

A Bulletin Dealing With Issues For Dental Health Professionals

Can Botox be a Remedy for TMJ Treatment?



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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There is a growing interest by dentists in the treatment of TMJ with the utilization of Botox.® In particular as a treatment for temporomandibular disorders and as an accessory to be used in cosmetic procedures such as eradicating wrinkles and improving their patient's appearance. This has of course generated some concerns about scope of practice. Twenty years ago interest in Botox® was particularly unheard of; however there are now seminars on dental procedures that incorporate it as a muscle relaxant. It has been closely connected to plastic surgery and is becoming more frequently used in the dental clinic. Dentists are recognizing the potential and are being trained in the use of Botox®. Yet while analysing the impact on dentistry the profession remains at odds. Its usage to ease TMJ and Bruxism suffering is extolled by a number of practitioners, however there are others who feel that comprehensive long-term clinical studies should be performed to substantiate the relevance of use. The growing awareness amid practitioners to provide Botox® as a procedure to alleviate wrinkles institutes a serious debate as to whether it is in the scope of practice of dentistry. In 1989 Allergan Inc. pioneered Botox® which is a protein (Botulinum Toxin Type A) that originates from "Clostridium Botulinum" bacteria and is responsible for food poisoning. When injected into a muscle, botulinum toxin inhibits the release of acetylcholine, a substance which activates muscle contraction. Examination of the toxin, found the protein to be beneficial in treating muscle spasm and

ultimately causing the particular muscles that make wrinkles to relax. During 1989 the U.S. Food and Drug Administration approved Botox® to deal with two ailments of the eye muscle; first blepharospasm which is a persistent blinking of the eye and crossed eyes called strabismus. In 2000 Allergan received FDA approval to publicize Botox® as a therapy for cervical dystonia, a muscle syndrome that produces acute spasms in the shoulder and neck. Two years later the FDA approved it for frown lines between patient's eye brows and in 2004 was extended for use in the treatment of hyperhidrosis (acute underarm sweating). Only those four applications of Botox® were cleared by the FDA. Allergan does not list TMJ treatment as an indication for clinical use in its Health Professional information. There are companies like Dentox for example that provide day long Botox® training sessions for dentists. The informational parts of the session discuss the history and pharmacology of Botox® followed by training on the correct way of mixing, dosing, the likely cosmetic applications and the how and where to inject the drug. Allergan does update their list on the possible side effects on its website under Neuroscience Health Professional Communication. The latest update includes possible muscle weakness remote to the site of injection. Possible symptoms include muscle weakness, dysphasia aspiration pneumonia, speech disorders and respiratory depression. These reactions can be fatal to some patients

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Grind Zirconia with Bredent's New Coarser Grit Diagen Turbos!

The diagen turbo wheels and cylinders were developed for the effective shaping of zirconia. The diamond instruments have extraordinary grinding properties due to a special bonding material made of ceramics. The porcelain binds the diamonds together creating a non contaminating grinder that won't corrupt the zirconia. The surface of the zirconia does not overheat when shaping since the diagens

need less pressure exerted while working. The diagen's super smooth grinding results in ultra precision grinding efficiency compared to less expensive instruments which don't cut as well and overheat the zirconia terribly. Recently, Bredent introduced six new Diagen Turbo Grinders with much coarser diamond grit.

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Can Botox be a Remedy for TMJ Treatment? cont'd...



Cause Botox is no longer only in the realm of cosmetics and beauty



but has proven to show significant benefits in dentistry with the



treatment of TMJ to relax the muscles to reduce stress on newly



placed implants.



Some research has shown that botox can calm the facial muscles that cause migraine ...

so a proper pre exam and health history is important. Nonetheless, the benefits of Botox® if used properly, through formal training, can be beneficial to many patients. Rijsdijk along with his associates published a paper on the treatment of two patients who were diagnosed with hypertrophy of the masseter muscles. After injection of 40-60 iu of Botox® per muscle, the volume of muscle was reduced and the pain abated. Botox® injections can be a safe and effective treatment for severe Bruxism, however it is an expensive therapy and should be under taken as a medical option for those who have a disabling or complicated condition and where conventional dental treatment has not reached a positive outcome. Another example of Botox® treatment is with one day dental implant surgery where implants are placed in just one appointment. Injections relax the muscles surrounding the TMJ to reduce the stress on the newly placed implants. Including the procedure in implant surgery allows the new implants a chance to

integrate stress free. So presently Botox® can be used for conditions such as temporandibular joint disorders, siaborrhea, headache, also neuropathic facial pain, muscle movement disorders and facial neuropalsy. Other treatment plans and applications are likely to be developed for dentistry as innovative ideas come forward. The Dental Board of Tennessee made the decision to allow dentists to perform Botox® procedures two years ago. However it took the state attorney general a while to review the new rule. So beginning January 20th 2011 some oral surgeons in Tennessee will have the ability to administer Botox®. Nurses will also be able to provide the injections. A number of study papers have demonstrated that Botox® injections can be a safe and effective treatment modality. It should be administered only by clinicians with knowledge of its pharmacology and pertinent anatomy of the sites to be injected. Experience **continued on page 4**



Renfert's new wax wire, extra hard is available in 6 sizes.

