

The Dent-Liner™

A Bulletin Dealing With Issues For Dental Health Professionals

Mouth Guards Prevent Dental Trauma in Sports



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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For the people who engage in sporting activities, a mouth guard is essential because the single most serious tragedy is not losing the competition, but receiving a serious injury that could have been prevented. Anyone who is active in sports should wear protective equipment, especially mouth guards. By doing so, this simple safety appliance will reduce oral injuries in athletes in all sports every year. Full contact or non contact sports can cause harm to: lips, teeth, tongue, jaws, and even concussions. This is why dentists see more injuries to the mouth as a consequence of participating in sports activities, than from any other type of damage. Research literature has pointed out that mouth guards definitely aid in averting broken teeth, fractured jaws and traumatic injuries to the bone that hold the roots of the teeth in place. The idea of the mouth guard came about in the 1900's when Jacob Marks, a citizen of London, was credited with the invention. Later, boxing in the 1920's was the first sport to see the advantages of preventing severe head injuries like concussions as a result of glass jaw. The first documented mouth guard was developed at Notre Dame University in the 1960's to prevent the glass jaw phenomenon. Not long afterward the U.S high school foot ball players became the first athletes required to wear mouth guards. According to one survey more than 5 million teeth are knocked out each year during sporting events. Mouth guards can diminish the risks of causing damage to the hard or soft tissue or maxillary or mandible fractures; lip lacerations, knocked out or chipped teeth and concussions. This type of damage is common not only to high risk sports such as boxing, karate, hockey, and lacrosse, but also to less dangerous sports like basketball and baseball and of course non-contact sports like gymnastics and in-line skating. Unlike some other injuries a single blow to the dentition is a traumatic injury that may not completely heal, and can become an expensive long term inconvenience for the afflicted athlete. Studies

have linked sporting activities to nearly one third of all dental injuries and to approximately one in six sports-related injuries to the craniofacial area. Through the years the use of face shields, helmets and mouth guards in football has decreased the incidents of oral trauma from 50% of all injuries to approximately 1%. Another survey of practicing dentists found the highest frequency of oral injury in baseball and biking. Also more women are taking part in athletic competition, and are under going more oral injuries as a result. Thousands of school children play at least one organized sport and are most susceptible to sport related oral injury between the ages of 7 and 11 years. Maxillary incisors are prone to about 80% of all dental traumas. For children who are injured and their families, the outcome of oral facial damage is significant because of its pending source of pain, both psychological and economic. Studies at Sheffield demonstrated that multi-layered structures display less deformation than singular structures of pure EVA material (Ethylene Vinyl Acetate). As a consequence, the researchers believe that laminated mouth guards may offer better protection, since they reduced the transmission of a destructive blow. This may include Shield's double and triple density mouth guards. The University Dental School and Hospital Ireland provided data to quantify dimensional changes that occur during thermo-forming ethylene vinyl acetate (EVA). Sheets of 3 mm EVA were stretched by 52% during the thermo-forming conditions. Incisal / cuspal areas were found to be significantly thinner when compared with other locations measured, there by reducing the protective effect of professionally made mouth guards. The effective range of between 3 to 5 mm is needed for effective prevention of Minimal Traumatic Brain Injury. Stenger in 1964 reported that forces from mandibular impact would be alleviated with a mouth guard resulting in fewer injuries. Hickey discussed that mouth protectors reduced pressure

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Vario Soft III Extra-Coronal Attachment System cont'd...



The Vario Soft 3 assortment contains males on mandrels, females, duplicating matrices and wax parts.



Another type of male available has no mandrel; the one on the left needs a milled ledge. The other has the shear distributor already integrated into the male.

patterns. Males must be vertically parallel and should be positioned over the crest of the gingival ridge. The adjoining area of the attachment is concave, thus allowing the male to be placed in close proximity to the wax pattern, thus reducing the amount of leverage exerted on the attachment. A milled in lingual rest will act as a stress breaker. The male pattern has no sharp edges and can be adapted to the ridge, respectively it can be shortened up to 40% in cases with limited inter occlusal space. The interlock is drilled with a 1 mm wax miller and its position is predetermined at 170 degrees off center of the male attachment. Proceed with a 1.5 mm wax miller and starting from left to right at a speed of 5000 to 7000 RPM, cut the lingual facing approximately 1.5 mm deep. The male attachment is then placed on the distal of the waxed crowns. It is essential that the male attachment is parallel vertically, sagittally and centered on the ridge. Or else binding will occur and early attachment wear will be the result. Sprue and cast the restoration and prepare a milling model so subsequent milling of the stress distributor can take place. A profile milling bur is utilized to refine the milled ledge at 15,000 to 20,000 RPM rotational speed. Next a 1.0 mm groove bur re-mills the interlock. The male attachment is also gently milled with a 1.5 mm round end profile bur to remove any bubbles or imperfections and also

