

Dental

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TEAMWORK



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Vol. 6, No. 2 - Summer/Été 2013

Early Orthodontic Treatment/
Traitement orthodontique précoce

Unsuccessful Mandibular Blocks and the "Hot Tooth"/
Échec de l'anesthésie tronculaire et la dent « chaude »

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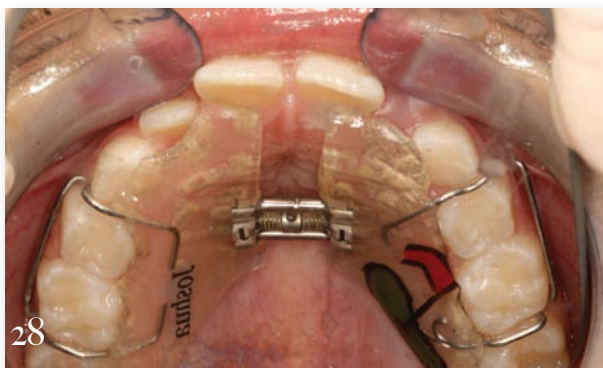
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We Need to Talk

Dr. Hubert Gaucher



Dr. Hubert Gaucher

We tend to pay attention to political or financial pundits who make recommendations based on their expert analyses. We give credence to what they have to say because our life and future welfare could depend on their predictions. Even though we realize that some of them might very well be wrong, we keep our radars operational...just in case their theories hold water.

And we encounter prognosticators in other fields as well, including Dentistry. We really ought to listen to them closely too, because the future of our profession is at stake. Have a look at the recent FDI Vision 2020 article titled "Shaping the future of oral health"¹ and tell me what you think.

In my opinion, it is a well structured, timely piece that proposes dentists "Think globally and act locally". Its conclusions represent the fusion of Academia, Research, Education, General Dentistry, Government and Industry; they are intended to be aspirational and inspirational, but not operational. As with many visionary outlooks, the document sheds light on our challenges, viewing them, not as problems, but as opportunities – chances to be creative, to brainstorm and think outside of the box.

As practitioners of oral healthcare, we've all experienced vacillations in our comfort zones what with the ongoing evolution of technologies and techniques.

Recognizing our inconsistencies is the first step toward advancement. We are not alone! And we need no longer function within the vacuum of our self-imposed isolation.

Expanding the role of dentists based on a responsive educational model ¹:

WHO (World Health Organization) has called for the integration of oral health in chronic disease prevention programs and the United Nations have declared that oral health cannot be dissociated from other health issues: "Oral health shares common risk factors with other non-communicable diseases (NCDs) and a new

type of oral health workers will reshape and expand the role of oral healthcare professionals." However, the report goes on to clarify, "...there is a growing disconnect between dental and medical education, despite oral health now being widely recognized as an important part of general health."

In practical terms, what does this require of the dentist? One obvious task would be to monitor for NCDs within the framework of an integrated healthcare model. To this end, dental curricula should be stressing such skills as public health, analytical, managerial and interprofessional collaborations. Furthermore, evidence based oral healthcare models need to be developed in order to measure the results of far reaching care accessibility.

Increase fundamental and translational research and technology ¹:

Vision 2020 admits that there are certain stumbling blocks in implementing research findings into our daily practice. But "...by working cooperatively, there is also an opportunity to define a consensus research agenda and broad research priorities." We need to pull our weight and to pull together. But first, we need to talk.

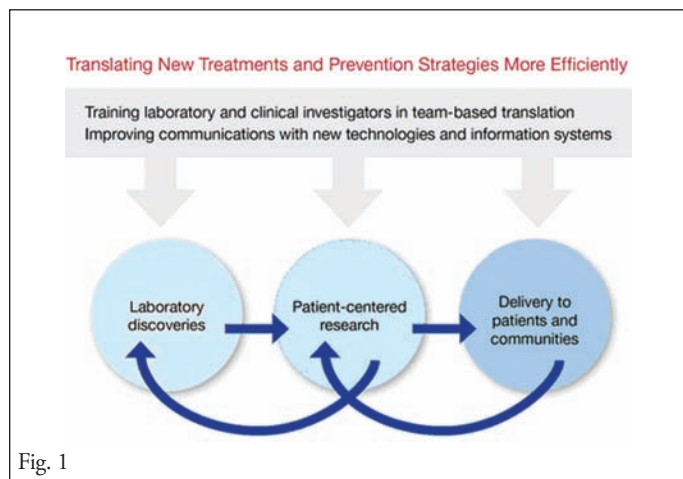
Let's foster upstream prevention and not just downstream treatment. After all, who, if not the practitioner using the materials and technologies, is better placed to assess them? Let's keep that in mind when we try out the latest products. We need to be pro-active and implement research into our daily practice, in order to shorten the delay between the introduction of a product on the market and its mainstreaming into our operatory. In so doing, we end up contributing to a broad database that will educate our colleagues. As things now stand, to quote a line from Cool Hand Luke: "What we've got here is a failure to communicate." Among other things, we need to create the paradigm to amass research results from our own practices and share them with all other pertinent entities.

"Translational research requires that information

and data flow from hospitals, clinics and study participants in an organized and structured format, to repositories and laboratories.”²

Translational...now there's a word you don't hear every day!

“With support of the National Institute of Health (NIH), the Clinical and Translational Science Award (CTSA) program was launched in 2006 and has expanded to about 60 academic medical institutions across the US.”³



So how does it work?

“CTSA-funded institutions aim to accelerate scientific discovery along the entire biomedical research continuum, from basic science to patient studies to clinical practice, using an integrated approach. Information sharing at each stage of the process ensures that researchers are meeting community health needs, and that progress in the clinic, in turn, informs the work in the laboratory.” (Figure No 1)³

“NIH’s National Institute of Dental and Craniofacial Research, NIDCR, recommends that teaming basic scientists with clinical and community-based researchers could benefit from the work of both groups. Also, the development of practitioner networks was recommended to contribute to the expanded conduct of clinical studies and ultimately to enhance science transfer.”⁴

Not so long ago, our Journal ran an editorial on Dental Practice Based Research, encapsulating that dental networks are leading our profession in the implementation of Evidence Based Dentistry.⁵ Here’s another source that also calls for patient-oriented research using inter-disciplinary collaborative models. It states unequivocally that “...the future of prosthodontics rests on its investment in research and development.”⁶

Let me get the ball rolling and suggest a few opportune issues to tackle:

- 1) Revenue Canada should recognize peer reviewed Dental Practice Based Research for R&D tax credits. Dentistry has allowed various bureaucracies to restrict the necessary funding to generate quality Evidence Based clinical data. That needs to change. Structured translational research must not only be set up, but recognized and supported by government, as an incentive for dentists, who are, after all, the actual leaders of the dental healthcare team.
- 2) Enforce a mandatory apprenticeship of dental professionals that would include the curriculum content described in Vision 2020. This initiative would add to the manpower base required to broaden patient accessibility to dental treatments.^{7,8}
- 3) Step out of our comfort zone and rally for the sake of credibility. Given, for instance, that the over 4,000 strong Quebec Dental Association hasn’t been a member of the Canadian Dental Association for decades, it is high time we all joined forces for the greater good.

The above constitute a small portion of the issues we need to address and discuss. Your own comments and suggestions on “Shaping the Future of Oral Health” are crucial and can be presented on the Journal’s blog at www.cardp.ca

We need to talk.

Hubert Gaucher MD

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8. CJRDP Editorial, Vol. 5, No. 4, Winter, 2012

Il faut se parler

Dr. Hubert Gaucher



Dr. Hubert Gaucher

Nous avons tendance à écouter les experts qui font des recommandations basées sur leurs analyses du milieu politique ou financier et nous voudrions bien leur faire confiance puisque notre vie et notre bien-être futur pourraient en dépendre. Même si nous doutons de la validité de certaines prédictions, nous leur tendons quand même l'oreille...dans le cas où leurs théories contiendraient des particules de vérité.

D'autres domaines aussi vantent leurs pronostiqueurs, y compris la dentisterie. Nous devrions leur porter une attention toute particulière car l'avenir de notre profession est en jeu. Prenez le temps de consulter le récent article FDI Vision 2020 intitulé "Modeler l'avenir de la santé buccale" ¹ et dites-moi ce que vous en pensez.

Selon moi, l'article est bien structuré, et très actuel. Il nous propose de «Penser globalement et d'agir localement». En d'autres mots, d'adapter nos solutions à nos besoins spécifiques. Les conclusions de l'article, résultats de la fusion des mondes académique, gouvernemental, industriel, de la recherche, et de la dentisterie générale, visent nos aspirations et nos inspirations, sans pour autant suggérer des modèles d'opérations. Comme dans bien d'autres perspectives visionnaires, ce document anticipe nos défis, les traitant non pas comme des problèmes, mais bien comme des opportunités – des occasions de formuler et d'échanger nos idées créatives.

En tant que praticiens de la santé buccale, nous avons tous, à des moments donnés, été déstabilisés par les soubresauts de certaines technologies et techniques. Notre premier geste donc, est de reconnaître ces inconstances. Et puis consolez-vous! Vous n'êtes pas seuls, et vous n'êtes pas tenus de travailler de façon isolée, dans une bulle hermétique.

L'expansion du rôle des dentistes selon un modèle d'éducation souple: ¹

L'OMS (Organisation mondiale de la santé) préconise l'intégration de la santé buccale dans les programmes de prévention des maladies chroniques et les Nations-Unies ont déclaré que la santé buccale ne peut être dissociée des autres problèmes de santé: «La santé orale partage les risques associés aux autres maladies non-transmissibles

(MNT) et de nouveaux types de travailleurs de la santé buccale seront appelés à reconfigurer et élargir le rôle des professionnels bucco-dentaires.» Hélas, le rapport précise, «...il existe un gouffre croissant entre l'éducation dentaire et l'éducation médicale, malgré l'apport important de la santé orale dans la santé générale».

En termes pratiques, qu'est-ce que cela implique pour le dentiste? L'une des tâches évidentes serait le suivi assidu des MNTs dans un contexte de modèle de santé intégré. À ces fins, le curriculum dentaire se doit d'accentuer les habiletés en matière de santé publique, d'analyse, de gestion et de collaborations inter-professionnelles. De plus, des modèles de santé buccale basés sur les faits doivent être développés afin d'évaluer les résultats favorisant le plus grand accès aux traitements des patients.

Augmenter la recherche et la technologie fondamentales et de translation: ¹

Vision 2020 avoue qu'il y a parfois des obstacles à la mise à exécution de certains résultats de recherche dans la pratique quotidienne. Mais «...en collaborant, nous pouvons arriver à un consensus sur les grandes lignes et les priorités de la recherche.» Pour ce faire, on doit avancer dans la même direction, mais avant tout, on doit se parler.

Commençons par favoriser la prévention en amont et non seulement les traitements en aval. Et par la suite, qui est le mieux placé pour évaluer les matériaux et technologies, si ce n'est le praticien qui les utilise? Alors, lorsque nous essayons les nouveautés, souvenons-nous que notre rétroaction est vitale. En étant pro-actifs et en incorporant ce genre de 'recherche' dans nos pratiques, nous contribuons à réduire le délai entre l'introduction d'un produit sur le marché et son utilisation courante en pratique. De ce fait, nous cotisons à une importante base de données servant à informer nos collègues. À l'heure actuelle, pour citer une phrase dans le film Cool Hand Luke: «Ce que nous avons ici c'est un manque de communication.» Il nous faut créer un paradigme nous permettant de recueillir les résultats provenant de nos propres pratiques pour ensuite les partager avec toutes les entités pertinentes.

«La recherche de translation veut que l'information et les données circulent à partir des hôpitaux, des cliniques et des participants aux études, de manière ordonnée, dans un format structuré, pour arriver à différents répertoires et laboratoires.»²

La translation...voilà un mot qu'on n'entend pas souvent! Il s'agit du transfert de quelque chose d'un lieu à un autre.

«Avec le support du National Institute of Health (NIH), le Clinical and Translational Science Award (CTSA) fut lancé en 2006 et a pris de l'expansion pour englober approximativement 60 institutions médicales d'enseignement aux É.U.»³

Ces institutions ont pour objectif d'accélérer les découvertes scientifiques tout le long du continuum intégré de la recherche biomédicale, qu'il s'agisse de la science de base ou d'études cliniques sur patients ou encore de la pratique clinique.

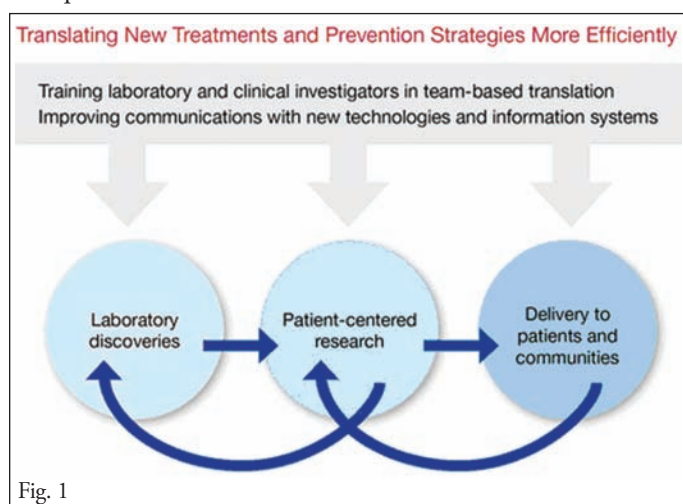


Fig. 1

«Le partage de l'information qui découle de tous les niveaux du processus garantit que les chercheurs rencontrent les besoins de la communauté en matière de santé et que les progrès en clinique, à leur tour, supportent le travail en laboratoire.» (Figure No 1)³

«Le National Institute of Dental and Craniofacial Research, NIDCR, sous la direction du NIH, recommande de former des équipes scientifiques composées des sciences fondamentales couplées à la recherche clinique et communautaire pour le plus grand bénéfice de toutes les instances impliquées. De plus, le développement de réseaux de praticiens est préconisé afin de contribuer à la multiplication d'études cliniques, et, ultimement, au décuplement des transferts scientifiques.»⁴

Un récent éditorial dans notre Journal portait sur la recherche dentaire en pratique, résumant que plusieurs réseaux dentaires de fine pointe établissent maintenant une dentisterie basée sur les faits.⁵ Voici donc une autre source de recherche, centrée sur le patient, qui emploie des modèles de collaborations inter-disciplinaires. En particulier, «...l'avenir de la Prosthodontie dépend de son engagement dans le R&D.»⁶

Laissez-moi mener le branle en proposant quelques suggestions:

- 1) Revenu Canada devrait reconnaître l'apport de la R&D en pratique dentaire et émettre des crédits d'impôt lorsque la recherche est revue par des pairs. Notre profession a permis aux bureaucraties gouvernementales de limiter avec austérité le financement de la recherche clinique supérieure, celle basée sur les faits objectifs. Or, la structuration de la recherche de translation doit non seulement être implantée, elle doit aussi, comme incitatif pour le dentiste en pratique, être reconnue et supportée par l'État. Après tout, c'est le dentiste qui dirige l'équipe de la santé bucco-dentaire, n'est-ce pas?
- 2) Mettre en place des stages professionnels obligatoires chez les dentistes reçus, pour les préparer à faire leur recherche basée sur les faits, tout en incorporant les contenus du curriculum décrit dans Vision 2020.^{7,8}
- 3) Faisons valoir notre crédibilité en sortant de notre zone de confort et faisons front commun. Par exemple, les 4 000 membres de l'Association des dentistes du Québec ne sont pas représentés au sein de l'Association dentaire canadienne depuis plusieurs décennies. Il est grand temps que nous joignons nos forces pour le plus grand bien de tous.

Ces impulsions, vivement ressenties, ne représentent qu'une petite portion des points qui doivent être soulevés et discutés. Vos propres commentaires et recommandations concernant l'avenir de la santé buccale sont indispensables à l'essor de notre profession et peuvent être inscrits sur le blogue de notre Journal à www.cardp.ca

Entamons ensemble ce premier pas essentiel, avant de nous lancer dans la restructuration.

Il faut se parler.

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Dr. Katya Archambault's “5 Things I can't live without”



Dr. Katya Archambault

About the author

Dr. Katya Archambault graduated from Laval University in 1995 and wrote her National Dental Board Examination Certification in the USA. She maintains a private practice in Warwick, Quebec and also practices in Washington DC concentrating in the field of soft tissue management, bone grafting, regeneration, and Implantology. She recently completed a postdoctoral residence program in implant dentistry at New York University, College of Dentistry. She also teaches at the Queen Elizabeth Hospital in Montreal to post graduate residents. She is the head of the Department of dental surgery at Arthabaska Hospital and has an extensive educational background in Periodontics, prosthodontics, gum surgery, TMJ disorders, Implantology and oral-facial design. She completed a master degree in craniofacial disorders and TMJ problems at Dana University in Austria. Dr Archambault is a member of the Academy of Osteointegration, International Congress or Oral Implantology and of International Association of Orthodontics.



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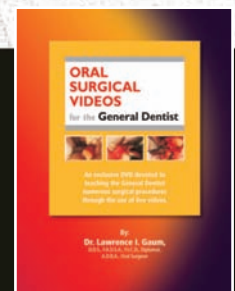
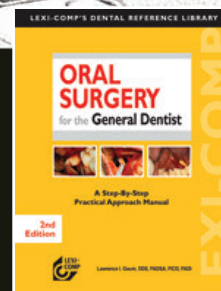
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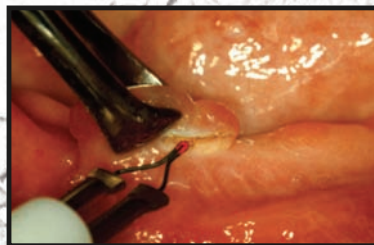
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... Dr. Ash Varma



Dr. Ash Varma

- Current President CARDP
- Graduated UBC Dentistry -1983
- President of BC College 2008-2010
- Current Chair of Quality Assurance Committee BC
- Fellowships- Pierre Fauchard Academy, American
- College of Dentists, International College of Dentists, and Academy of Dentistry International.

Q: Why did you chose to be a dentist?

A: My father was a dentist and I saw what he did and his passion for his profession. I was always intrigued with the biological sciences, so dentistry seemed a natural fit. It has turned out to be the best possible career choice for me.

Q: What are the best and worst aspects?

A: Working with the public and having the opportunity to help them achieve optimal dental health. Working up and completing the kind of dental treatment that affects their lives. The tears of joy that a patient has when we deliver a significant case gives meaning to what we do. Trying to maintain a dentition in someone who just does not care, and does not appreciate your efforts.

Q: Where do you live?

A: In Powell River, BC, a beautiful seaside community on the Sunshine Coast. It is a lovely city about 100 km north of Vancouver.