Featured Product: Renfert Introduces New Wax Wire

Renfert introduces new wax wire that is extra hard. At the moment Renfert's program offers the Geo wax-wire in hard and medium hard, and now the innovative wax formula offers many more advantages to dental technologists. The wax-wire is dimensionally stable within the dental laboratory even when the environment has very high temperatures. This ensures

tension free quality, therefore limiting distortion, or elastic recovery. The spooled wax-wire is shaped easily without pre-heating and forcing the wax into position. The new spool wax wire is suitable for pressable ceramics. The wire will be offered in 6 sizes and become available in early 2011. **For information and samples call toll free at 1-800-250-5111.**

Featured Product: Bredent's Friction Fit System

Friction Fit is a two component resin which can be used to increase retention on telescopic crowns or implant bar overdenture restorations. The system provides a more favourable coefficient of friction compared to a strictly pure metal to metal fit. Increased resistance to wear means that the restoration will last a long time.

Kit contains: 1 x 2.5 g friction resin component A, 1 x 2.5 g friction resin component B, 1 x 2.5 ml FGP bonding agent, 1 x 3.0 ml FGP insulating agent, 1 spatula, 5 brushes, 1 brush holder B. **For more information call us at 1-800-250-5111**



Bredent's Friction Fit System

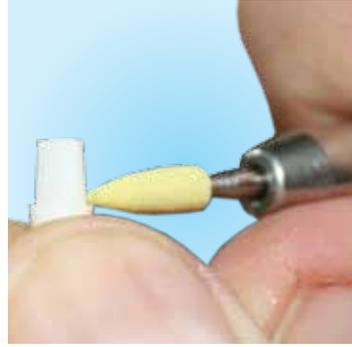
Grind Zirconia with Bredent's New Coarser Grit Diagen cont'd...



Two new green diagen shapes cylinder point and cylinder round.



Faster removal of zirconia with the new cone shape yellow diagen.



The coarser diamond grit increases the service life by 20% with the new pointed cylinder.



Reduce surface roughness using the new cylinder yellow diagen and other new shapes.

The yellow coloured coarser diamond grinders offer increased abrasive capability so that faster removal of zirconia material can be achieved when processing zirconia restorations. The coarser diamond grit increases the overall life of the New Diagen Turbo Grinders by 20% compared to the original green Turbo Grinders. They can be used on ceramic veneering for CAD/CAM zirconium frame works and because of the cooling properties they are particularly suitable for surface treatment of Empress, IPS emax, Vita PM9 and all types of pressible ceramics. Bredent has also introduced two new green Diagen Turbos in a cylinder round and cylinder pointed. The cylinder pointed enables the dental technologist to immediately start trimming interdental areas. The round cylinder is ideal for finishing collars and chamfers. Theoretical analysis indicates that diamond cutting depth and surface roughness depend on the diagen's rotating and moving speed, diamond cutting edge and cutting angle. Slow speeds lead to greater efficiency when grinding zirconia since the material is removed gradually, rather than with aggressive force which would damage the material and the porcelain receiving surface. Results show that super smooth ground surfaces can be obtained by decreasing the diagen's moving speed over the surface while keeping rotational speed low as well. Excessive grinding can cause a crystalline transformation of zirconia that can compromise the strength of the substructure adversely altering the co-efficient of thermal expansion at the bond interface. Before porcelain application, the surface of zirconia must be prepared properly because the adhesion of porcelain to the sub frame or copings is vital. An improperly prepared interface between porcelain and zirconia will become catastrophic. These two materials are not identical and are not in fact

comparable materials and for that reason zirconia needs a defined working procedure. There are differences in zirconia ceramics that can happen with the level of purity, such as the grain size trace elements and stabilizing compounds which affect the consistency of its formulation. Batch to batch can vary and effect the shrinkage factor during sintering and eventually could destabilize the co-efficiency of thermal expansion (CTE). These factors can eventually manipulate the fit and the strength of the restoration and the thermal stability of the porcelain which will be placed over its surface. The interface conditioning created by the diagen on the zirconia should be more than adequate to enhance the outer surface contact with the applied porcelain. However, be cautious that too many deep irregular grooves could trap air gasses and impurities which may contaminate the porcelain or eventually vent through during the next firing cycle, thus destroying the work. The Diagen Turbo removes large irregularities and troughs and prepares the zirconia for pressed or porcelain application. The proper surface condition of zirconia is not easy to examine visually however if the interface preparation has been thorough the surface will guarantee the most advantageous bond with the final ceramic treatment. Diagens are also very useful for zirconia implant abutments. Leading manufacturers recommend diagens for shaping their zirconia blanks which allows versatile modifications. This means it is possible to produce all angulations between 0° and 25° using bredent diagen turbos. In conclusion, the characteristics of the green diagen turbos, made of synthetic diamonds, are less aggressive than the new yellow diagens since they are made of natural diamonds. Depending on the application, one now has a choice between both these excellent grinders!