to maintain the parallelism. At this time the occlusal shoulder is also refined. The abutment crowns and connectors are highly polished and the porcelain veneer is applied. It is important to obtain a smooth surface without reducing the size and shape of the male. Caution must be exercised to prevent alterations to the dimensions of the male during finishing. Seat the finished casting on the master model and place the white duplicating female sleeve over the male adjusting it to conform to the dimensions of the male and ridge. The white female sleeve must be used when duplicating as this ensures that the interior dimensions of the housing sleeve are correct. Prepare the model for the casting. A wax housing sleeve is included in the VS3 assortment. Place it on the refractory model over the sleeve. The wax pattern guarantees that the housing is of uniform thickness, when cast in chrome. This prefabricated wax component is quickly fitted to the investment model. Fill the area contracting the ridge with the wax so as to reproduce it fully in chrome cobalt. Next design and wax up the chrome cobalt casting according to the standards of practice. Place Bredent retention crystals over the attachment in order to provide the necessary mechanical retention for the acrylic. Trim and polish the chrome cobalt casting. Do not electro-polish the inner surface **continued on page 3**

Featured Product: Renfert's New Dynex Separating Discs

Renfert's Dynex separating discs make cutting, grinding sprues and separating bridges effortless. The new double reinforced separating discs are not only considerably more effective, but also more economical to use since they do not break during use even when jammed. These separating discs are available in three sizes and are superior to the standard discs in both cutting performance and wear. There is a highly flexible one suitable for crown and bridge techniques with up to 50,000

RPM rotational speed. The other two discs are more suited to non-precious and chrome cobalt. These three separating discs cut so quickly, that far less heat is generated on the surface than usually the case. In addition the discs are made with a special organic binder which considerably reduces the unpleasant odor. **For more information on Dynex discs and samples call 1-800-250-5111.**



Dynex separating discs are double cross linked with high-tech fibreglass reinforcement.

Featured Product: GO-2011 Dissolves Alginate and Plaster

Renfert's GO-2011 dissolves alginate; it is best known as a plaster solvent, however it is excellent in dissolving alginate, in particular a combination of plaster and alginate residue. Extensive in-house tests, which were carried out, confirm this. GO-2011 is the best combination solvent in its category. It is the most effective all in one cleaner for alginate and gypsum residue. It cleans mixing bowls, acrylic dentures, impression trays, castings and investments and removes dental stones,

gypsum based investment material and alginates even in hard to reach areas. GO-2011 is ready to use, quick acting and most effective when used in an ultrasonic cleaner at 40 to 50 degrees Celsius. The best cleaning time is 5-15 minutes in ultrasonic and 15-90 minutes without it. GO-2011 has been relabeled, has a pleasant subtle lemony scent and it does not etch acrylics, metals or glass. **Contact us today for more details at 1-800-250-5111.**



GO-2011 is a very effective all in one cleaner for alginate and gypsum residue.

Vario Soft III Extra-Coronal Attachment System cont'd...



The male attachment comes with or without a parallel mandrel for convenience.



Retention sleeves have a spine for anti-rotation and a flexible outer opening for easy insertion.



Crowns are waxed and milled to accommodate the path of insertion.



The male attachment should be adapted to the ridge and then luted to the waxed crown.



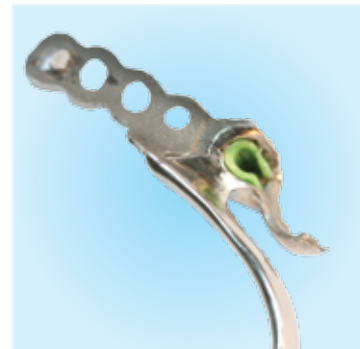
To avoid binding on insertion, the male should be parallel vertically, sagittally and centred on the ridge.



The crowns are cast and the lingual areas and male attachment are refined with milling burs.



The white duplicating matrix is adapted and a duplication is made for the removable partial.



The green retentive sleeve is placed on the preformed housing in the removable cast partial.

of the cast housing, as this could adversely affect its fit over the female. Process the partial denture to the standards of practice, taking care to keep acrylic from getting into the housing prepared for the female retentive sleeve. Insert the desired female using the insertion pin; green indicates reduced friction, yellow normal, and red, high friction. It is of crucial importance to begin with the lightest friction first and move up as the partial becomes looser over time. For easy insertion by the patient, the occlusal of the male should be slightly bevelled or rounded. To service and rebase the VS3, the female retention sleeve can be easily removed using a pointed instrument to slide it from the housing. The replacement retention sleeve, whether high or reduced friction can be inserted effortlessly with the special insertion

pin provided in the kit. The relining is done using standards of practice and should be done routinely since failure to reline will place excessive loads upon the attachment and abutments causing potential fracture and failure so a periodical recall program is important to ensure patient satisfaction. The technique to fabricate bilateral cases is a practical approach utilized with straight forward procedures that employ prosthetic and technical methods. The technique is compatible with any crown and bridge combination cases and recommended when potential destructive forces can result in changes to the periodontal ligament and the supportive bone. For case planning or technical advice, do not hesitate to contact Peter T. Pontsa, RDT at 1-800-250-5111!