Q: What do you drive?

A: A Chevy Silverado, it comes in handy when I need to tow my boats to the lake or ocean.

Q: What drives you?

A: I know it sounds corny, but to be the best I can be, at whatever I choose to do.

Q: What is your favourite food?

A: I don't really have just one type of food. I love good food and enjoy sharing it with good friends. We are fortunate to live close enough to Vancouver to enjoy the many fantastic restaurants there. Our favourite there is the Yew.

Q: Favourite music?

A: My wife has very diverse and eclectic taste in music, she finds some incredible stuff and we tend to listen to a wide range.

Q: What is your favourite movie?

A: A tough choice as my tastes are varied. The Guns of Navarone is a classic, as is Ben Hur, but I also enjoyed The Man from Snowy River. My roommates, in College, and I saw it by default as the movie we wanted was sold out, but we all loved that film.

Q: Who do you admire?

A: That is easy, my parents, for having the courage and foresight to leave an established lifestyle in Africa and emigrate to Canada where they knew no one, so that their children would have better opportunities. My brother is a prosthodontist who practises in Washington State, and my sister has a masters in nursing and is an educator. I think it is safe to say that they accomplished their goals.

Q: What keeps you awake at night?

A: Not much, much to my dear wife's chagrin.

Q: What makes you happy or makes you laugh?

A: Another corny answer but totally true, being with my family and friends makes me very happy. Sitting with my wife on our deck drinking tea on a sunny Saturday morning watching the wildlife in our yard, just does not get any better. I have a small close group of high school friends with whom I get together. When we are together we laugh so hard there are tears streaming down our faces. We are more like brothers than friends.

Q: What is your characteristic?

A: I think that I am passionate. Whatever I get involved with I give it my all.

Q: Worst fault?

A: I expect others to be as committed as I am.

Q: Describe yourself in three words?

A: Loyal, passionate, competitive

Q: What do you do to relax?

A: Working in our yard, going to the gym, cooking, fishing, spending time with our kids and traveling.

Q: If you won the lottery would you give up work?

A: Easy answer, NO! I love what I do, so would still continue working but only work Tuesday to Thursday, and take a bit more time off to travel and do some volunteer dental treatment in needy countries.

Q: If you were not a dentist what would you have wanted to be?

A: I would like to have been a fishing guide or a professional skipper.

Q: What is your motto in life?

A: Live life well, with no regrets. DTW

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Nature-Inspired Advance for Treating Sensitive Teeth

Taking inspiration from Mother Nature, scientists are reporting an advance toward preventing the tooth sensitivity that affects millions of people around the world. Their report on development of the substance, similar to the adhesive that mussels use to attach to rocks and other surfaces in water, appears in the journal *ACS Applied Materials & Interfaces*.

Quan-Li Li, Chun Hung Chu and colleagues explain that about 3 out of every 4 people have teeth that are sensitive to hot, cold, sweet or sour foods and drinks. It occurs when the hard outer enamel layer on teeth and the softer underlying dentin wear away, stimulating the nerves inside. Some sugar-free gums and special toothpastes can help reduce that tooth hyper-sensitivity. However, Li and Chu cite the need for substances that rebuild both enamel and dentin at the same time. To meet that challenge, they turned to a sticky material similar to the adhesive that mussels use to adhere to surfaces. They reasoned that it could help keep minerals in contact with dentin long enough for the rebuilding process to occur.

They describe laboratory tests that involved bathing human teeth with worn-away enamel and dentin in liquid containing the sticky material and minerals. Teeth bathed in the sticky material and minerals reformed dentin and enamel. However, teeth bathed



just in minerals reformed only enamel. The gooey substance "may be a simple universal technique to induce enamel and dentin remineralization simultaneously," they concluded.

The authors acknowledge funding from NSFC RGC grant, the Outstanding Youth Fund from the Board of Education of Anhui Province and the Youth Foundation of the Anhui Provincial Natural Science Foundation.

Story Source:

The above story is reprinted from materials provided by American Chemical Society.

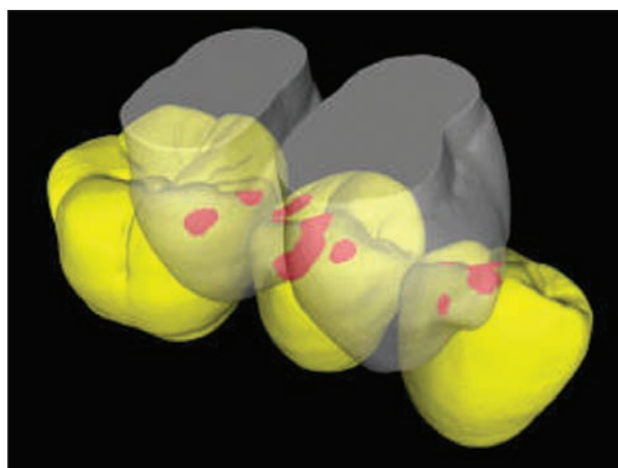
Note: Materials may be edited for content and length. For further information, please contact the source cited above.

Journal Reference:

1. Yun-Zhi Zhou, Ying Cao, Wei Liu, Chun Hung Chu, Quan-Li Li. Polydopamine-Induced Tooth Remineralization. *ACS Applied Materials & Interfaces*, 2012; 4 (12): 6901 DOI: 10.1021/am302041b

Material Loss Protects Teeth Against Fatigue Failure

Scientists of the Max Planck Institute for Evolutionary Anthropology in Leipzig and the Senckenberg Research Institute in Frankfurt together with dental technicians have digitally analysed modern human teeth using an engineering approach, finite element method, to evaluate the biomechanical behaviour of teeth under realistic loading. They report results, showing that very widespread loss of dental material (enamel and





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dentine) at the base of the crown might be linked to the reduction of tooth wear in our industrialised societies.

The study is published today in the online journal PLoS ONE.

Our teeth are important and expensive for us. In this respect aesthetic aspects are of major interest. A healthy dentition should show shiny white tooth crowns and possibly no occlusal wear. The evolutionary history of our dentition teaches us something different: natural tooth wear as an inevitable consequence of chewing food and habitat accompanying human evolution since ancient times.

“In our industrialised societies we find an increase in dental cervical defects”, explains Ottmar Kullmer of the Senckenberg Research Institute: “Based on the results of our simulations of chewing loads, we assume that much of the enamel failure we find today frequently in tooth crowns is probably caused by cyclic tensile stresses during chewing.”

The researchers used methods from engineering science (Finite Element Analysis, FEA), after applying a new Software tool (Occlusal Fingerprint Analyser) developed in the Senckenberg Research Institute to precisely determine tooth to tooth contacts. “The computer simulation of chewing forces creates high tensile stresses exactly in the cervical areas where we

frequently find tooth lesions in our teeth”, reconsiders Stefano Benazzi of the Max Planck Institute for Evolutionary Anthropology in Leipzig, who carried out the Finite Element Analysis. To investigate changes in the stress pattern in the same tooth crowns with varying tooth wear ages, two premolars were artificially abraded in the laboratory, based on their individual data of occlusal movement. So, it was possible to calculate the changes in the stress pattern, depending on the wear stage.

The stress in the teeth with advanced wear shows a far better distribution of the loads over the whole tooth crown, so that the tensile stresses will be remarkably reduced. “Evolutionary factors have apparently led to a quite successful compromise between material loss and longest possible preservation of function”, says Benazzi. The extension of the lifespan and the quick changes in our lifestyle with a remarkable reduction in tooth wear present a major challenge for modern dentistry, say the scientists.

Story Source:

The above story is reprinted from materials provided by Senckenberg Research Institute and Natural History Museum.

Note: Materials may be edited for content and length. For further information, please contact the source cited above.

Journal Reference:

1. Stefano Benazzi, Huynh Nhu Nguyen, Dieter Schulz, Ian R. Grosse, Giorgio Gruppioni, Jean-Jacques Hublin, Ottmar Kullmer. The Evolutionary Paradox of Tooth Wear: Simply Destruction or Inevitable Adaptation? PLoS ONE, 2013; 8 (4): e62263 DOI: 10.1371/journal.pone.0062263





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Course Outline

DAY 1

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- Patient Identification
- Medical History
- Diagnosis and Treatment Planning
- Surgical Protocol and Technique
- Surgical Components
- Post Operative protocols

Day 2

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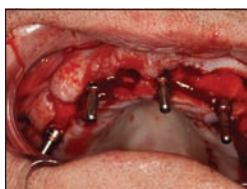
- Live Surgery and retrofit

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- Surgical Review and Retrofit Review
- LAB: Surgical Phase and Retrofit Phase
- Review of both Days

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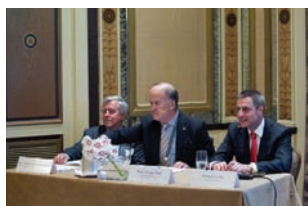
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Nobel Biocare announces new digital workflow and new regenerative product at Global Symposium in New York



Nobel Biocare welcome more than 2,000 attendees to the famous Waldorf Astoria in New York for the exclusive and sold-out Nobel Biocare Global Symposium 2013. Between June 20 and 23, well over a hundred world-renowned researchers, scientists, clinicians and academics took the stage to share their insights and perspectives on how to treat more patients better. The exciting program, prominent guests and historic location made it an ideal platform for announcing Nobel Biocare's new digital workflow, new regenerative product and the inauguration of the Foundation for Oral Rehabilitation (FOR).

"We are making continued improvements in efficiency and at the same time we continue to invest significantly in our future," according to Richard Laube, Nobel Biocare CEO. "Our Nobel Biocare Global Symposium in New York is one of these investments and sold out months ago. The establishment of the Foundation for Oral Rehabilitation (FOR) is another clear example, as well as our efforts in innovation with the launching of our exciting new products and solutions."

Congratulations!!



Dr. Allen Aptekar



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Congratulations to Dr. Ali Afshar and Dr. Bill Holden and Dr. Allen Aptekar on receiving their Diplomate of the American Board of Oral Implantology.

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BioHorizon Global Symposium 2013 - Solutions to Clinical Controversies



The BioHorizon's Global Symposium 2013 was held in Miami Beach, FL held on April 25-27, 2013. The symposium brought together over 1,400 dental professionals from 55 countries to the prestigious Fontainebleau Hotel. Thirty-eight clinicians presented throughout a three day program that featured concurrent surgical and restorative tracks, hands-on training and faculty-moderated discussion panels. The program was led by internationally-recognized opinion leaders who addressed a range of topics including immediate placement and loading, implant complications, treatment planning and tissue regeneration.

R. Steven Boggan, President and CEO of BioHorizons stated, "This was the most comprehensive agenda in our history. The Global Symposium incorporated research and practical perspectives from top clinicians around the world. They described the latest technologies and techniques for resolving challenging issues within implant dentistry. With technology evolving so rapidly, it's important that clinicians base their decisions on evidence-based solutions, not industry rhetoric."



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ASK THE EXPERTS

Implementing a Bonus Program

Q: Over the past few months, my employees have been asking me to implement a bonus program in our practice. What is the best way to do this?

Nadean Burkett answers:

A: We aren't talking about annual bonus – i.e. Christmas or other holiday/vacation/special event bonus. For clarification, we prefer the term “incentive” program. There are two types of incentive programs – team and individual. You may want to use one or both of these at various cycles in a practice. The biggest mistake that most dental practices make in creating and implementing these programs for team members is focusing solely on financial goals, whether production (billings), gross revenue (collected billings), or other monetary target. Using one or combination of these focus attention on the result of efforts and activities may be easier to monitor for the dentist but are also more easily manipulated and may be misleading as indicators of practice performance. It also confirms that money is the most important performance indicator to you. We will focus on the team incentive program in this response.

These are the fundamentals for creating a sustainable, mutually beneficial incentive program in any business, including your dental practice:

1. Relevant – set targets that meet your team/practice goals based on your key performance indicators and establish transparent monitoring systems so that everyone can track progress. For example: if your goal is to increase new patient enrolment, you will need to track referrals/inquiries + new patient examination + enrolment in your recall program.

You may also benefit from tracking patients who are one-time visitors so that you can calculate your “capture” and “escape” rates.

2. Ambitious – the purpose of an incentive program is to reward successful achievement within a challenging environment. The best results come when everyone shares a common goal, so encourage team work!
3. Attainable – Although you want the target(s) to be ambitious, if they can't be achieved, or your team members don't understand how the program works because it is too complicated it will be a disincentive.
4. Realistic – Ensure that whatever rewards you promise fit your budget (ability to pay) and that they are meaningful to the recipients! Remember, it may not be just about money.

New Practice Start-Up

Q: I have retained the services of a practice coach in the past and had positive results. How do I ensure that team members will continue to adhere to the processes and systems that were implemented?

Dale Tucci explains:

A: This is certainly one question I hear on a regular basis. Whether the dental professional is considering practice management services or is currently involved in a practice enhancement process, it's a concern that is top of mind for the dentist, team members and practice coach.



Nadean Burkett is a career and business transition coach with more than 30 years experience in the dental profession – now assisting

accountants and other professionals in private practice by referral. Trusted practice evaluator, business planner and respected coach and advisor for the past 10 years - Nadean facilitates The EMPOWERMENT Program series, Career & Practice Management for Dentists both online and from NBAI's head office situated in beautiful Vancouver, British Columbia. Visit www.mypacticematters.com email nadean@mypacticematters.com for listings, job postings, & more resources with your practice transition coach.




Dale Tucci is owner and president of Tucci Management Consultants Inc. Dale and her team offers a wide

variety of custom practice management solutions, transition planning, business coaching, associate recruiting, marketing and human resource services. You can reach Dale Tucci directly at 416.450.8769 or via email at: dale.tuccimgmt@gmail.com www.daletucci.com



Ray Goodman is the senior partner of Goodman Legal, Lawyers for Dentists, specialist dental solicitors.

Based in Liverpool, he and his team specialise in the sale and purchase of dental practices and ancillary matters. Using the latest in information technology and case management systems, he and his team operate on a national basis. He is member of NASDAL (National Association of Specialist Dental Accountants and Lawyers) and chairman of the Lawyers Group and on the BDA panel of dental lawyers. www.goodmanlegal.co.uk



“Dale Tucci found a great candidate who purchased my half of the partnership and the team aided me in selling shares with the lifetime capital gain exemption. I highly recommend this presentation to dentists at all stages of their careers.”

- Dr. Gerry Ross, General Practice, Tottenham, Ontario

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ASK THE EXPERTS

We believe one of the most effective ways to support team member adherence to improved systems begins with you, the owner! Take the lead by being actively involved when practice enhancement strategies are being implemented. Our consulting approach keeps the business owner in the decision making role and in constant communication with the practice coaches and team members. As a result, the practice owner remains knowledgeable about new systems and processes as they develop throughout the project.

As a consulting engagement begins, there are a few areas that need to be addressed. This is the time to clarify and communicate the practice consulting objectives. This is also the time to define realistic expectations and prepare to meet with team members to discuss practice and individual team performance. Regular communication between leader and team concerning new skills and practice outcomes is the main message here. The practice leader who would rather distance themselves from the improvement process or from their team can expect to witness a negative impact on team adherence to improved systems and processes.

Implementing new systems is only half of the picture. You obviously want to see those systems continuing to be utilized. Enter the Office Manual; this is an essential too, as it is created to document the systems. Creating a manual is really not as daunting a task as it sounds. It simply calls for team members to document their training as they participate. The next step sees all team training notes then forwarded to the practice consultant who will edit and return them to the practice where they can go on to be featured in the office manual.

Having team members record their own training notes also reveals the level of detail they are able to retain. Just as important, there is an invaluable team building component that can emerge from this exercise. As the manual is being built, members develop a sense of pride of ownership for their personal contributions to the material, a wonderful benefit for not only team members, but also the morale of your practice.

The next strategy to employ is the establishment of practice KPIs. KPIs or Key Performance Indicators are benchmarks of performance that are measured and reported monthly. Defining performance targets for the practice, team members and system performance provides a practical tool for evaluating results. If the business owner can determine the practice goals and show that he or she knows when and how

to adjust them, staff will pick up on the fact that goals need to be adjusted and systems routinely evaluated.

To review practice KPIs, owner and staff will meet on a regular basis. The main purpose of these meetings is to identify the areas of practice performance that need focus in the upcoming month, and of course to celebrate those goals met and exceeded! If the KPIs remain a constant then the dentist(s) and team members will remain focused on outcome oriented meetings. Practice and team performance results invariably will include discussions around proven and effective systems.

If job descriptions for team members include performance measurements or KPIs, you will have more assurance that effective process and systems will be adhered to. So, on a monthly basis have team members report their results relative to their individual performance measurements. As long as systems continue to meet practice objectives, utilize them well. You won't need to make any changes until you start to see results that indicate they need to be adapted.

Now, for a cautionary note! The pace of business, new technology, products and procedures changes so rapidly. Therefore, it's really important that systems remain current and responsive to consumer expectations and fluctuations. Again on a monthly basis, make time to assess the effectiveness of systems, which will allow you to see trends and adapt to meet client demands.

Business Models

Q: I want to open a dental practice, but I'm not sure what business model to follow. What are my options?

Ray Goodman says:

A: Look beyond all the doom and gloom over the economy and it becomes clear that this is a very interesting time for dental practices.

While it remains a big commitment for any practitioner to go at it alone, there are more ways to go about it than ever before. There is now a number of appealing options that can be added to the traditional methods of buying an existing practice, or finding a site and opening one.

Still arguably in its infancy in the dental sector are franchise operations, sometimes called joint venture partnerships, which are increasing in popularity with several companies offering schemes. It is easy to see why. Buying into an operation with an established brand that offers support with compliance, management and marketing, and possibly significant economies of scale when it comes to purchasing materials and equipment, allows ambitious dentists to do more dentistry and less management.

Centralised services can mean you do not have to face the rigours of achieving CQC compliance alone, and there can be numerous other situations where the backing of a larger group provides a comforting presence.

The broad experience of the franchisor allows more

accurate business planning and also shares the risks of launching a new business, meaning that, although you are running your own practice, you are not completely alone and instead part of a larger group.

Of course, this means sharing the rewards as well as the risks. This makes it imperative, when entering into a franchise agreement, that dentists seek advice from experts with experience of both of dentistry and franchise agreements. They need objective advice on how the agreement will work in practice to ensure that the obligations that come with being a franchisee do not outweigh the benefits.