Source Peter T. Pontsa RDT.



Produce uniform surface structure when preparing for ceramic veneering.



The large cylinder reduces the amount of work when customizing.



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Can Botox be a Remedy for TMJ Treatment? cont'd...

and skill in the techniques of injections will reduce the risk of unwanted complications.

Source Peter. T. Pontsa, RDT

References:

Majid, O.W. Clinical use of Botulinum toxins in Oral and Maxillfacial surgery; Vol 39 Issue 3 pages 197-207 Dec. 2009

Jankovic J., Brin MF., Therapeutic uses of botulinum toxin. New English Journal, Med 1991;324:1186-94 Medline.

Janovic J, Schwartz K, Donovan DT, Botulinum toxin treatment of cranial-cervical dystonia spasmodic dysphonia, other facial dsytonias and hemifacial spasm.

J.Neurol, Neurosurg. psychiatry 1990;53(8):633-9

Jankovic J. Brin MF, Botulinum toxin: historical perspective and potential new indications. Muscle nerve Suppl. 1997;6:S129

Brin MF, Botulinum toxin: chemistry, pharmacology, toxicity and immunology. Muscle Nerve Suppl 1997;6:S146-68

Ivanhoe CB, Lai JM Francisco GE. Bruxism after Brain Surgery: Successful treatment with botulinum toxin A. Arch Phys Med Rehabil. 1997;78(11):1273-3

Van Zandijcke M. Marchau MM Treatment of Bruxism with Botulinum toxin injections. J.Neurol Neurosurg Psychiatry 1990;53:530.

Announcements: Our Upcoming 20th Birthday Specials in March!

We at Dent-line are pleased to announce that we have been servicing the dental profession in Canada for twenty years and will be celebrating the whole month of March with giveaways, prizes

and special pricing on many products. Flyers will be announcing the specials and giveaways so don't forget to watch your mail for our flyers and participate often!

Announcements: Donation to George Brown College

Dent-Line is very please to announce a very special occasion which happened on November 25, 2010 at George Brown College. Peter T. Pontsa, RDT and Angela van Breemen, BA from Dent-line of Canada with the help of Renfert USA donated a Renfert Vortex Dust Extractor to the Dental Technology Program. The Vortex is a new generation dust extractor with a 99.9% extraction level. Also Peter and Angela donated \$400.00 to the Nine Miles of Smiles, Health Care Volunteer Organization. As part of this noble program, the Dental Technology students provide free dentures to the under privileged people in Jamaica. The donations help with accommodations, flights and food. If you want to help with this noble cause, please contact Carrie Co-Dyre, RDT of GBC Dental Technology Department at 416-415-5000

ext. 4576 or e-mail to ccodyre@georgebrown.ca.



George Brown College students welcomed Peter and Angela to their third year class. Bernie Mullen, RDT accepted the gift of the Vortex Dust Extractor on behalf of the College.

Trade Show News:

The tradeshow season starts off with the 37th Annual **Technorama** - Canada's largest Dental Technology and Denturism Convention. This year the location has changed to the Hilton Suites Toronto Conference Spa hotel in Markham. The convention commences **Friday April 8th through to Saturday April 9th**. Dent-line of Canada will be sponsoring a seminar called "Sleep Apnea, Recognition, Diagnoses and Treatment." presented by Peter T. Pontsa, RDT. Be sure to attend the wine and cheese party and visit our booth for the latest in materials and products. **Spectrum Pacific** invites you to Techno-Clinical Day 2011. This is the 7th Annual Meeting and it will be held in Vancouver BC on **March 12, 2011** at the Vancouver Convention Centre, located at 999 Canada Place. Seminars commence at 8:30AM to 4:30PM. Exhibitors will be pleased to welcome you to their booths. Peter T. Pontsa, RDT will be speaking between 1:25PM to 2:15PM on the topic of Sleep Apnea which is

quickly becoming an area of significance.

Dent Tech West's 2011 Annual Convention will take place **Friday April 14th and Saturday April 15th** at the Coast Edmonton Plaza Hotel at 10155-105 St. in Edmonton. There will be a cocktail reception in the exhibit hall on Friday April 14th and seminars on various subjects. Dent-line of Canada will sponsor Peter T. Pontsa, RDT as he speaks on Sleep Apnea and the Recognition, Diagnosis and Treatment modalities of this serious disease. Please join us at our booth for the latest in innovative products. Dent-line of Canada will be in attendance at **Journée Dentaire du Québec**. The convention will take place **Monday May 30th and Tuesday May 31st, 2011** at the Palais des Congres de Montreal. Again Dent-line of Canada will sponsor the seminar on Sleep Apnea, Recognition, Diagnosis and Treatment with Sleep Plus, a mandibular advancement device. It will be presented by Peter T. Pontsa, RDT. Please join us for an interesting venue.