Source; Peter T. Pontsa, RDT

Trade Show News: National Symposium for Denturists

The National Symposium on Denturism was held from September 17th to the 21st in Boucherville at Hotel Montagne. The conference was a success as many denturists came from across Canada; there were even two attendees from as far away as New Zealand. The speakers spoke in French with English translation and vice versa, so every

one could participate in understanding the seminars. The International speakers provided seminars on denture construction, implants, CAD CAM milled implant bars, haptic computer design and a new implant metal. We would like to thank Daniel Leveille DD and the dedicated organizers of the National Symposium for all their efforts.



The RPD should fit the model and crowns without binding before processing the acrylic resin.



The finished RPD is ready for initial insertion after sterilization first using the lightest retention sleeve.

dent-line of canada

1170, 4th Line,
Adjala, R.R. # 1
Loretto, Ontario,
LOG 1L0

PHONE:
1-800-250-5111
Or
519-942-9315

FAX:
519-942-8150

EMAIL:
Info@dent-line.com

We're on the Web!
See us at:
www.dent-line.com

About Our Organization...

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Mouth Guards Prevent Dental Trauma in Sports cont'd...

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6. Takeda T, Ishigami.K, Nakajima K, Naitoh. K, Kurokawa K, Handa J, Shomura. M, Regner C.W. Are All Mouth Guards the Same and Safe to Use? Part 2. The influence of anterior occlusion against direct impact on maxillary incisors. Dental Traumatology. Vol. 24 Issue 3. pg 360-365 June 2008. 7. Olin W. Special Report: Dentistry and Sport-meeting the needs of our patients. J.A.D.A 1996; 127: 809-18. 8. Lee Knight CT, Bell RD, Faulkener RA, Schneider VE, Protective mouth guards and sports injuries.J.Com.Den.Assoc.1991; 57 (1) : 39-41

9. Maroosis G. Back to Basics: making a vacuum-formed custom fitted intra oral mouth guard using the dry model technique. J. Can. Dent.Assoc. 1999; 65 (2): 90-1

10. Hoffman J, Alfter G, Rudolph N.K, Goz. G. "Experimental Comparative study of various mouth

guards." Endod Dent.Tramatol. 1999; 15 (4): 157-63

11. Reed RV JA, Origin and early history of the dental mouth piece. BR.Dent.Journal 1994; 176 (12): 478-80.

12. Wisniewski J.F, Guskiewicz.K, Trope M, Sigurdsson A. "Incidence of Cerebral Concussions Associated with type of mouth guard used in college football." Dent Traumatol 2004; 20 (3): 143-9

13. Bemelmans P, Pfeiffer P, Shock absorption capacities of mouth guards in different types and thickness, Int. J Sports Med. 2001; 22 (2) : 149-53

14. De Young AK, Robinson E, Godwin WC, Comparing comfort and wearability: custom made vs. self adapted mouth guards. JADA 1994; 125 (8): 1112-8

15. McCory P "Do Mouth Guards prevent Concussions?" Br.J Sports Med. 2001; 35 (2): 81-2

Source; Peter T. Pontsa

Special Announcements: Upcoming Trade Shows

The **2008 National Symposium for Denturists will be held from September 18th to 20th** at the Hotel Mortagne Boucherville, located at 1228, rue Nobel. For reservations, contact 1-877-655-9946. For more information about the Symposium contact the Association de Denturologistes du Québec at 1-800-563-6273 or at [denturo@adq-](mailto:denturo@adq-qc.com)

adq-qc.com. Do drop by our booth to see our exciting new products like the Shield® Mouth guards! The **Denttechnica du Québec Conference will be held on November 7 & 8th** also at the Hotel Mortagne located in Boucherville. For more information contact Mr. Jean Compagna, t.d. at 1-514-728-5352 or prolabo@rogers.com.

Trade Show News: Alberta Annual Conference & Trade Show

Dent-Line of Canada Inc. would like to thank the College of Dental Technologists of Alberta for the opportunity to attend their Annual Conference and Technology Trade Show held this past April 4th and 5th in Edmonton, Alberta. We enjoyed meeting with the enthusiastic attendees that visited our booth from across Alberta. Pictured from left to right are Angela van Breemen, BA and Peter T, Pontsa, RDT.



Trade Show News: 3rd Biannual Dent-Atlantic 2008 Show

The 3rd Biannual Dent-Atlantic 2008 Convention was a an overwhelming success and we would like to thank all the participants who came to visit our booth and to those who came to see our newest seminar, "Innovative Attachment Techniques" presented by Mr. Peter T. Pontsa, RDT, President of Dent-Line of Canada Inc. Seen in the picture at the right is Mr. Ettore Palmeri, one of the organizers of the event, introducing Peter (far right) prior the lecture.



Trade Show News: 34th Annual Technorama Trade Show

The 34th Annual Technorama Dental Technology and Denturism Convention was a huge success thanks to the DIAC organizers and the many dealers and suppliers who sponsored the Food and Wine event Friday, May 9th. Peter T. Pontsa, RDT also presented the seminar "Innovative Attachment Techniques" to an eager group of dental technologists and denturists. Pictured from left to right are Angela van Breemen, Peter T. Pontsa, Stephanie Spratt and Christine Goyette.