If you reduce your price, say by 10%, then the impact on your profits can be horrific. It can be as much 20-25% reduction in the net profits. DTW

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Patient Retention

Nadean Burkett

Unquestionably, these are challenging times for dental practices. Statistically, 80% of general practices are experiencing lower demand for services, lower revenue and profit. But there are 20% that are surviving and thriving! Our research shows that those practices that focus on patient management rather than production goals are more likely to be in that 20%. In fact, that same group continue to experience patient demand for major restorative treatment (crown and bridge; implants and aesthetic dentistry) in their practices. Why? Because patient management is about putting the patient's needs ahead of profit. These practices are effective communicators which enable them to create reasonable expectations and trust through patient education rather than "selling" treatment. They are also more likely to have a philosophy that is shared by all team members so the message delivered to all patients is consistent and clear; supported by their practice policies and systems.

During tough economic times, it is common to hear that patients are resistant to maintaining an annual recall appointment because they may not have insurance benefits. Many practices are seeing more patients on emergency, which fills the day and may result in more extensive diagnosis, but once the pain is gone most people fail to return to complete treatment.

communications with your patients when they attend regular recall with their dental team.

This current challenge offers an opportunity for those practices in the 80% group to be innovative and to analyze their performance, individually and as a whole.

1. Measure patient retention as your barometer of success. The natural result is financial reward.
2. Express your practice philosophy clearly and ensure that all team members genuinely share and demonstrate it consistently. This is simpler when your philosophy is expressed in the form of a mission statement.
3. Formalize patient care and practice management policies that support your practice mission.
4. Employ systems that allow your policies and patients' care to be managed effectively. We define effective as compassionate efficiency.

Looking back on more than three decades of my career in dentistry, it is clear that much has changed – the most significant change being the challenge that comes with increased costs of operating practices and reduced discretionary spending by consumers for dental procedures. Couple that with expectations by many (dental and non-dental) that a dentist income is guaranteed to be six figures, and we have a formula for frustration and disappointment by patients and practitioners.

Yes, today it is not enough just to be a good clinician; be visible and accessible to prospective patients and/or have up-to-date technology. Success in dentistry is rewarded first in the quality of our relationships – patient retention that comes as a result of ongoing, regular annual recalls.

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– Zig Ziglar

About the author

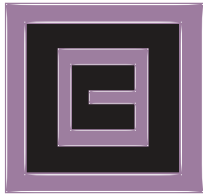


Nadean Burkett is a career and business transition coach with more than 30 years experience in the dental profession – now assisting accountants and other professionals in private practice by referral. Trusted practice evaluator, business planner and respected coach and advisor for the past 10 years - Nadean facilitates The EMPOWERMENT Program series, Career & Practice Management for Dentists both online and from NBAI's head office situated in beautiful Vancouver, British Columbia. Visit www.mypracticematters.com email nadean@mypracticematters.com for listings, job postings, & more resources with your practice transition coach.

Now more than ever it is important to manage each and every patient's ongoing care through regular recall therapy. Maintenance and prevention benefit the patient by catching decay at its earliest stage which makes treatment more affordable and comfortable. It saves the patient time and expense of more extensive treatment.

Understanding that people in crisis are in distress, which limits their capacity to listen and process new information, is crucial to building relationships that are mutually rewarding. It is much simpler to create open, consistent

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Early Orthodontic Treatment

Key to Long Term Health for Children

Brock Rondeau

How children's malocclusions are treated in the mixed dentition can not only affect their self-esteem but also their long term health. It has been estimated that as many as 70% of children have some form of malocclusion so it is important that we learn how to help them correct

these orthodontic problems. Children and adults all want straight teeth and a beautiful broad smile. Crooked teeth will make children self-conscious and discourage them from smiling. This can affect their personality development and their failure to smile will make others think that they are unfriendly

and therefore have negative social consequences. An example of this would be the child with "buck teeth". They are often so ashamed they will not smile and are constantly ridiculed by other children.

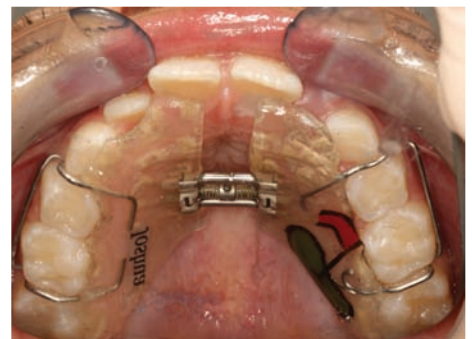
Orthodontic clinicians (orthodontists



Constricted Maxilla



Maxilla Expanded 6 Months



MX Schwarz Appliance
Midline Expansion Screw



and general dentists) must decide which treatment philosophy they prefer.

1. Functional Philosophy

a) Proper Size Maxillary Arch

The functional philosophy involves the treatment of patients in the primary or mixed dentition using functional appliances to develop constricted maxillary and mandibular arches to normal.

In the opinion of many functional clinicians the proper development of the maxillary arch is one of the keys to overall health. Nasal breathing is extremely important and when the maxilla is expanded the nasal cavity

directly above the palate also expands. Oxygen is the number one nutrient for life and nasal breathing delivers 40% more oxygen than mouth breathing. Some clinicians believe that the mid-palatal suture will calcify at age 14 -16. This is not true and in fact the suture remains open throughout most patients' entire life. I have personally been developing maxillary arches in children and adults for over 25 years. One has only to contact dental labs who fabricate these arch development appliances for confirmation of the fact that arch expansion is also successful in adults. Dr.Neal Murphy and Dr. Michael Williams did a study at UCLA where they demonstrated new bone on the buccal of the alveolar processes following arch development of adults

using self-activating coil springs at the midline.¹

The primary cause of dental crowding is not that the teeth are too large but rather that the arch is too narrow or there is an arch length problem. Prior to any extractions the maxillary arch should always be developed to normal and then the case re-evaluated. The utilization of functional appliances at an early age enables the clinician to develop the arch transversely, sagittally and vertically to make room for all the permanent teeth. Children and their parents prefer that they be treated early and without extractions or orthognathic surgery.

b) Proper Relationship Between Maxilla and Mandible



Pretreatment Retruded Mandible



Mara Appliance
9 Months Later
Straight Profile

The vast majority of Class II, Div I skeletal malocclusions (buck teeth appearance) are actually normally positioned maxillas and retrognathic mandibles. This fact was confirmed by two world renowned US orthodontic clinicians and researchers, Dr. JA McNamara and Dr. RE Moyers who stated that 80% of the Class II malocclusions have retrognathic mandibles.² Dr. McNamara has further stated that less than 5% of Caucasian maxillas are truly prognathic. These patients traditionally have narrow maxillary arches, moderate to large overjets and deep overbites. Some children have internal derangements or (TMD) Temporomandibular Dysfunction (clicking jaws), which can cause headaches, ear symptoms, neck pain, fainting, dizziness, pain behind the eyes, and shoulder and back pain. If their malocclusion is not treated,

many times this TMD problem will be much worse after age 20 particularly with female patients. When the mandible is retruded, this frequently causes the condyles to be displaced posteriorly, which causes compression of the nerves and blood vessels in the bilaminar zone distal to the condyle. The functional technique expands the maxillary arch, eliminates the airway problems (enlarged tonsils or adenoids) and repositions the lower jaw forward to correct the overjet and erupt the lower posterior teeth to correct the deep overbite. When the mandible is moved to its proper forward position with the functional appliance this also repositions the condyle down and forward away from the nerves and blood vessels, which improves the health of the TMJ.

The treatment of choice for treatment of Class II, Div I patients under age 11 would be to use a Twin Block Appliance (fixed or removable) which was developed by Dr. William Clark, orthodontist, Fife, Scotland.³ Over age 11 the fixed functional appliance MARA (Mandibular Anterior Repositioning Appliance) developed by Dr. Jim Eckhart, orthodontist, Manhattan Beach, California, is the treatment of choice.⁴ The Rick-A-Nator is another functional appliance that can be utilized when patients have overjets less than 3mm and deep overbites. Prior to treatment the condyles are posteriorly displaced and the disc is frequently anteriorly displaced evidenced by the fact that the patient clicks upon opening their mouth. When the functional appliance moves the lower jaw forward, frequently the anteriorly displaced discs are recaptured (click is eliminated). The literature is clear that when the disc is recaptured most patients have a significant reduction in the signs and symptoms of TM Dysfunction. Dr. Clifton Simmons showed that in 90% of his cases with internal derangement

(TMD) that symptoms were eliminated when the anteriorly displaced discs were recaptured with anterior repositioning splints.⁵ Surely a healthy TMJ must be one of our main objectives with orthodontic treatment either in the mixed or permanent dentition. For the reasons mentioned above I do not agree with the extraction of the upper bicuspids when patients present with a narrow maxillary arch, large overjet and a normally positioned maxilla and retrognathic mandible. The functional philosophy is extremely popular in Europe and South America. Surprisingly, most of the functional appliances have been developed by orthodontists but are utilized mainly by general dentists. This is despite the fact that most general dentists receive no formal training in either orthodontic braces or orthopedic functional appliances in most dental schools worldwide. Mothers want their children's malocclusion treated early so as to avoid more expensive and time consuming treatment later on. Mothers will pay to treat their children's crooked teeth and jaws before any other dental procedures except for dental emergencies. General dentists need to take courses in order to provide this essential health service for the children in their practices.

c) Importance of Airways and Proper Breathing

Children must learn to breathe through their nose. Clinicians must diagnose the presence of airway obstructions, which could be due to allergies, and can cause enlarged adenoids and tonsils. Other nasal obstructions could be due to swollen nasal mucosa, enlarged turbinates, polyps or deviated septum. Ideally, these children should be referred to an ear, nose and throat specialist to correct the problem.

Airway obstructions can cause mouthbreathing which can cause a number of malocclusions including

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The Dentist's Role in Snoring and Sleep Apnea

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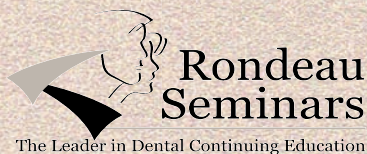
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- 1 Early Treatment Mixed Dentition, Functional Appliances, Diagnostic Records, Cephalometrics, Practice Management
- 2 Straight Wire Mechanics, Class II Treatment, Twin Block™, Rick-A-Nator™, Bracketing, Banding of Molars, Archwires
- 3 TMJ in Orthodontics, Sagittal & Tandem Appliance, Class III, Utility Arches, Splint Therapy, Joint Vibration Analysis
- 4 MARA™ Appliance, Open Bite Cases, Impacted Cuspids, Clear Braces, Case Finishing, Retention, Snoring & Sleep Apnea, Air Rotor Stripping & Clear Aligners

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constricted maxillary and mandibular arches, bilateral posterior crossbites, unilateral posterior crossbites, which causes facial asymmetries, narrow smiles, speech problems due to constricted arches, anterior and lateral tongue thrusts and Class II, Div I malocclusions (normal maxilla and retrognathic mandible). Many authorities believe that the cause of the Class II malocclusions is airway obstruction. This causes the constriction of the upper arch which results in preventing the lower jaw from coming forward to its proper position. Mouthbreathing sometimes pulls the mandible back into Class II, Div I malocclusions.

Airway obstructions in children cause a lack of sufficient oxygen which can also result in snoring, obstructive sleep apnea and also ADHD (Attention Deficit Hyperactivity Disorder). The airway obstruction due to lack of sufficient oxygen in the blood results in interruptions in breathing during sleep causing the brain to be aroused and wake up the patient several times per night. Children with ADHD become aggressive and hyperactive in school and this poses a problem for teachers.⁶ It also results frequently in poor concentration in school which negatively affects school performance, increases daytime sleepiness, irritability and headaches.⁷ Blunden has reported that children who snored and who had obstructive sleep apnea had significantly lower I.Q. scores compared to children without airway constrictions.⁸ If the brain is deprived of oxygen during the development of a child this can have serious long term affects for their future. Medical doctors often prescribe a central nervous system stimulant such as Ritalin or Concerta to calm them down; however, in some cases the patient becomes extremely subdued. It appears the medical profession is primarily concerned with treating the symptoms rather than the cause of the

problem. The treatment of choice would be to diagnose the source of the airway obstructions. The patient needs a new drug called oxygen to solve the problem of obstructive sleep apnea and ADHD. Frequently the treatment of choice is to remove the adenoids and tonsils and expand the maxillary arch to normal. Since 90% of the face is developed by age 12, if you want to guide the growth of your younger patients you must treat early with functional appliances. Otherwise our younger patients will develop skeletal abnormalities in the mixed dentition which will be much more difficult to treat in the permanent dentition.

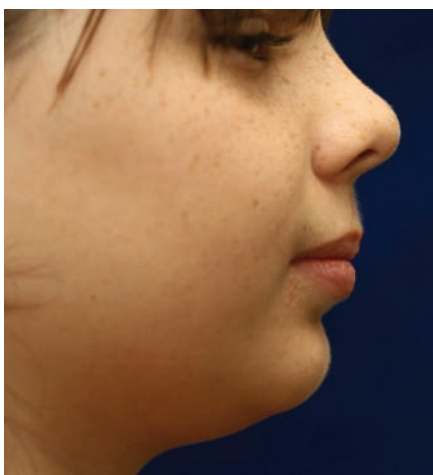
I highly recommend that general dentists offer 2 Phase orthodontic treatment to the children in their practice.

Phase I (Orthopedic or Bone Phase)

Mixed dentition, Age 6-11

Functional and skeletal (bone) problems are solved as early as possible to minimize the harmful effects. Research has shown that untreated malocclusions worsen as children grow older.

- a) Functional problems include habits such as mouthbreathing, tongue



Male Age 10
Headaches Underdeveloped Lower Jaw

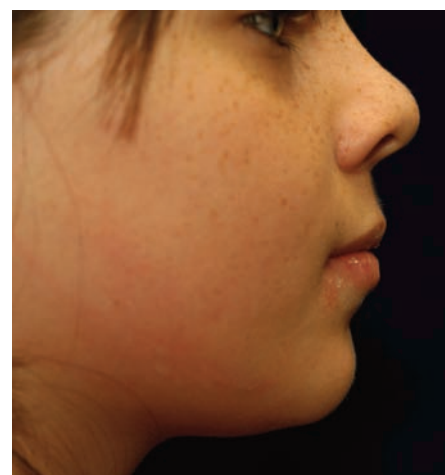
thrusting or thumb sucking. Functional problems as mentioned previously can cause anterior open bites, snoring, obstructive sleep apnea, and ADHD, due to airway obstruction.

- b) Skeletal (orthopedic) problems include constricted maxillary or mandibular arches. Constricted maxillary arches can cause bilateral posterior crossbites, unilateral posterior crossbites which causes a facial asymmetry and frequently restricts the forward movement of the mandible which causes the Class II, Div I skeletal malocclusion.
- c) All Class II skeletal patients with underdeveloped mandibles are treated to Class I skeletal and all Class III skeletal patients with mid face deficiencies are treated to Class I skeletal. Ideally functional appliances are utilized in Mixed Dentition to solve 80% of the transverse, sagittal and vertical problems.

Phase II (Orthodontic Phase)

Permanent dentition, Ages 12-14

Orthodontic braces are used in Phase II treatment in the permanent dentition to correct dental problems and to straighten the teeth. In summary, we correct the arch width and arch length problems, overjet and overbite, as well



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as all Class II and Class III skeletal problems in the mixed dentition. Then when all the permanent teeth erupt, fixed orthodontic braces are used strictly as a finishing technique to properly straighten the teeth. This approach means that over 95% of the cases started in the mixed dentition can be done without the extraction of permanent teeth or the need for orthognathic surgery. If the skeletal problems are corrected in the mixed dentition, children will not have to undergo extensive orthodontic treatment and orthognathic surgery at age 17. It has also been shown that when functional appliances are utilized in children to advance the mandible this reduces the possibility and the severity of obstructive sleep apnea in children and adults.⁹

2. Retractive Philosophy

This is the technique which is still extremely prevalent in the orthodontic profession worldwide. It involves the treatment of patients mainly in permanent dentition with the use of fixed orthodontic braces, extractions, and the use of extra-oral cervical headgear sometimes.

Proponents of this technique rationalize the following:

1. Crooked teeth as a result of crowding are due mainly to the fact the patients' teeth are too large for the size of the arch. Therefore, rather than develop the constricted arch to normal they prefer to extract teeth, usually the bicuspid.



Bicuspid Extraction
Concave Profile Obstructive Sleep Apnea

2. When the patient presents with a moderate overjet, proponents of the retractive technique believe that the best solution would be to extract the upper bicuspid and retract the 6 anterior teeth into the extraction sites. In the majority of cases with Caucasian patients that present with Class II, Div I malocclusions with moderate overjets, the problem is not a prognathic maxilla but rather a normally positioned maxilla and a retrognathic mandible. Therefore, if the 6 anterior teeth are retracted this can result in the patient ending up with a much less favorable concave profile. The upper lip is more deficient, the nose appears longer and in some cases the patients end up with a midface deficiency. These cases are easy to diagnose. In Class II, Div I malocclusions with a moderate overjet ask the patient to move the lower jaw forward end to end. If the profile drastically improves, then this patients requires a functional appliance to move the deficient mandible forward to its proper position. Extractions in this case would be contra-indicated.
3. The other problem with bicuspid extraction for patients who present with Class II skeletal malocclusions (normal maxilla, retrognathic mandible) is that this causes the tongue to end up posteriorly which increases the incidence of life threatening obstructive sleep apnea. The photo of the patient shown had bicuspid extractions and has severe obstructive sleep apnea.

In cases where the maxilla is truly prognathic then the retractive technique is acceptable. Many Black or Asian patients present with bimaxillary protrusions and the treatment of choice in order to improve the profile would be extractions of 4 bicuspid and subsequent retraction of the anterior teeth.

The other serious problem is that if



Bicuspid Extraction
Concave Profile
TM Dysfunction

extractions are done in a patient whose condyles are posteriorly displaced, this can lead to temporomandibular joint (TMJ) problems in the future. The extraction of the two upper bicuspid and the subsequent retraction of the six anterior teeth virtually traps the mandible which prevents the mandible and condyles from assuming their normal forward position. This can, in some cases, compress the nerves and blood vessels distal to the condyle and cause TM Dysfunction later on. Surely our objective with orthodontic treatment is to provide a healthy TMJ and not just to straighten the teeth.

