After insertion with phosphate cement, and to determine whether retention can be improved, they sandblasted the post and increased the surface roughness of the root canal. What was observed was that the posts with the sandblasted surfaces was 2.4 times more retentive than that of posts with smooth surfaces (218 Newton's). The use of a standardized diamond coated rotary tool to prepare the root canal (clinical) prior to cementation of the sand blasted post resulted in an increase of retention of 4 times (836 Newton's) as opposed to posts with a smooth surface. More over in all types of posts, grooves additionally improved retention by 38%. In the final study the aim of A. Shulz and T. Morneburg was to prevent the extrusion of cement beyond the apex **continued on page 4**

Millions of micropores provide the porcelain with the optimum amount of liquid.



powder after 10 seconds. optimum after 30 seconds

These studies make evident that the construction of retentive ball/post core combinations are the foundation upon which the restoration relies.

Peter T. Pontsa, RDT

Bredent Security Lock System

Bredent a leading German manufacturer of attachments, has designed a screw for operator removable restorations which cannot loosen on its own. This screw system has a patented design which prevents micro-movements being transferred from the restoration to the screws. Only the head section of this type of screw is threaded. The section of the screw which protrudes into the inner coping of the bridge is not threaded. Micro-

movements are absorbed by this non-threaded section without loosening the screw. This particular design of screw also considerably reduces the risk of fracturing. This system has also been specifically developed for keeping screw-retained super structures on implants. It can be used with virtually all implant systems as well as for all other types of prosthetics. The screws have diameters of 1.0, 1.4 and 1,8 mm, to ensure that

the optimum size is always available for the space. Complete sets of instruments and materials are available for processing this new, patented screw system easily and cost effectively. The components of the set can also be purchased separately. Comprehensive instructions are available. **For further details contact Dent-Line of Canada inc at 1-800-250-5111.**



The security lock system is ideal for removable telescopic restorations over implants and bridges.

Peter T. Pontsa, RDT

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The Dent-Liner; Vol. 7 No. 4
Publisher; Peter T. Pontsa, RDT
Editor; A. van Breemen, BA

Subscription Rates:

Canada	1 Year	\$ 5.00
USA	1 Year	\$ 7.00
International	1 Year	\$15.00

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Post and Core Analysis

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during cementation. What they found was that the post with three vertical grooves the length of the post showed a significant reduction of extrusion of cement. What

this study and the one before it shows that proper seating and increased retention occur when grooves are placed on posts prior to cementation. Accuracy should also improve when

an over denture case follows the post attachment ball placement. The choice of base alloy for post & core construction is also important to the final outcome.

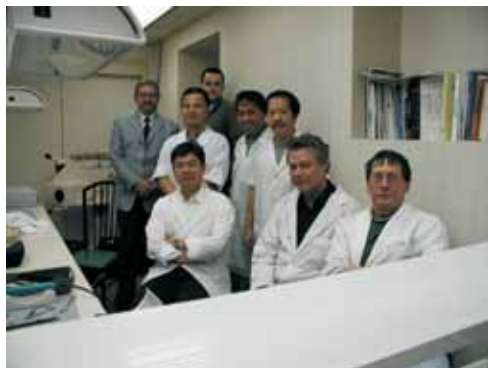
Source: Peter T. Pontsa RDT

Trade News Announcements:

Dent-Line of Canada would like to announce that Mr. Rainer Christiansen, Bredent's export manager was in Canada providing seminars about the VKS attachment line. We would like to thank André Dagenais of the Dental Services Group Canada for allowing us to provide the seminar at their facilities this past October 8th, 2003.



Dent-Line of Canada would also like to thank Mirjanna Salkovic of Pro-Art for allowing Rainer Christiansen and Peter Pontsa to visit their laboratory on October 9th, 2003 and provide an attachment seminar. Mr. Christiansen also discussed the new generation of modelling resins and why they are so relevant.



Special Announcements:

Dent-Line of Canada is pleased to announce that **Ms. Vangie Gowland** will be the new sales representative for the Ontario region. Ms. Gowland has been on the order desk for the past year and a half and is familiar with the Bredent, Enigma and Renfert product lines. She will be visiting your dental laboratory soon to discuss our various products and services.

We are also very pleased to announce that **Mr. Henri Gindroz, CDT** has joined us as our agent for the Enigma System. Mr. Gindroz will be visiting denturologists within Ontario and the Montreal region. The Enigma System is comprised of a wide range of natural looking teeth, a truly aesthetic high impact denture base and the Enigma Colour Tone System. Mr. Gindroz will be visiting your clinic in the near future to discuss the advantages of this system.



Ms. Vangie Gowland