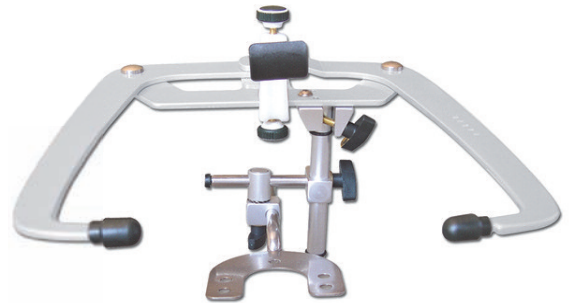
The extraction of two upper first bicuspid also results in the constriction of the maxillary arch as a result of the removal of 16mm of tooth structure. This is in violation of what I believe to be the most important key to overall health which is to establish a proper size maxillary arch. Failure to properly diagnose and treat patients in mixed dentition can have a profound effect on their overall health. Obstructive sleep apnea is a recognized independent risk factor for the development of cardiovascular disease.¹⁰ The key is to learn to diagnose and treat our children in mixed dentition with a functional philosophy. Many general dentists who have taken my courses for the past 25

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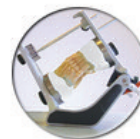
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years cannot understand why the majority of the orthodontic clinicians favor the retractive philosophy. Mark Twain had an interesting quote, "Whenever you find yourself on the side of majority, it's time to pause and reflect."

The time has come to start treating our younger patient's orthodontic problems in mixed dentition in order to improve their long term health. Recently more dentists have become involved in the diagnosis and treatment of the life-threatening medical disorder, obstructive sleep apnea. It has been estimated that approximately 20% of the adult population has the problem and although obesity plays an important role, a large number of patients are Class II, Div I malocclusions with large overjets and underdeveloped mandibles. A common cause of OSA is when the tongue falls back and blocks the airway for 10 seconds or more. Some of these patients stop breathing 30 to 60 times per hour. The consequences of undiagnosed and untreated obstructive sleep apnea are an increased risk of high blood pressure, heart attacks, strokes, Type 2 Diabetes, impotence, memory loss, depression, acid reflux and dementia.¹¹ Hypertension is found in 50% of patients with OSA and there is growing evidence to support an association with ischemic heart disease, stroke, heart failure, arterial fibrillation and cardiac sudden death.¹² Many patients are prescribed a CPAP device which consists of an air compressor that blows air up the nose all night. While very effective when worn the failure rate with CPAP is high. The alternative treatment is often an oral appliance fabricated by a dentist with special training in the area of sleep disorder dentistry. The American Academy of Sleep Medicine (sleep specialists) recommends oral appliances as the first treatment option on patients with mild to moderate sleep apnea.¹³ The oral appliance functions by moving the lower jaw and tongue forward which opens up the airway to prevent snoring and sleep apnea. When upper bicusps are extracted in Class II, Div I cases this prevents the mandible and tongue from coming forward and sometimes contributes to this life-threatening disorder.

It is vitally important that general dentists either learn how to treat their younger patients in the mixed dentition or refer their patients to an orthodontic clinician with a functional philosophy. It has been well documented that anterior displacement of the mandible using a dental appliance reduces the severity of obstructive sleep apnea.^{14, 15}

The many advantages that I have discussed above include eliminating the need for the extractions of permanent teeth or orthognathic surgery. Arch development allows for a beautiful broad smile and increased size of the nasal airway which increases the patient's level of oxygen. Patients treated with

the functional philosophy have improved TMJ health and reduced tendency to have the life threatening medical disorder obstructive sleep apnea.

As you can see from the above a child's future health problems do depend on how their airway obstructions, orthodontic-orthopedic-TMJ problems are treated in the mixed dentition. DTW

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Dr. J. Wellington (Skip) Truitt B.S., D.D.S. received his Bachelor of Science degree from Texas Christian University and his Doctor of Dental Surgery degree from Baylor University. He has maintained a private dental practice in Gainesville, Texas, since 1967. He also acts as a consultant to other private medical and dental practices in Australia, Thailand, Singapore, South Africa, Mexico, Ireland, Norway, Germany, the United Kingdom, Canada, and the United States.

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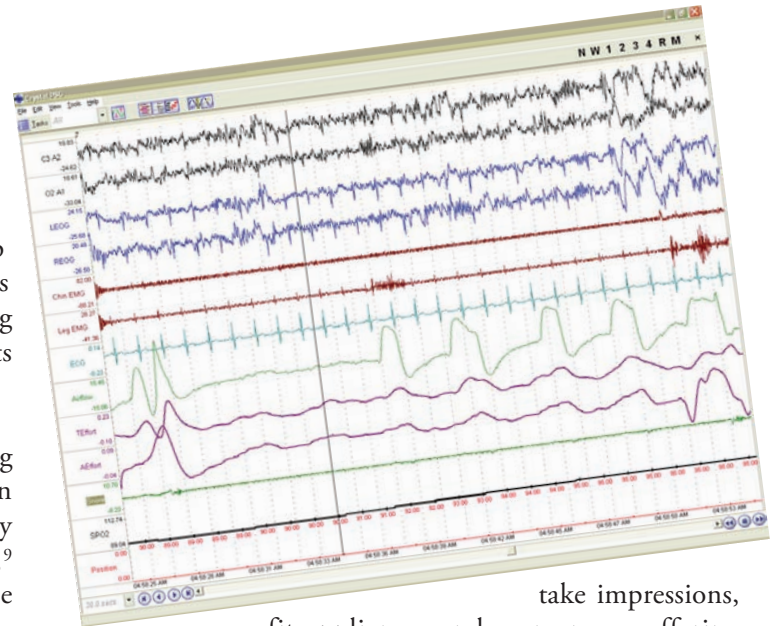
Are Your Patients Dying in Their Sleep?

J. Brian Allman, DDS, DABDSM, DAAPM, DACSDD, FAGD, FICCMO, FASGD, FAACP, FAAFO, FIAO

A message to all Dentists and Denturists: WAKE UP! Our patients need us and they need us now. Sleep medicine is the newest medical specialty in the States with an explosive growth of new patients diagnosed needing treatment and medical sleep specialists and their patients needing our help.

Do you have patients that snore or wake feeling unrefreshed? Do you have patients that grind their teeth in their sleep¹, or suffer from attention deficit hyperactivity syndrome (ADHD),²⁻⁷ hypertension,⁸ heart disease,⁹ diabetes,¹⁰⁻¹² kidney disease¹³ or stroke?¹⁴ All of these unpleasant and life-robbing diseases can be linked to obstructive sleep apnea. Obstructive sleep apnea (OSA), caused by airway blockage during sleep, resulting in spells of repeated suffocation, deoxygenation and gasping recovery, is a pandemic disease that results in higher morbidity and mortality rates, higher health care costs, poor quality of life, daytime sleepiness, impotence, depression, stroke and even death. Medical research reveals a compelling link between OSA and many debilitating and life threatening diseases and conditions and the dental profession has been asked to help manage this disease with oral appliances.¹⁵

CHANGE LIVES by SAVING LIVES! Dentists and Denturists have been asked by our medical sleep specialist colleagues to help combat deadly OSA by fitting OSA sufferers with specialized appliances called mandibular advancement devices (MAD). In 2006, the American Academy of Sleep Medicine with the help of a panel of medical sleep specialists evaluated research articles regarding the effectiveness of MADs to combat OSA and published a seminal summary opinion, **Practice Parameters for the Treatment of Snoring and OSA with Oral Appliances**¹⁵ which concluded, "Oral appliances should be fitted by qualified personnel who are trained in the overall care of oral health, the temporomandibular joint (TMJ), dental occlusion, and associated oral structures." For the first time in dental practice, sleep physician experts have asked for our help to



take impressions, fit appliances and co-manage suffering patients: OSA is a medical disease with a viable and proven dental solution.¹⁶

MAD researchers have compellingly demonstrated that dentist and denturist fit appliances can help reduce blood pressure, improve quality of life, promote better health, reduce risks and SAVE LIVES!¹⁷ Consider your patients of record. Do any of your patients snore, wake unrefreshed, take insulin for Type 2 diabetes or medicines for high blood pressure, GERD (gastroesophageal reflux disease), erectile dysfunction, have ADD (attention deficit disorder) or ADHD (attention deficit hyperactivity disorder), bedwetting, gout? Have any of your patients been treated unsuccessfully with CPAP (continuous positive airway pressure) or had airway surgery to cure OSA only to find treatments too cumbersome or ineffective? The answer to all of these questions is unfortunately a thunderous and unequivocal YES and YES.

Statistics regarding the astounding prevalence of OSA in the general population may shock you. OSA is as common as asthma and diabetes and is on the rise; truly a growing worldwide, almost viral-like epidemic and this insidious enemy directly impairs human life.¹⁸ A review of medical literature recommends physicians, dentists and denturists work collaboratively to screen, diagnose and manage OSA for best patient outcomes. In fact, dentists and denturists are first



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Fig. 1a



Fig. 1b

Figures 1a and 1b: An example of a mandibular advancement device (MAD) used to manage OSA in adults (Strong Dental Laboratory).

in line in the fight against the ravages of OSA as they need to screen patients competently, refer for diagnosis appropriately and co-treat by providing MADs and MAD follow-up.

Screening your patients is best accomplished by using health questionnaires for both the sufferer and the sufferer's bed partner, by evaluating existing medical ailments and evaluating craniofacial anatomy. Interestingly, OSA is in large part, a disease of craniofacial anatomy.¹⁹⁻²¹ And, who are the experts in the examination and evaluation of craniofacial anatomy? You are! Dentists and Denturists should learn to screen for the signs and symptoms of OSA, refer to a medical sleep specialist for diagnosis and then help manage patients testing OSA positive who are unable to wear a CPAP device. By implementing an OSA screening and management program in your clinic you will achieve what the author considers is the GOLDEN Win-Win-Win Triangle in comprehensive patient care.

The first WIN is defined by the improved patient diagnosis, treatment and health you will provide. In other words, the patient WINS. You will be able to prevent horrible diseases and improve the health and quality of life of every

patient you treat.²² Patients will appreciate your diagnostic abilities as you will identify the cause of their illness, lack of energy and despair. Your dental treatment outcomes will also improve. Consider the patient who has irreversibly damaged his or her teeth, denture or partials caused by uncontrolled bruxism or clenching due to OSA. Also consider those treatments that you have provided which have inexplicably failed due to the unbridled, undiagnosed wear and tear caused by OSA. Interesting, eh? Got you attention?

WIN number two relates to the acumen and distinction of the dental sleep clinician. By learning to identify OSA sufferers and working together with medical specialists to collaboratively diagnose and manage OSA,²³ you will elevate your clinical skill set and distinguish yourself and your practice. You may find your word-of-mouth referrals increasing dramatically due to the new breadth of your diagnostic and treatment practice. A patient's improvement of health and quality of life due to your new abilities is sure to initiate conversations and recommendations within every one of your patients' sphere of influence; changing and saving lives generates referrals!

Third in the WIN-WIN-WIN hat trick has to do with practice growth, production and newfound potential. By evaluating patients more broadly and successfully managing a disease often overlooked or misdiagnosed and learning to provide MADs for these dying patients, will not only garner valuable referrals from your patients, but also your medical communities. As the "GO-TO" dental sleep clinicians in your communities, you will become the dental professional physicians not only want to but, need to refer new patients to for help. Catapult your practice potential by gaining competence and confidence screening, referring and managing OSA sufferers. Lead the movement to now stop the spread of OSA and you will realize a here-to-for unrealized potential in your practice success and moral obligation to treat your patients to the highest standard of care.

Clearly, patients WIN, improving our clinical skill set is a WIN, and increasing our marketability and production by expanding procedures provided to a greater number of patients needing our appliance therapy is a WIN. Learn to identify and manage one of the largest populations of undiagnosed and unmanaged patients and you will often solve the cause of their suffering and truly win the fight against many diseases.

Better diagnosis, better treatment, better patient outcomes: Learn about dental sleep medicine NOW and don't be leaving your patients behind!

Next issue, Dr. J. Brian Allman will outline how best to



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identify the OSA sufferers in your practice. If you have questions regarding this article, Dr. Allman and his TEAM can be reached at www.EliteDentalInstitute.com. DTW

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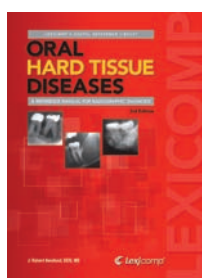
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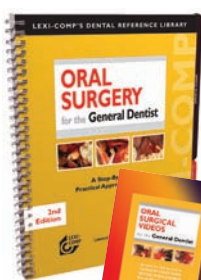
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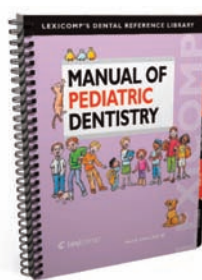
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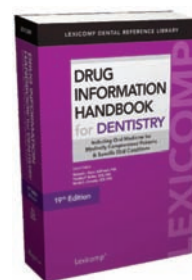
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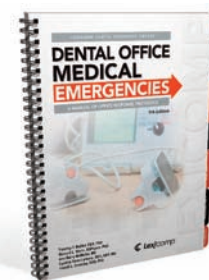
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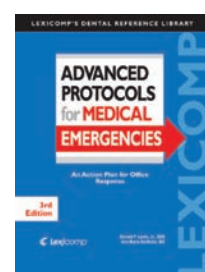
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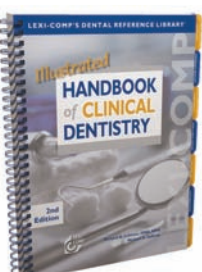
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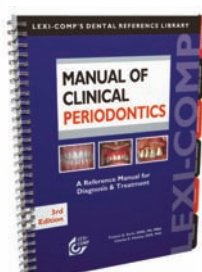
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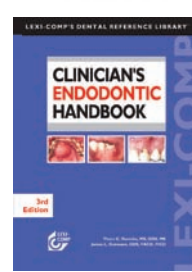
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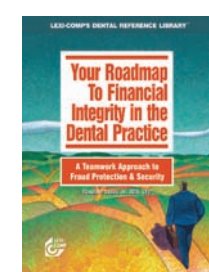
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Unsuccessful Mandibular Blocks and the “Hot Tooth”

Dr. Mauricio Diaz

A “hot tooth” has traditionally been the nemesis of both G.Ps and specialists in Endodontics.

They are mostly defined as the teeth presenting a symptomatic irreversible pulpitis (SIP). These patients experience spontaneous pain that can be moderate, to quite often, extremely severe.

Once the pulp reaches this inflammatory stage, it makes it challenging to achieve adequate anesthesia. This difficulty has been attributed to a variety of reasons, such as:

- The acidity of the periapical tissues caused by the bacterial metabolic byproducts present. This chemical reactive change interferes with the ability of the anesthetic solution to permeate the myelin sheath of the nerves in the area due to the lower pH.¹⁻²
- The changes in both the morphology and physiology of the nerve structures taking place during inflammation.³
- The hyperemia, or increase in the vascularity of the tissues, which both augments and speeds up the elimination of the anesthetic from the affected area.⁴
- An array of additional possible causes, such as the improper placement of the anesthetic solution, anatomical variations, accessory innervations, increased anxiety levels and/or abnormal drug tolerance to the anesthetic being administered.

A recent article in the International Endodontic Journal highlights the benefits of preoperative use of pain medication in patients experiencing SIP.⁵ This new paper seems to indicate that premedicating these patients with ibuprofen, can make an inferior alveolar nerve block (IANB) almost twice as effective.

This is relevant because, out of all teeth that could undergo SIP, mandibular posteriors pose the most severe challenge to be successfully anesthetized.

In this study, patients undergoing root canals in

mandibular posteriors received either 600 mg of ibuprofen or a similar amount of gelatin-filled capsules (as a placebo) one hour prior to the required IANB. The success of the IANB anesthesia for the ibuprofen group was 72% versus only 36% for the group receiving the placebo.

The findings in this study contradict what had been stated on the subject in previous articles. A review of what was published earlier shows that other research papers could not find there was a significant difference between the groups premedicated vs. the ones taking a placebo. However, there were indications of a higher success in the groups of patients that were premedicated.⁶⁻⁷⁻⁸

Nonetheless, and considering both the results in this paper, as well as the fact that inflammation is one of the possible leading explanations for the difficulty in achieving proper blocks in SIP patients, it seems that the preoperative administration of ibuprofen, or other NSAIDs, is a sensible approach in these instances.

Nusstein⁹ reviewed existing literature on the subject and concluded that, when treating “hot” teeth, the anesthetic success rate will not improve by:

- Using different anesthetic solutions
- Using solutions with higher epinephrine concentrations



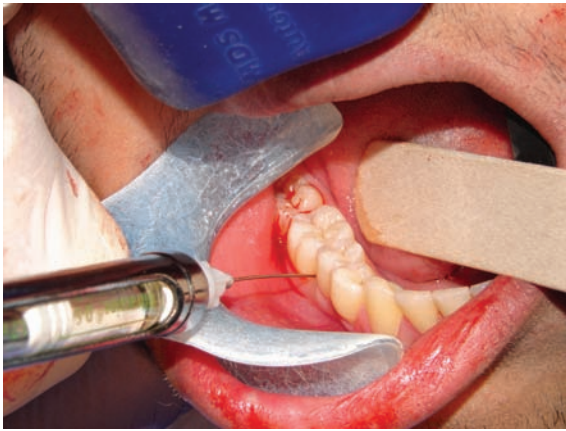


Fig. 1: "PDL injection
(image courtesy of Dr. Lawrence I. Gaum. All rights reserved.)"



Fig. 2: Buccal infiltration
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- Modifying injection techniques
- Depositing the anesthetic solution in closer proximity to the IAN
- Supplementing the IANB with a mylohyoid injection, or
- Increasing the volume of anesthetic delivered via the IANB

One would think that any or all of the above approaches would successfully supplement the IANB, but literature does not seem to support that thought.

So, what to do then?

Some research points to the use of either periodontal ligament (PDL) (Figure 1) or intraosseous (IO) supplementary injections. Products such as the Wand S.T.A.™ (Milestone Scientific Inc) for PDL¹⁰⁻¹¹, or IO injections by means of devices such as the Stabident® (Fairfax Dental Inc.)¹³ or the X-Tip™ (Dentsply Maillefer)¹²⁻¹⁴ have been advocated. The learning curve, along with the added cost of these products may become a factor for the practitioner.

On the other hand, there may be a simpler, less-invasive, and cost-effective alternative at hand. A technique with demonstrated success in supplementing the traditional IANB for SIP patients with incomplete mandibular anesthesia, is the buccal infiltration of articaine.

The January 2013 issue of the Journal of Endodontics published the results of a study comparing the success in SIP patients of supplemental infiltrations with articaine and lidocaine. In this paper, the success rate of supplemental infiltration injections after an incomplete IANB by using lidocaine was 29%, whereas by using articaine it was 71%.¹⁵

A meta-analysis published in the Journal of the American

Dental Association in 2011 also highlighted the fact that infiltration with articaine offers better results as an adjunct technique in unsuccessful IANBs, although not necessarily for molars.¹⁶

In 2009, a study by Kanaa also demonstrated that supplementing lidocaine IANBs with articaine buccal infiltration could dramatically increase the anesthesia success rate. Anesthesia in first molars was 65% more successful with supplemental articaine infiltration, than by means of the IANB with lidocaine alone.¹⁷

Supplementing IANBs with articaine, either via an injection into the periodontal ligament using a traditional PDL syringe or through buccal infiltration, has demonstrated to offer similar results. Both injection combinations resulted in high anesthetic success in patients with irreversible pulpitis in the mandibular first molar.¹⁸

Practitioners confronted with the difficulties associated with properly anesthetizing a "hot tooth" should keep all these concepts and approaches in mind so they can better manage these challenging clinical situations, and provide their patients with a more comfortable treatment session. DTW

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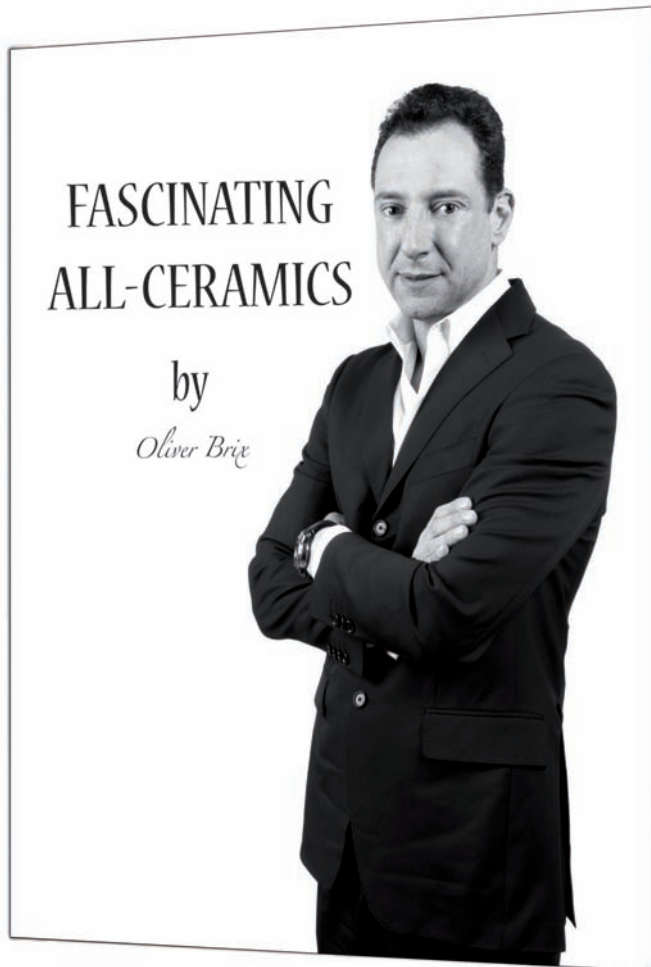


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Life is a Lemon and I Want My Money Back

Stephen Selwyn, BDS

I remember Meatloaf blasting out Jim Steinman's, 'Life is a lemon and I want my money back.' Most of the rest the words from this song are not repeatable in a dental article, but the sentiment, that sometimes things in life don't quite live up to their promise, is certainly true.

Not buying a lemon can be quite difficult, especially when it comes to dental loupes, as many people assume that all loupes are the same and that they all provide the same quality of magnification and frame.

The problem comes in separating quality loupes from the poor quality inferior versions, and often a lack of information can be lead to bad purchasing decisions. However, there are some basic things you can do to check that you aren't buying a lemon.

As a dentist the ability to see clearly and in comfort is of paramount importance, and wearing loupes can certainly help, even for those who don't wear spectacles.

Lens quality and type

There are several options in terms of lens construction, but the latest Galilean multi-lens loupes are lightweight and can

yield high power with short oculars. Loupes mounted through-the-lens (TTL) ensures a wider field of view by reducing the distance between the eye and the loupe.

There can be problems with internal reflection with loupes, which is a result of less light passing through uncoated or poorly-coated lenses and there can be a substantial loss of light, with bright spots appearing in the dentist's line of sight. The best loupes use special multi-coatings in both the oculars and the outer lenses.

Level of magnification

For a general dentist using magnification throughout the day, the recommended magnification is between two and three times, as these levels of magnification give an optimal depth of field which allows the freedom to move with the subject remaining in focus. This helps to maintain a relaxed posture throughout the day. In addition, the field of view is also widest at these magnifications.

Higher magnifications are best suited to more demanding work. Many loupe wearers have two and three times magnification loupes for general dentistry, and turn to their higher magnification loupes for more intricate procedures. However, there are some dentists who use over three times magnification for all procedures.

The degree of magnification in loupes is a good starting point for selecting a product, but consideration should be given to a number of factors before making a purchase, including clarity, comfort and pre-sales advice and post-sales service.



Custom made for you

It's important when wearing loupes that both the working area and, for example, a computer screen, are both perfectly in focus. To achieve this, loupes need to be custom-made from measurements taken by an experienced and well-trained loupes specialist who can make sure your needs are met. It is important that the company providing your loupes has an optician in the team. There are many choices in terms of frame style and colour and again, a loupes specialist can explain the options available. Loupes don't only need to be functional, some can be unattractive and off-putting, and so it is important that the loupes you choose are stylish and reflect the quality of your dentistry. Frames should be designed especially for loupes, able to correctly accommodate the loupe oculars, be rigid enough not to distort, and strong enough to stand the test of time within the dental environment. For ultimate comfort frames also need to be capable of fine adjustment, to fit your face perfectly.

Lighting the way

A light is the perfect partner to loupes and is an important addition in achieving the best possible view of the mouth. A 'loupes mounted' light is without doubt the best option as everything you see will be lit, whatever instrument you are using. Perfectly positioned between the eyes, such a system

will provide light in exactly the right place and direction without the need to constantly correct your position, change the angle of your mirror, or move your overhead light. Working with a LED 'loupes mounted' portable light will give you the freedom to move from surgery to surgery wearing both loupes and light without having to carry around a conventional large light box. There are also some LED lights that allow you to work with light cured composites without the inconvenience of an orange filter.

High quality magnification gives the ability to see small details more easily, allowing dentists to work with a greater degree of precision that makes diagnosis and treatment safer, more reliable and faster. Ultimately, clinical procedures become easier to perform and your life won't be a lemon. DTW

About the author

Stephen Selwyn is managing director at Evident Ltd. As a practising dentist, Stephen is dedicated to supplying the very best precision products, combining exceptional quality with outstanding design. Evident's range of loupes and lights are expertly custom-made by leading supplier Exam Vision and supported by an experienced team.

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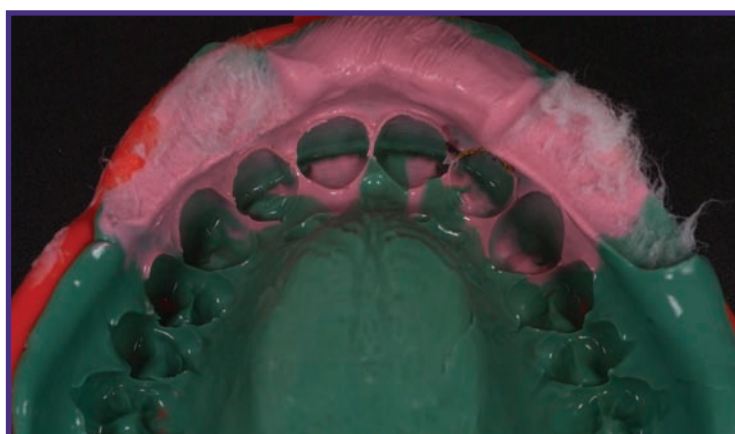
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Treating Worn Lower Incisors With Composite Over-molding – A Clinician's

Perspective - Part 1

TRAITEMENT DES INCISIVES INFÉRIEURES USÉES AU MOYEN DE MOULAGES EN COMPOSITES.

Perspective du clinicien, par le Docteur David Clark

Abstract

One of the most difficult and unpredictable therapies to accomplish is the restoration of worn down lower incisor teeth due to the loss of the gingival-incisal dimension and because of the small dimension of mandibular incisor teeth which makes them vulnerable to devitalization as often happens during complete or partial indirect restoration preparation procedures. The application of the technique of complete-coverage composite over-molding is a non-traumatic and affordable way to restore these teeth. The technique requires use of specialized matrixes (Bioclear) to confine the composite application in a two step process, first applying a light body composite followed by a heavier bodied composite that will provide a seamless continuum before light curing is made. The key to making this procedure work is to allow for 1.5 mm of incisal space to provide for a stable and resistant layer of composite. This sometimes will require either increasing the occlusal vertical dimension or will require additional edge reduction of the already worn mandibular incisors. The result is one, however, that will be resistant to further degredation of continuing wear and the all to common breakdown of traditional incisal fillings.

One of today's least predictable composite therapies is the restoration of worn lower incisors. (Fig 1, 2) We have seen great improvement over the last two decades in the science of implants and the development of stronger porcelains. Unfortunately, composite design is mired in a century old cavity system designed by GV Black that has little place in the world of composite dentistry. Missing from traditional restoration design is a rational approach based on the strengths and weaknesses of composite and on an understanding of the nature of brittle materials, (enamel is a very brittle material and dentin is a moderately brittle material). Largely ignored also are engineering principles, an understanding of tension joints versus compression joints, stress, strain and a host of other issues that arise when a tooth is cut and filled. This article, the first of three parts, will introduce the reader to modern composite tooth preparations that will be presented in an a future textbook (Fig 3)



Today, armed with a balanced blend of flowable and paste composites, an understanding of adequate composite tooth preparations, and special anatomic anterior matrixes, (Bioclear), the operator can provide a less invasive and long lasting solution to the problem of managing incisal wear of lower anterior teeth. Composite over-molding, which will be introduced in this article, is a now a viable alternative to porcelain crowns or porcelain veneers. Until now, porcelain was considered the only predictable choice for these situations based on past experience and a GV Black mindset.

Unique challenges affect lower incisor treatments. This article will outline what I consider to be modern tooth preparations, matrixing techniques, injection molding, and finishing protocols for esthetic composite reconstruction of the stained and worn lower incisors. Perhaps one reason that we see so many esthetic treatments of maxillary incisors and so few treatments of mandibular incisors is that most practitioners simply

Résumé

Une des plus difficiles et imprévisible thérapies, est la restauration des dents incisives inférieures usées, ceci étant dû à la perte de la dimension gingivo-incisive, et aussi à cause de la courte hauteur des dents incisives mandibulaire, ce qui les rendent vulnérables à une dévitalisation fréquente lors du procédé de préparation pour couronne complète ou partielle. L'application de la technique de recouvrement complet par un moulage de composites, est une façon peu coûteuse et non traumatisante pour restaurer ces dents. La technique demande l'emploi de matrices spécialisées (Bioclear) pour contenir l'application du composite dans un procédé en deux temps, avec en premier une application d'un composite de consistance plus légère, suivit d'un composite plus ferme qui permettront un ensemble homogène avant de compléter la photopolymérisation. Le secret pour obtenir ce procédé, est de pourvoir un espace incisif de 1.5mm afin de permettre une couche de composite résistante et stable. Ceci demandera parfois, soit d'augmenter la dimension verticale de l'occlusion, ou bien nécessitera une réduction supplémentaire du bord incisif des antérieures inférieures déjà bien usées. Le résultat est tel, malgré tout, qu'il y aura beaucoup plus de résistance à une dégradation d'usure, ainsi qu'à une détérioration au bord incisif observée couramment pour les obturations incisives conventionnelles.

dislike treating these tiny teeth with their odd root-crown transition and have had not very good options.

Lower Incisors: Challenges and Esthetic Promise

As humans age, their facial musculature changes and the upper incisors tend to disappear from sight. Meanwhile lower incisors, as the lips droop a little, become more and more visible. Their esthetic importance is multiplied by the display of the incisal edge during

speech as the mandible rotates open. Many dentists, myself included, have treated these areas by using an inverted cone carbide bur or angulated burs to cut a retentive preparation leaving a small undercut channel in the dentin and then restoring with composite. This treatment looks great at first but has a poor track record of degradation that includes sliver fractures of the undermined enamel. Undermined enamel cannot be strengthened by composite. Even if the incisal enamel does not chip, the bond nearly always deteriorates within



Figure 1- Low magnification pre-operative view of the commonplace esthetic and functional dilemma of exposed dentin in a 58 year old woman.

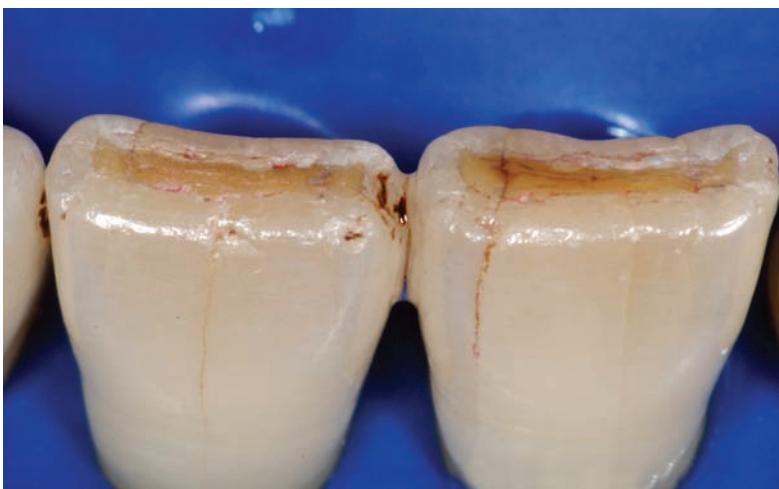


Figure 2- High magnification view of the pre-operative condition. Dentin exposed to direct occlusion is an esthetic liability because of its tendency to darken. It also wears much more rapidly than does enamel.

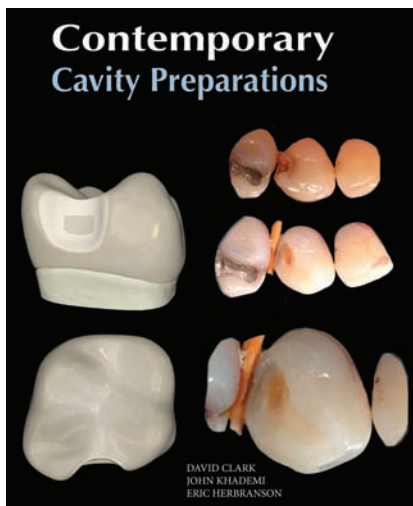


Figure 3– Cover from future textbook
"Contemporary Cavity Preparations"

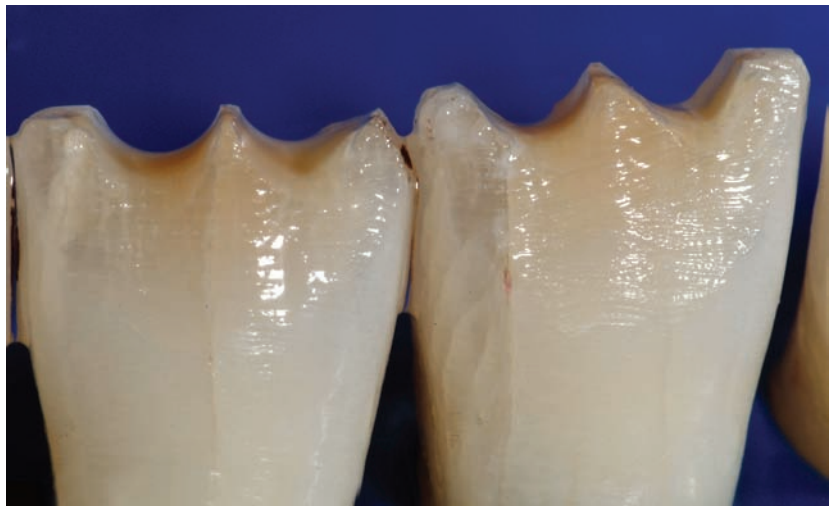


Figure 4– Depth cuts of 1.5 mm are the minimum required for adequate composite strength. Additionally, facial incisal reduction prevents the inevitable "white line" that so often appears as you adjust the occlusion.

a year or two as the incisal occlusion overwhelms the marginal interface. Dentin begins to resurface, leading to stain and unsightly de-bonding of the dentin-composite margin. After a few disappointing long term outcomes, dentists often stop treating this area or resort to overly aggressive porcelain therapies. Table 1 outlines the necessary steps for long term composite overmolding of the worn lower incisor. Because incisal edges require a minimum of 1.5 mm of incisal clearance, the clinician must evaluate whether the clearance should be created with uniform tooth reduction of the teeth to be restored, or by opening of the vertical dimension by addition to the posterior teeth and canines with a comprehensive complete arch approach. No-prep occlusal posterior composites that can be placed over enamel, or abraded composite or amalgam, are all predictable options. In this particular patient's situation, incisal reduction was selected as this patient would not benefit from an increase in vertical dimension and also because the patient's posterior teeth were not amenable to simple occlusal composite addition restorations to open the

vertical dimension because of the existence extensive PFM crowns.

Firstly, depth cuts of 1.5mm, similar to a porcelain veneer preparation (Fig 4), are made across the incisal edges so as to ensure a critical composite thickness. I have performed this treatment on hundreds of mature adults and as long as water coolant is used, the patients almost never require anesthesia. This is totally opposite to cutting into the dentin of posterior teeth that nearly always will require pulpal anesthesia. Next, a 3mm wide facial-incisal slice (Fig 5, 6) that should not enter into dentin provides the facial wrap necessary to move occlusal contact away from potential marginal areas. A lesser, shorter, slice is recommended for the linguo-incisal edge. If the teeth are so badly worn that these depth cuts and slices will remove the last vestiges of enamel, then opening the vertical dimension instead of incisal reduction should be considered. It is doubtful that a mostly dentin based adhesion will retain heavily loaded restorations. Dentin should receive a countersink of at least .5mm. The countersink created should not

Table 1 – Lower Incisor Overmold Guidelines

Do's	Dont's
Create 1.5 mm of incisal clearance	Prep just the incisal edge dentin with an inverted cone
Create another .5 mm of dentinal clearance using an original Fissurortomy bur, "countersinking" the dentin	Undermine enamel while cutting a "channel" in the exposed dentin
Give .75 mm of inciso-facial reduction	Leave occlusal contacts on margins
Total (rinse-etch with phosphoric acid) etch	Rely on self etch alone
Blow air on the incisors to assess the need for anesthesia	Assume that anesthesia is required, even when performing appropriate aggressive incisal reduction

be undercut, rather, it should have divergent walls similar to the draw of the Fissurotomy bur. Providing additional clearance provides three benefits:

Once the depth cuts are connected and facial-incisal and lingual-incisal slices are finished, the

- Composite performs optimally with a 2mm thickness when in occlusion and when covering dentin. The thin, infinity edge composite-enamel margins of posterior teeth are not applicable on the incisal area and must be moved well out of occlusion.
- The darker dentin which can show through composite is further removed without over-preparing precious enamel.
- Mechanical resistance of the incisal trench aids in placement of the composite, keeping the composite from “sliding around” during placement.

The reader is reminded that the tapering trough along the incisal edge should not undermine enamel rods (Fig. 7). Mechanical undercuts, the foundation of GV



Figure 5- The depth cuts are then joined. If performed with copious water coolant, no anesthesia is required in most cases for these cuts that involve dentin. Interestingly, that is almost never the case in posterior teeth.



Figure 7- Finished preparation for the lower incisor overmold.

Black preparations, are not advantageous to either the tooth or the composite. The final preparation step of the restoration process is to create a slight stripping of the contacts with a ContacEZ instrument to allow placement of a non-metal matrix without having to pry the teeth apart which can be painful to the patient as well as being technically challenging. An additional benefit of the ContacEZ use is the removal of calculus just apical to the contact area. The new handle based abrasive stripping instruments such as the ContacEZ or Qwik Strip have the unique ability to wedge the teeth apart as they lighten the contact. These tools are a huge improvement over traditional lightening strips. If the contact is a little tight, a Clark explorer or endodontic explorer can be inserted between the teeth and gently levered to gain additional temporary tooth separation to allow full insertion of the matrices.

Once the contacts are lightened, Bioclear A-103 anterior matrices are fitted. (Figs 9-12) In this treatment example, the gingival end of some of the matrices were

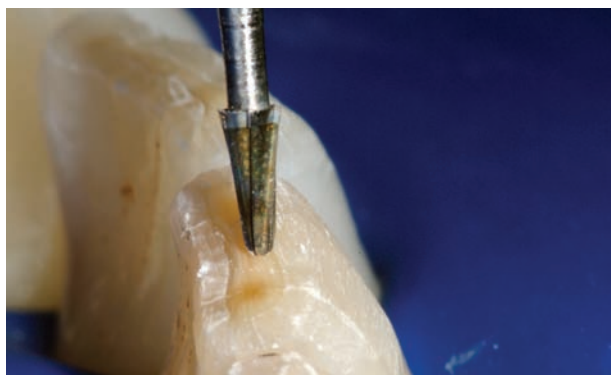


Figure 6- The tip size and taper of the SS White Original Fissurotomy Bur make it the ideal bur to “countersink” the dentin of the lower incisors.



Figure 8- (Image taken from a different case) The red ContacEZ is “knifed” between tight contacts to lighten and clean the contact. The Bioclear matrix is easily inserted once this step is performed. Traditional lightening strips destroy the contact and often lead to sawing of the patient’s lip

trimmed back slightly to eliminate excess curvature. For decades dentists have improvised with crown formers, labored to burnish metal matrices, or created gizmos in the lab or their garage to achieve this kind of shape. The patent pending anatomic matrices at only 50 microns thickness can now make both tight contacts and great curves and are a great improvement over other matrix systems.

The Porcelain/ Composite Tipping Point

One reason that composite is underutilized today for tooth reconstruction is the negative experiences of past treatments performed with a flat matrix and cumbersome composite placement. Injection molding with a balanced amount of a robust, flowable and a creamy paste material is greatly advantageous. Instead of struggling with the unfriendly handling of a stiff paste, the operator can



Figure 9- The ideally shaped A-103 Bioclear matrix is now easily slid into position, from incisal to gingival. The intimate fit plus the sealing pressure of the heavy rubber dam together create a perfect gingival seal without using a wedge.

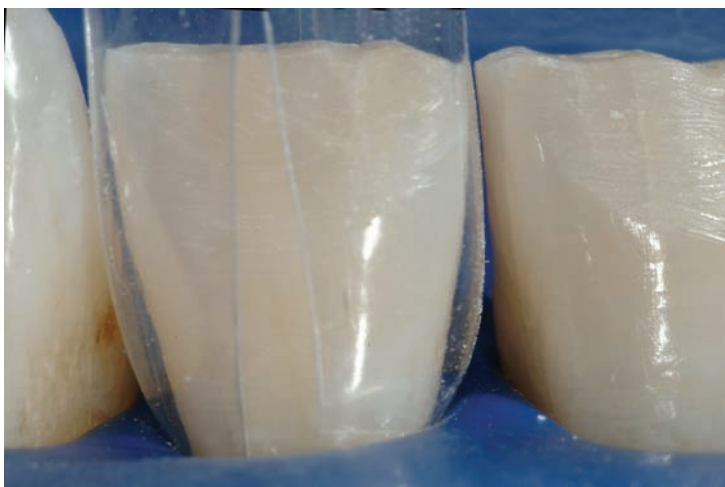


Figure 12- Facial view of two Bioclear A-103 matrices specifically designed for the lower incisors. The shape, size, and fit are so ideal that we can create crown-like contours and esthetics with relative ease.

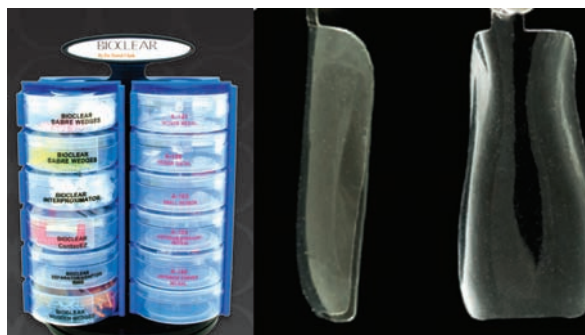


Figure 10- Bioclear Tower with multiple anatomic clear matrices and wedging devices (left) and magnified view of front and side views of the A-103 "Small Incisor" matrix.

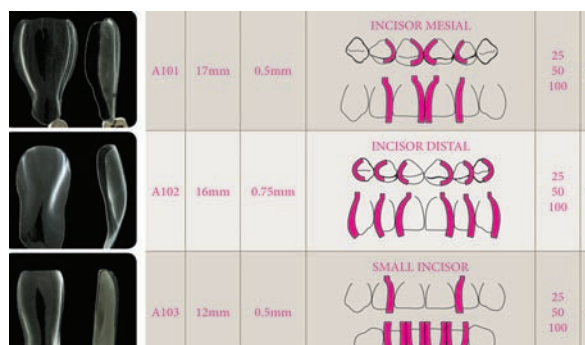


Figure 11- Selection guide and images of the most popular Bioclear anterior matrices

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simply inject “light body then heavy body” composites that provide a seamless paste continuum. The other porcelain /composite tipping point is difficulty of finishing. In the past I have treated similar cases with a flat matrix and a GV Black mindset. I would start the procedure with good intentions and a good attitude. After struggling with the placement, I would suffer and run overtime with the finishing. The embrasure finishing in particular was excruciating difficult, especially near the gingival aspect. The smallness and odd access angles of the lower incisors compounded all of the other problems. When I finally finished, an hour overtime, I thought to myself, “Never again!”

Changing the Way We Think About Composite

Esthetic Bonded porcelain is at its best and least invasive best when it is placed upon the tooth. When it goes around the tooth it requires a mutilatory preparation because the preparation must draw to allow insertion of the unyielding porcelain. A light full crown preparation, actually an oxymoron, can lead to compromises that lead to restorations that are more prone to fracture and have esthetic and functional limitations. I am delighted to announce that composite can be at its best when it wraps around the tooth. The only practical to perform wrapping techniques is with injection molding and an anatomic or diastema closure matrix system. In figure 10 there is an incisal view of two Bioclear matrices in position during the entire tooth etching and composite placement for one of the lower incisors treated in this case.

Injection Molding of Composite - Goodbye GV Black, Hello DJ Clark

This is where it gets interesting... and a little exciting. In the GV Black era (which unfortunately has not ended)

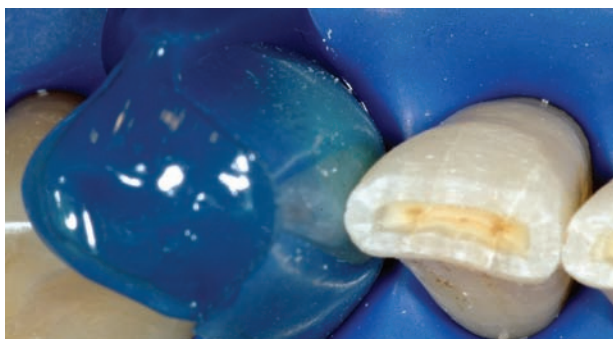


Figure 13- Occlusal view of the Bioclear A-103 matrices loaded with blue etchant. Note that excess etch exits facially and lingually where the two matrices come together. Excess indicates that the matrices are filled and the etchant has reached the entire tooth.

from 1890 to today, we had regimented cavity preparations that had walls, margins, and were bounded by grossly contaminated tooth surfaces. These were adequate concepts for gold and amalgam, but badly flawed for composite. In contemporary Dentistry, (starting now) Injection Overmolding has 4 fundamental requirements:

- 1) The entire tooth should be air abraded to remove Biofilm
- 2) The Interproximals should be fitted with sectional anatomic matrices
- 3) The entire tooth should acid etched (Fig 13)
- 4) The spaces are treated with bonding agent, then filled at the gingival with flowable composite (Fig 14). Next, the creamy Filtek Supreme Plus Ultra paste composite, or a heated stiff paste composite, is injected from facial, lingual and then occlusal. The paste composite displaces most of the flowable composite outwardly through the small partition between the matrices; at mid facial and mid lingual.

The excess is removed; embrasures are wiped clean and dry with disposable brushes. (Fig 15) The mass is light cured. The process is very similar to a porcelain laminate veneer and almost unrelated to what we have done in the past when it comes to operative dentistry. In order to form tight contacts and because the teeth are not wedged for this type of case, it is safer to matrix only one or two teeth at a time (Fig 16).

Composite Finishing: You aren't finished until the finish is smoother than porcelain

Composite polishing is not like any other kind of finishing. What works well in order to polish porcelain, gold, amalgam or acrylic usually fails when it comes to composite. Discs create flat, ugly, unnatural contours

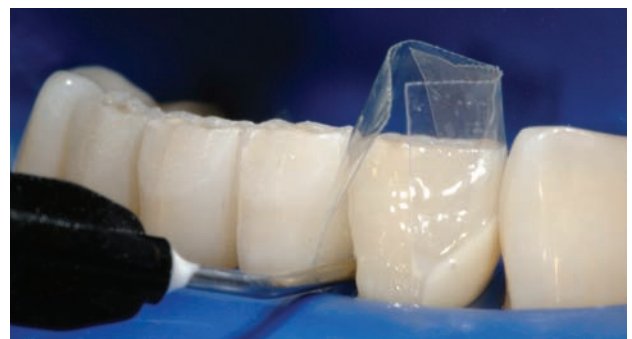


Figure 14- The anatomic matrices, unlike flat Mylar that falls away from the tooth, must be teased away from its adapted position by inserting the tip of the canula of the flowable syringe, and then immediately afterwards with the paste syringe tip (Paste not pictured)



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Figure 15: Several dry Benda-Brushes are utilized to wipe away excess flowable composite that can squirt past the matrix, in the same manner that excess cement is cleared away from the margins of a porcelain veneer before light curing.

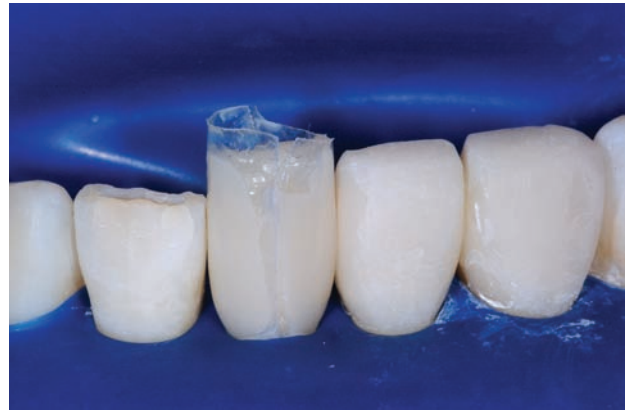
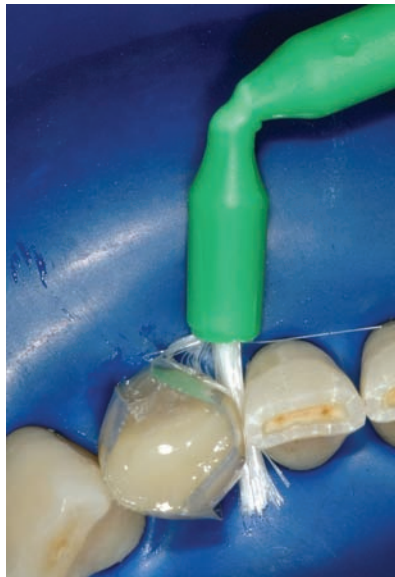


Figure 16- Mid case photograph showing 3 different stages of injection molding. Note the crown like contours and seamless composite surfaces. At only 50 micron thickness, tight contacts are consistent. Crown formers or thick polycarbonate forms cannot be used in this way (patent pending).



Figure 17- Step 2 of the Clark 3 step polish is the use of coarse pumice in a disposable cup. It leaves a nice matte finish with omnidirectional, shallow scratches.



Figure 18 - Step 3 of the Clark finish is the use of the SS White diamond impregnated Jazz polisher or Shape and Shine (Clinical research Dental). Heavy pressure, constant movement, and constant water coolant are key.

that are a dead giveaway that you have a filling on your tooth. Other systems have complicated and expensive components that just don't work to create the mirror smooth yet wavy, undulating surface that you see in figures 19 and 21. The 3 step Clark polish follows gross contouring which is accomplished with discs, diamond burs and carbides. Once the shape is close, we move to finishing/polishing

- **Step 1-** A brownie point (Shofu) at medium speed with water coolant is used to marginate and undulate (run the brownie up and down the mammelon groove areas to create two vertical striations)
- **Step 2-** Wetted coarse lab pumice (Fig 17) is then utilized in an inexpensive disposable cup. Remember that it should be replenished every few seconds, otherwise you risk overheating the tooth, wasting your time by heat damaging the composite.
- **Step 3-** The Jazz (SS White) or Shape and Shine

Polisher (Clinical Research Dental) (Fig 18) is implemented with an interesting dance of heavy pressure, constant movement, and copious water coolant. (Please see my technique video "Dr Clark's 3 step composite polish technique on Utube or the Bioclearmatrix website. Other injection molding technique videos and articles are also available online.)

Conclusion

At first glance the preparations in this article may seem aggressive for composite. However, once the incisal edge is restored in this manner, the wear of the tooth actually will slow down significantly. Be reminded that many of the new composites wear at the same rate as enamel and far slower than the dentin it replaces. If these edges are not protected and rebuilt, these lower incisor teeth can suffer a cascading effect in terms of wear as the



Figs 19, 20) Facial and lingual post-operative views of the incisor overmold treatment. By locking the composite under the contact with anatomic curved matrices, the strength, esthetics and black triangle closure capabilities are quite stunning.



Figure 21- High magnification view (12x) of the natural looking finish. Unlike the flat, grainy finish created by discs, the Clark approach leaves a "living" yet incredibly polished surface.

percentage of dentin exposed at the incisal edge increases and the enamel disappears. It is common to see older patients with severe lower incisor wear, sometimes right down to the gum line, especially when they are opposed by porcelain crown or veneers on the maxillary incisors. Pulpal necrosis in these severely worn lower teeth is also not uncommon.

This pulpally friendly, aggressive yet preventive procedure can become a significant tool of the renaissance dentist's armamentarium. Whether for esthetics, prevention, or both; I encourage the reader to consider the significance of this treatment modality. It can provide unparalleled esthetics and strength in a less invasive treatment Figs (19-21)

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About the Author

Dr. David Clark founded the Academy of Microscope Enhanced Dentistry, an international association formed to advance the science and practice of microendodontics, microperiodontics, microprosthodontics, and microdentistry. He is a course director at the Newport Coast Oral Facial Institute in Newport Beach, CA, and is co-director of Precision Aesthetics Northwest in Tacoma, WA.

He lectures and gives hands-on seminars internationally on a variety of topics related to microscope-enhanced dentistry.

He has developed numerous innovations in the fields of micro dental instrumentation, imaging, and dental operator design and authored several landmark articles. Dr. Clark is a 1986 graduate of the University of Washington, School of Dentistry. He maintains a microscope-centered restorative practice in Tacoma, WA.



A conservative smile makeover utilizing both a minimally invasive and non-invasive prep-less porcelain veneer technique.



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Réfection conservatrice d'un sourire, utilisant à la fois des tailles minimales et la technique non-invasive de facettes en procelaine.

Par Todd C. Snyder, DDS, AAACD

Abstract

Creating a beautiful smile for our patients is very rewarding but it can also be very challenging. Ceramic veneers have changed the way we approach treating patients in the past twenty five years. Whether it is restoring one tooth or a whole smile with ceramic veneers it is nothing short of amazing in the difference we can make to someone's appearance and life. When veneers were first introduced, they were a minimally invasive procedure to alter the appearance of the teeth and the smile. For many the veneering process changed with time and the advent of newer materials into a more invasive means to alter a smile with the cost often being significant tooth reduction of the teeth and the exposure of dentin. In more recent years, modern lithium disilicate ceramics with their higher strength properties have allowed for less invasive tooth reduction or no reduction just like traditional preparation designs done with feldspathic ceramics. Furthermore due to enhanced material strength and improved optical properties the ability to create true to life aesthetics with modern materials can again be achieved in extremely thin restorations.

In the past decade cosmetic dentistry has changed dramatically with the ability to utilize newer more durable ceramic restorations to alter the appearance of one's smile. In the 90's the advent of pressed ceramics allowed for veneers to be fabricated from a stronger material but more aggressive preparations were necessary at approximately eight tenths of a millimeter or more necessitating dentin bonding. The original feldspathic porcelain veneering technique described in the 80's utilized about half a millimeter of tooth reduction along with enamel bonding to achieve high bond strengths and great success. By comparison the more extensive tooth reduction that came with pressed ceramics utilized more dentin bonding which at the time offered lower bond strengths compared to enamel and restorations often had a reduced longevity.¹

Thinner and more aesthetically appealing restorations have come back into popularity in more recent years

with the introduction of lithium disilicate restorations. These modern high strength ceramics can be utilized to fabricate conservative veneers that are approximately three tenths of a millimeter in thickness just like feldspathic porcelains. Further advances in the lithium disilicate chemistry have also created improvements in both translucency and aesthetics. The material can be utilized for very thin restorations with life like characteristics very much like traditional stacked/feldspathic porcelain veneers yet having substantially higher material strength properties. The current ability to alter the appearance of teeth while maintaining enamel to adhere to and utilizing strong pressed ceramics or traditional feldspathic porcelain is as good as or better than ever before. The continued growth in smile makeovers and porcelain veneers continues to be an area of interest as public awareness grows from more visibility in movies, television and other

Créer un joli sourire pour nos patients est très satisfaisant, mais peut être aussi très difficile. Les facettes de céramique ont modifiés la façon dont nous approchons tout traitement pour les patients, durant ces dernières vingt années. Que ce soit la restauration d'une dent ou tout un sourire, avec des facettes de céramique, il n'y a rien de plus extraordinaire, de par la différence, que nous ne puissions faire pour l'apparence, et pour la vie de quelqu'un. Lorsque les facettes apparurent pour la première fois, c'était un procédé moyennement invasif pour changer l'apparence des dents et du sourire. Pour plusieurs, le processus de recouvrement a évolué, avec le temps et la venue de nouveaux matériaux, pour des moyens plus invasifs afin de modifier le sourire, au prix, souvent significatif, de réduction des dents et d'exposition de la dentine. Au cours des dernières années, des céramiques modernes de lithium disilicate avec des propriétés de haute résistance, ont permis de moins invasives réduction des dents ou pas de réduction ; tout juste comme dans les traditionnelles conceptions de préparations faites pour les céramiques feldspathiques. De plus, dû à des matériaux de grande résistance et aux propriétés optiques améliorées, l'habileté de créer une esthétique plus fidèle que vraie avec des matériaux modernes, peut à nouveau être obtenu par des restaurations extrêmement minces.

media. Based on aesthetics, strength and technique there are many options available to alter our patients appearance, but more importantly that anyone can offer the procedure where applicable with minimal to no damage of the tooth structure. Through proper training and the use of talented technicians we can make incredible changes in a patient's appearance and recreate beautiful, natural smiles to enhance their lives far better than they could ever imagine while being minimally invasive.

In this case a patient presents post orthodontic therapy with the desire to close spaces, change the shape and remove unsightly decalcifications on the anterior teeth. The patient presented with no periodontal disease and a stable posterior occlusion, but has minimal canine guidance. The treatment plan would be to have the patient's teeth cleaned followed by impressions to create four sets of diagnostic models. The first set would remain untouched documenting how the case originally presented. The second set would be used to fabricate custom whitening trays for the patient to use at home prior to starting the case while the diagnostic waxup was being fabricated. The third set of models would be to use as a practice preparation model where testing of the hypothetical veneer design takes place. The fourth set of models would be sent to the laboratory for a diagnostic waxup where the models would be waxed to ideal contours (while taking into account the patient's desired appearance) so that jigs and reduction guides could be fabricated.

There are many ways to work up a cosmetic case diagnosis and treatment plan. Photographs of the case are very important to the diagnostic process in evaluating shapes, color and overall appearance in relation to the face. Various templates and smile design books can assist in development and discussion with the patient and ceramist as to the desired final appearance of the

restorations. Additionally digital photographs can be measured and evaluated for symmetry and proportion where modifications, possible treatment procedures and outcomes can be hypothesized and created. Outlines of various teeth shapes can be overlaid onto the existing dentition digitally whereby the aesthetics and positions of teeth and gums can be evaluated more thoroughly by the dentist, specialists, technicians and the patient. Ultimately a diagnostic wax-up needs to be created by using the various forms of input on shape, texture, color, translucency and effects.² The diagnostic wax-up, upon approval from the patient, is considered the final treatment plan and can then be used to fabricate a template to create an actual mockup on the patient of the final shape/appearance for further evaluation and verification. In this case the maxillary incisors were in a favorable position facially and adding an additional layer of porcelain was determined to position the facial surfaces out further than what would be aesthetically pleasing. These teeth would need minimum reduction to resurface the facial aesthetics and add to the incisal edges. The canines were determined to be deficient bilaterally from the center line of the tooth to the mesial contact along with the incisal edge needing to be lengthened.

Based on the diagnostic wax-up and the preparation designs attempted on the diagnostic models the dentist and ceramist can determine the type of material to be utilized and any unforeseen problems or hypothetical situations can be discussed prior to starting the case. Feldspathic porcelain which has a flexural strength of approximately 80 mpa can be used when very minimal porcelain is extended off of tooth structure. Leucite based ceramics offer about 125-180 mpa. Lithium disilicate ceramics have a flexural strength of approximately 360-400 mpa and are ideal for conservative veneers or ones that require more strength





Figure 1



Figure 2



Figure 3



Figure 4



Figure 5



Figure 6

when lengthening teeth or replacing larger amounts of unsupported tooth structure.

The first step in this case was to have the patient's teeth cleaned and polished.(Fig 1-6) Next we had her whiten her teeth at home using the custom fabricated whitening trays until she achieved a plateau in approximately 10-14 days. The color selection needs to be taken approximately 10-14 days after whitening to allow enough time for the color to stabilize. Furthermore no adhesive dentistry should be performed on teeth for two weeks after whitening as bond strengths may be compromised from the residual components.³

While the patient is whitening for two weeks the diagnostic models (Fig 7) are being waxed to ideal shapes based on input from the patient as well as a digital

mockup.⁴ The final diagnostic wax-up was presented to the patient during the two week whitening follow-up. (Fig 8) Based on the patient's approval we will receive an authorization signature to move forward with the case using the wax-up as a template by the patient so that we could then fabricate depth reduction guides, a baseline provisional template, custom impression tray and assorted jigs for the master ceramist.

Local anesthetic (2 carpules 2% Lidocaine w/ 1:100,000 epi) was given. Prior to preparing the teeth a periodontal probe is used to sound to bone anywhere that an interproximal contact needs to be created or a gingival embrasure black triangle needs to be closed. This will help determine where the final contact point will need to be in the restoration to have the gingival



Figure 7



Figure 8



Figure 9-11

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tissues fill in the area such that gingival black triangles can be eliminated.⁵ The four maxillary incisors were next to be prepared for veneers. The first step is to cut depth grooves so that minimal yet ideal tooth structure can be removed. All of this should have been predetermined as to how much reduction would be necessary prior to the preparation appointment by practicing on one of the four sets of diagnostic models of the patient's dentition. Using specially designed depth cutting burs that offer tenth of a millimeter increment

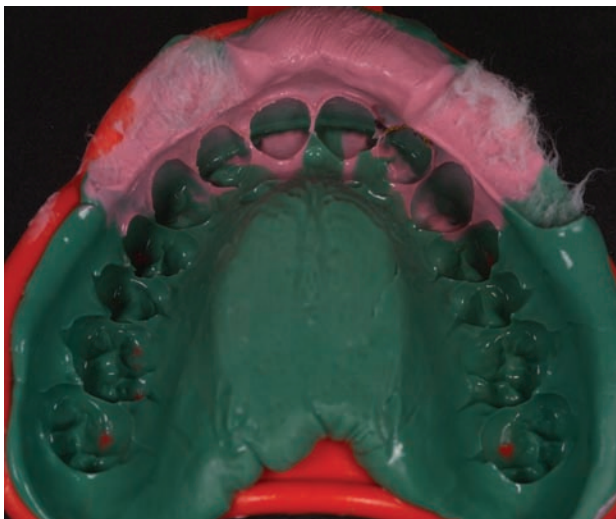


Figure 12

depth cuts (Lasco Corporation) followed by diamond burs from the Aesthetic Dental Designs® bur kit (Brasseler USA) in an e-Stasis SLM electric handpiece (SciCan) the teeth would be reduced to ideal depths. (Fig 9-11) #00 retraction cord (Ultradent Products Inc) was placed on all six teeth with no astringents. The gingival margins were then refined on the maxillary incisors with a sonic handpiece and diamond coated inserts (Komet USA).⁶ The canines had no preparation done to them as the deficient areas already had adequate space that would be filled in with partial coverage veneers. Photographs were taken to document the prepared tooth shade for the laboratory. Impressions were taken with a vinyl polyether silicone impression material (EXA'lence, GC America) in a customized stock Heat Wave impression tray (Clinician's Choice).⁷ (Fig 12) A wax bite (Delar Corp) and earbow (SAM 3, Great Lakes Prosthodontics) were used along with shimstock (Almore Corp) to be able to mount the final models and maintain the same occlusion. The provisionals were then fabricated from a beadline over impression of the diagnostic wax-up using a polyvinyl siloxane (Template, Clinician's Choice).⁸ The teeth were treated with tubicid red (Global Dental) prior to placement of the Structur 3 temporary acrylic shade B1 (VOCO). The provisional restorations were locked on mechanically



Figure 13



Figure 14

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Figure 15



Figure 16



Figure 17



Figure 18



Figure 19



Figure 20



Figure 21



Figure 22



Figure 23



Figure 24



Figure 25



Figure 26

and hence did not need temporary cement. The minimal flash of acrylic was due to the excellent adaptation that a beadline provisional template imparts when used for aesthetic cases. The restorations needed to just be wiped with an alcohol gauze to remove the minimal oxygen inhibition layer. (Fig. 13-14)

At the next visit local anesthetic (2 carpules 2% Lidocaine w/ 1:100,000 epi) was given followed by removal of the temporaries. The teeth were cleaned with a Crystal Air heliabrasion unit (CrystalMark Dental Systems, Inc. Glendale, CA.) taking care to avoid contact with the gingival tissues. The veneers were evaluated as to shape, color, texture, margins and contacts on

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Figure L1



Figure L2



Figure L3

the models. (FIG L1-3) The veneers were silanated prior to try-in with porcelain prime / bis-silane (Bisco Corporation). A translucent water soluble try-in gel (Choice 2 Bisco) was used so the restorations could be evaluated for fit, occlusion and esthetics. The restorations were evaluated by the patient and upon approval a signature was received to authorize cementation. The restorations were steam cleaned and the teeth were rinsed thoroughly to remove any water soluble try-in paste. The veneers were then redundantly silanated and placed under a heating element briefly and allowed to dry. Preparations in enamel have a better longevity for many reasons, however the most substantial one is that bonding to dentin with resins can have a 30-40% decrease in microtensile bond strengths in as little as 6 to 12 months.⁹⁻¹³ The teeth were isolated and etched followed by All Bond 3 adhesive and translucent Choice 2 light cured resin cement (Bisco Corporation) were used per the manufacturer's instructions. The majority of the excess resin cement was removed leaving only a small amount on the margins. The restorations were cured with a Valo LED curing light (Ultradent Corporation). Excess material was then cleaned off with tungsten carbide carvers (HuFriedy) and the contacts were flossed. Leaving a small amount of excess resin allows for certainty of complete curing without having an air inhibition layer on a margin in addition to avoiding having a margin that

is not sealed completely. The final restorations having been cleaned, contacts checked and any excess resin on the margins been removed were then evaluated. (Fig 15-23) Occlusion and excursive were then verified with TrollFoil (Troll Dental) and shimstock (Almore). (Fig 24-26) The patient returned a few weeks later for post-operative evaluation and a clear overlay retainer.

This case highlights the importance of recognizing that where deficiencies in tooth structure, positions or length are involved traditional feldspathic porcelain can be used to recreate ideal shapes, color, texture and function. When higher strength properties are required the modern high strength lithium disilicate ceramics can be utilized in the same fashion to compensate and replace the deficient tooth space with a non-invasive prepless veneer technique. However where teeth are already in a favorable facial position, minimally invasive preparation techniques that maintain enamel are still necessary to allow for adequate space for beautiful ceramics and ideal tooth shape.¹⁴

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About the Author

Todd C. Snyder, DDS, AAACD attended three years of college at the University of California at Riverside, forgoing the last year and a Bachelor's of Science degree to enroll early into dental school. Dr. Snyder received his D.D.S. in 1994 from the University of California at Los Angeles, School of Dentistry. He subsequently completed a General Practice Residency at the V.A. Medical Center, La Jolla, California.

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Chandur Wadhvani,
BDS MSD

Abstract

Post-restorative knowledge of the exact trajectory and location of an implant fixture beneath the restoration must be a prerequisite for long-term success. For several reasons, starting with component connection evaluation and beyond, as the implant supporting tissues are followed from a health perspective (i.e. monitoring bone levels). It is also invaluable when a screw access channel must be found under a cement-retained implant restoration.

A novel implant-locating device has been developed to serve these 2 functions: 1) to preserve the access position for the abutment screw for maintenance in a cemented implant restoration, and 2) to act as a x-ray paralleling device to detect prosthetic misfit and monitor crestal bone change around an implant. The device is indexed perpendicularly to the implant fixture and the adjacent dentition or anatomical landmark using an implant placement driver and occlusal registration material. Recording the fixture orientation with a customized occlusal index provides a noninvasive way to retrieve access to the fixture for cement-retained crowns and to optimize the diagnostic value of intraoral radiography for implants.

Résumé

La connaissance post-opératoire de la trajectoire et de la localisation exacte de l'implant sous la restauration, doit être une condition sine qua non pour un succès à long terme. Pour plusieurs raisons, en commençant avec l'évaluation des connexions des composantes et au-delà, du fait que l'état de santé des tissus supportant l'implant doit être suivi (i.e. évaluation des niveaux osseux). C'est aussi incontournable, quand le canal d'accès pour la vis, doit être recherché sous une restauration implanto-portée cimentée.

Un nouveau dispositif de localisation d'implant a été développé pour servir ces deux fonctions : 1) afin de garder la position d'accès pour la vis du pilier, pour un réglage, dans le cas d'une restauration implanto-portée cimentée, et 2) servant comme moyen de paralléliser les radiographies afin de détecter les imprécisions prothétiques, et suivre tout changement de la crête osseuse autour de l'implant. Ce dispositif est indexé perpendiculairement à l'implant, et à la dentition adjacente ou à quelque repaire anatomique, en se servant d'un tournevis de mise en place d'implant, et d'un matériau d'enregistrement occlusal. L'enregistrement de l'orientation du dispositif avec un indice occlusal individualisé, permet de récupérer l'accès de la tête de l'implant de façon non invasive pour des couronnes cimentées, et pour optimiser la valeur diagnostic des radiographies intraorales pour implants.



INTRODUCTION:

Guides are commonly used for implant positioning during the treatment planning and surgical execution stages of implant placement. However, once the implant is restored, the site of the supporting implant fixture is usually considered unimportant and frequently

overlooked. This must be considered a clinical oversight as exact location of the position and trajectory should be accurately recorded for three major reasons. Connection component fit is paramount for the implant to be successful, failure to locate a component misfit at any stage of the implant restoration must be considered

problematic. Second, if the clinician needs to retrieve the abutment screw to address an implant complication, it would be extremely difficult to do so without the knowledge of the screw access channel especially if it is a cemented restoration.¹ Third, a record of the fixture trajectory and position allows for standardization of serial radiographs of the implant site. Such radiographic technique provides proper evaluation of the health of the osseointegration. Monitoring of the crestal bone height is usually achieved with intraoral radiography; and to be of any diagnostic value, the radiographs must be standardized and perpendicular (orthogonal) to the abutment-fixture junction from one film to the next. This way, the radiographs will portray accurate information about the health of the implant and the adjacent supporting tissues as well as the fit of the connecting implant components.²⁻⁵

A precision implant-locating device (PILD) was initially developed to record the implant abutment screw position prior to cementing the implant restoration. Its purpose was to act as a guide that would record the site and trajectory of the fixture. When an abutment screw needs to be accessed due to the need for fixture maintenance or prosthetic repair, the positioner could effectively direct the access bur to the screw head while producing minimize damage to the cemented crown and abutment.¹ The use of the device expedited the process of retrieval much more efficiently and accurately in comparison to all other known methods used today (Fig. 1-5).

Through the use of PILD, it was then realized that, because the guide was designed with paralleling surfaces and fabricated according to the long-axis trajectory of the fixture, it could be coupled to an x-ray film holder

and used as a device to provide standardized orthogonal radiographs. This was a tremendous improvement over the designs of previously available x-ray paralleling devices. Some required the implant restoration to be dismantled for film holder to be connected to the fixture; others use arbitrary location techniques that provide inconsistent serial radiographs inaccurate for diagnosis.²⁻⁵ The value of such a device for radiographic evaluation of component fit is currently being evaluated and early results indicate that it has substantial value; and at the very least, radiographs should be made in the context of the implant long axis to fully establish the crucial component-implant fit relationship.⁶

The following section provides an overview of the design of the implant-locating device. The techniques of how the index is fabricated and used as an x-ray paralleling device are also described. Design features of the implant-locating device (Fig. 1A, B, C)

1. **The central hole** – the space allows for a tight fit of a “latch grip” bur attachment and holds the bur shank at 90 degrees to the device.
2. **The implant indexing side (underside)** – the multiple retention dips are designed to improve the adherence between the index and the registration material. This allows the bite registration record of the fixture to the occlusal surfaces of the adjacent teeth to be securely maintained.

Fixative adhesive must be applied prior to the indexing procedure. Blu-Mousse (Parkell, Edgewood, NY) is the recommended choice of material due to its rigidity, versatility, and ease of use. One must also ensure that the adjacent teeth embrasures are free of excess

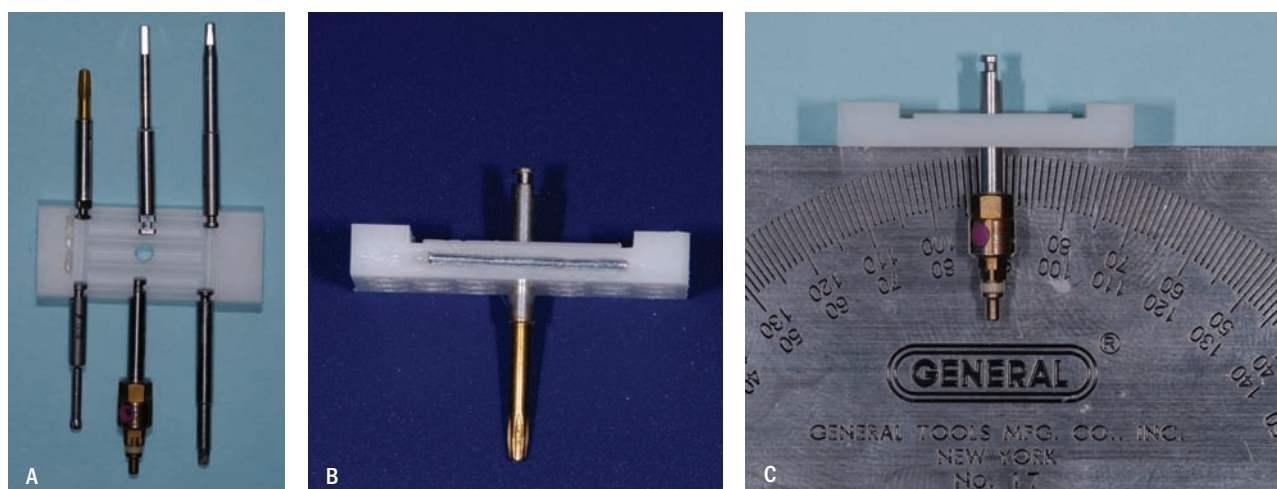


Figure 1- A: the illustration depicts the location of the central hole and the retention dips on the underside of the index; the dimensional compatibility between latch grip attachments and the device is also displayed; B,C: the perpendicular (orthogonal) relationship between the latch grip implant tools and the index is demonstrated

material in order to allow full seating of the index.

3. **The occlusal facing surface** – designed for the secure attachment of the device to the RINN x-ray film holder (Rinn XCP, Dentsply Rinn, Elgin, IL).

TECHNIQUE:

Instructions for use

1. Obtain access to the fixture

The fabrication of the registration index on the device is obtained when access to the fixture or the fixture analog is convenient. In the lab, the bite registration for the index can be made on the implant cast during the manufacturing of the crown abutment; intraorally, the indexing can be done at the time of implant surgery or after osseointegration is achieved.

2. Place any latch grip sized implant tool (placement driver recommended) including most screwdrivers into the central hole and adjust the implant indexing side to be as close to the implant as possible (Fig 1A, B, C; Fig 2A, B). The authors found that implant screwdriver works well if the driver is unworn and if

the screw engagement is clean; implant placement drivers also provides stable attachment to the fixture/fixture analog.

3. Place adequate amount of fixative adhesive on the implant facing side of the PIXRL (dimples).
4. Apply the indexing material (i.e. Blu-Mousse) and align the engagement to the implant so that the plate is just above the occlusal plane of the indexing teeth. (Fig. 3A, B)
5. After the indexing material sets, remove the device and the latch grip attachment from the implant cast or the mouth; check that the Blu-Mousse is NOT covering the implant site – any material remnant at the embrasures must be cleared - use a sharp scalpel to remove any overlap excess (Fig. 4).
6. Place the crown over the implant abutment; for extra stability, add more indexing material so the crown is securely indexed (Fig. 5A, B).
7. The implant-locating device now has a three-dimensional record of the implant site - this is used to relate and standardize radiographs when the RINN x-ray film holder is attached (Fig. 6A, B, C).

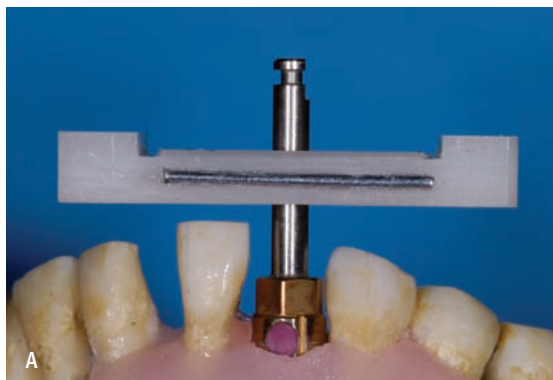


Figure 2- A: frontal view of how the device is perpendicularly oriented to the implant fixture through the connection with the latch grip instrument (i.e. implant placement driver); B: the sagittal view of this assembly

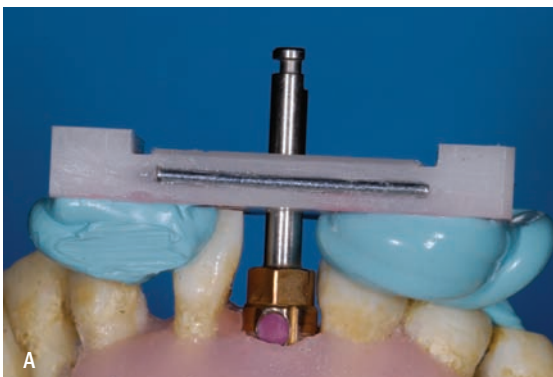


Figure 3- A: the registration index with the adjacent teeth is created using Blu-Mousse; B: the sagittal view of this record

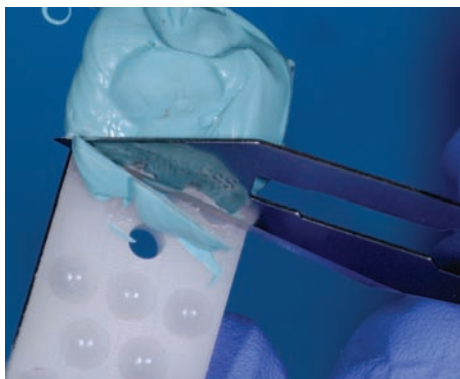


Figure 4: Excess registration material must be removed in order to avoid interferences while seating the implant restoration



Figure 5- A: additional bite registration material is added once the crown is seated for extra stability of the indexing device; B: post-addition of the material at the restoration site

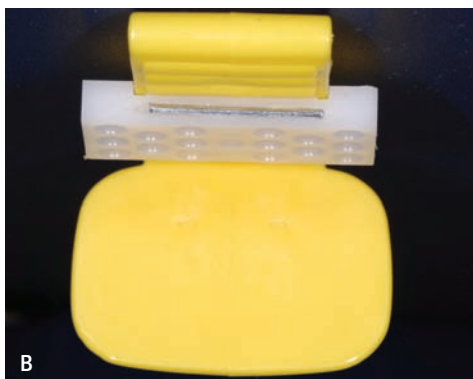


Figure 6- A,B: the occlusal facing surface provides secure attachment of the device to the RINN x-ray film holder; C: used intraorally as a x-ray paralleling device

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The diagram shows a stylized dental arch with various logos connected to it by lines, indicating the range of services offered. The logos include: BIOHORIZONS, Nobel Biocare, ASTRA, zimmer, straumann, DENTSPLY, BIOMET 3i, Implant Direct, and IMTEC.

DISCUSSION:

Preservation of access to fixture is critical for the maintenance of a cement-retained implant restoration. In order to resolve prosthetic complications (i.e. abutment screw loosening and porcelain fracture) post delivery, removal of the prosthesis from the fixture is often necessary. Several authors have proposed different techniques to locate screw access and minimize component damage, but the resulting reference records are unfortunately two-dimensional and problematic. For instance, periapical radiographs may only help indicate the fixture's long-axis angulation⁷; occlusal photograph of the abutment only gives reference to the screw access before crown cementation⁸; and marked vacuum-formed template or stained porcelain over the definitive restoration only offers occlusal reference for accessing the screw channel.⁹⁻¹¹ The aforementioned techniques simply do not reflect the three-dimensional fixture orientation accurately.

In addition, studies have shown that clinical improper alignment of the x-ray beam and the abutment-fixture junction can easily hide a prosthetic misfit and misinform the clinicians about the location of the crestal bone margin relative to the fixture. Maintaining the x-ray beam perpendicular (orthogonal) to the abutment-fixture junction is absolutely critical for accurate radiographic evaluation of prosthetic misfit and osseointegration.¹²⁻¹⁸ It is likely that all studies relating bone changes around implants over time lack proper standardization.¹⁶⁻¹⁸ This is such an oversight that in most cases, serial comparisons of the same implant sites become pointless because the evaluation of radiographs cannot be considered true. A recent study was marketed as a key study that demonstrates the clinical success of a particular implant system despite this shortcoming.¹⁹

With the techniques described using the implant-locating paralleling device, clinicians will be able to create a simple and accurate implant three-dimensional reference efficiently with little cost. The fabrication of the index can be done by the clinician or auxiliary staff at the time of surgery or during the fabrication of the restoration.

CONCLUSION:

By indexing the implant fixture to the adjacent dentition or anatomical landmark, the authors developed a fixture-locating device that can be attached to commercially available film holders. When properly fabricated, the registration index serves two purposes: 1) when access to the fixture is warranted for prosthetic maintenance or repair, the jig provides a three-dimensional positional

reference to retrieve the abutment screw conservatively in a cement-retained restoration; 2) when assessment for prosthetic misfit or crestal bone level change is needed, the jig acts as a x-ray paralleling device to optimize the intraoral radiographic evaluation.

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IN MEMORIAM

GELFANT, Harry Laurie, (D.D.S.)

CARDP/ACDRP Life Member

At home, on April 6th, 2013. Husband, father and grandfather, dentist, outdoorsman, athlete, mentor, community leader, Herschel Lazar (Harry Laurie) Gelfant stood under five foot nine, but was a towering personality. Born in Rosthern, Saskatchewan (May 31th, 1923) to immigrants (Joseph and Brindl) who came to Canada to escape pogroms, his is the story of the many western Canadian Jews who created immense success out of the tatters of history.

During The Depression, his family moved to Winnipeg, where his mother plucked chickens to earn money to try to feed her family. With a garlic clove around his neck to ward off illness, Harry delivered the birds to her customers on bicycle. A champion speed skater, Harry attended St. John's Tech High School in Winnipeg, and the University of Manitoba. He enlisted, but as a Navy telegrapher and bandsman, did not see battle. Discharged in 1945, he applied to The University of Toronto Dental School, but was refused, because the quota for Jews was filled. So, he took the train from Winnipeg to Toronto, and dressed in his military uniform, forced his way into the dean's office, demanded and got a place in the class. On graduation in 1949, he married Maxine Shirley Cohen back in Winnipeg, whom he thought was from the better side of the tracks. Three children (Roberta, Benjamin and Daniel) were born. Harry created a thriving practice in Winnipeg and a rich life together with Maxine.

He fought with Crohn's disease, and every underwriter refused him life insurance because of it. So, early on, on his father-in-law's advice, he turned to real estate investments to protect his family's future. Active in community and professional affairs, Harry also built a cottage for his family at Falcon Lake and joined his pals at a fishing lodge in Northern Manitoba on just about every weekend from spring thaw until first snowfall. But it wasn't enough, and so, in 1969, midway through his 40s, he packed up the family and moved west to Vancouver, for the skiing, boating and broader professional horizons.

He specialized in prosthetic dentistry and, as a pioneer of new technologies and techniques, and was one of the first to recognize that all dental work had to respect and protect the natural anatomy. As a pioneer of this new specialty called gnathology, he was invited to train and mentor dentists all over the world. But he refused to travel unless Maxine's air fare and

hotel were included in the arrangements, and it had to be first class all the way, from Peru, to Japan, Europe, Israel and back. As he used to say, 'Not bad for a little Jewish dentist from Winnipeg!' Harry had many illustrious patients, but gave everyone who sat in his chair the same exceptional care.

Like Maxine, Harry was a tireless soldier for the Liberal Party of Canada and a top notch fundraiser for community organizations including The United Way, The United Jewish Appeal and the Louis Brier Home for the Aged, just to name a few. He stared down melanoma and kept skiing and playing tennis longer than any normal person. Through it all, he showed his children and grandchildren how to get the most out of life and gave them every opportunity to do just that. In 2006, Maxine was diagnosed with cancer, and in 2008, Harry's heart was broken when he said goodbye to her. Though he barely managed with his own health, he made the most of these last years. His housekeeper, Flore Reynante, had a roast chicken for him on Friday nights and faithfully kept his home as Maxine did. He read constantly - mostly history and biography - played bridge, managed his investments and enjoyed his friends, especially Katherine Sanford. With Katherine, he made it once more to his beloved Israel, and even on a cruise just four months ago to South-East Asia.

Harry is predeceased by his brothers William and Louis. He is survived by his three children, sons-in-law Brian Mickelson and Allan Risk, daughter-in-law, Barbara Gelfant, and five grandchildren Max (Jac-Lyn), Sam, Zoë, Sophia, Hanna. Many thanks to Drs. Ric Arseneau and Lyall Levy for their years of care, Jose Lanuzo and Rex Lazo, and to Pacific Spirit and Evergreen Nursing for his palliative care.

Funeral Services Tuesday, April 9th, 12:30 p.m., Temple Shalom, 7190 Oak Street, Vancouver, followed by interment at Temple Shalom White Rock Cemetery. Shiva at 1510 West 36th Avenue, April 9-11, 7:00 p.m. No flowers, please; donations to the Jewish National Fund of Canada for tree planting in Israel www.jnf.ca/treecard.html



Welcome Message from Program Essay Chair – CARDP Vancouver, 2013 - Annual Scientific Meeting – “The Art of What we Know”



Dr. Dennis Nimchuk

The Canadian Academy of Restorative Dentistry and Prosthodontics (CARDP) has a tradition, going back to 1962, of conducting an Annual Scientific Meeting. The Annual Scientific Meeting, in fact, is the principal *raison d'être* that drives the Academy to disseminate important clinical and research based dental knowledge to its members. The members of the Academy benefit greatly as does the public that they serve.

Today, we are a world away from 1962. Back then, there existed sparse access to quality continuing education. If anyone wanted to advance in the Art and Science of Dentistry individually, it involved considerable travel effort and expense in a search for personalized mentorship knowledge and enhanced training. A solution to the limitations of obtaining advanced dental education was borne out of the vision of a group of motivated and dedicated Dentists who formed a collaboration that would funnel the resources required to bring continuing education to a geographically accessible focal point. Thus, The Canadian Academy of Prosthodontics was created, followed by, a number of years later, The Canadian Academy of Restorative Dentistry. In 1992 these two paralleling Academies merged to become what is now The Canadian Academy of Restorative Dentistry and Prosthodontics.

Aside from the primary objective of circulating knowledge among its members, a secondary benefit of holding a collective Annual Scientific Program quickly became apparent: a unique climate of support and collegiality developed within a group of like-minded Dentists gathering from cities and provinces across the country. Year by year, as the knowledge base grew, so did the fraternization of its colleagues. CARDP Members are more than a mere roster of names, they are true supporters and friends.

Things have radically changed since the 1960s, in the way knowledge is shared. Thanks to technology, it is now possible to obtain continuing education electronically via the world-wide-web without ever leaving home, or by ordering DVDs or downloading short-burst, concentrated instruction videos. In the lecture hall, computer driven digital presentations can produce stunning, interactive performance-based experiences that captivate an audience. We have so many choices now, from the myriad of convenience-based learning methods to the

time tested melting pot where people gather to learn, to become stimulated and to engage in conversation, to agree or examine why they disagree. The meeting place remains a favorite method of interaction, for the benefit of each and all. This is at the core of The Annual Scientific Meeting.

It has been seven years since the Meeting was last held in Vancouver and anticipation has been building over the Program, over who will be showcased and what will be presented. It is the role of the Scientific Program Chair and the Program Committee to put forward a lineup that will inspire, motivate, teach and, moreover, entertain.

We stand today at the crossroads of the three greatest developments in clinical dentistry: the ability to bond composite resin to enamel and dentine - the ability to replace teeth with titanium root form implants - the ability to create wonderful ceramic restorations. No other transformative clinical therapies have come to the fore since. We find ourselves at a time of consolidation of those technologies and of finessing what has been developed. And so this is the substance of our program in 2013....“The Art of What We Know”

Dr. David Clark, from Tacoma, Washington, one of the foremost experts in the art of applied clinical composite technology, will disclose how to utilize composite bonding to make resin based restorations better, quicker, more esthetic and more enduring. You think you are good. Dr. Clark will show you how great you can be.

We will learn how we can do dental implants better, more rapidly, esthetically and durably. Dr. Harold Baumgarten from Philadelphia will show us the state of the art in dental implants.

The use of contemporary ceramics for crowns and ceramic restorations that defy detection will also be demonstrated. Dr. Christian Coachman from Rio de Janeiro will astound us with the possibilities of creating intricate, supernatural porcelain designs.

Dr. David Sweet, Canada's most revered and honoured Dentist will address us with a “not to be missed” presentation.

These are just some of the highlights from a roster of outstanding presenters. Vancouver will be showcasing experts who will discuss, not just what we know, but how to produce the very best of the “Art of What we Know”.

Mot du président du programme scientifique – ACDRP Vancouver 2013–Congrès scientifique annuel 2013– L'Art du Savoir



Dr. Dennis Nimchuk

L'Académie canadienne de dentisterie restauratrice et de prosthodontie (ACDRP) a une tradition, remontant à 1962, de tenir un congrès annuel. En fait, ce congrès est la raison d'être de notre organisme, ayant comme objectif premier de disséminer à ses membres les connaissances importantes en matière de dentisterie clinique et en recherche dentaire. Par conséquent, nos membres, tout comme le public qu'ils desservent, en profitent énormément.

Nous sommes bien loin de 1962. À l'époque, il n'existait presque pas de formation continue. Si quelqu'un voulait prendre l'initiative d'améliorer ses connaissances en dentisterie, il devait souvent entreprendre des déplacements onéreux afin de trouver un mentor personnel pour une formation avancée. Une façon de contourner ces limites a jailli d'un groupe de dentistes visionnaires et motivés qui ont consolidé leurs ressources dans le but d'offrir de l'éducation continue située à des points géographiquement accessibles aux dentistes. C'est alors que fut créée l'Académie canadienne de prosthodontie, suivie, des années plus tard, de l'Académie canadienne de dentisterie restauratrice. C'est en 1992 que ces deux organismes parallèles se sont fusionnés pour devenir l'Académie canadienne de dentisterie restauratrice et de prosthodontie.

À part son but principal de faire circuler les nouvelles connaissances parmi ses membres, un second bénéfice du congrès annuel est rapidement devenu évident: la fraternité et l'entraide entre les collègues venant de toutes les villes et provinces du pays pour se rassembler une fois l'an. Les membres de l'ACDRP sont bien plus que des noms dans un répertoire, ils sont nos partisans et nos amis.

Les choses ont radicalement changé depuis les années 60 dans la façon de partager notre savoir. Grâce à la technologie, nous pouvons accéder à une formation continue électroniquement via le www sans quitter nos demeures, ou en commandant des DVDs ou téléchargeant des vidéos d'instruction. Même dans la salle de cours, les présentations interactives par ordinateur peuvent être d'une qualité à la fois étonnante et percutante. Tellement de choix sont offerts à nous de nos jours, que ce soit l'abondance des méthodes expéditives d'apprentissage ou la réunion physique de gens qui veulent apprendre ensemble, stimulés par leurs échanges animés, en accord ou à la recherche des causes de leurs désaccords. Le lieu de rencontre est encore un format de rassemblement de prédilection pour plusieurs, pour le plus grand avantage de chacun. C'est au coeur même d'un congrès annuel.

Il y a déjà sept ans depuis que le dernier congrès a eu lieu à Vancouver et nous nous affairons pour produire un excellent programme et présenter les meilleurs conférenciers. C'est le rôle du président du programme scientifique, épaulé par son comité de programme, de proposer un agenda qui inspire, motive, enseigne, et qui amuse aussi.

Nous voilà au carrefour des trois plus grandes innovations en dentisterie clinique jamais développées: la capacité de lier les composites à l'émail et la dentine – la possibilité de remplacer les dents au moyen d'implants en titane en forme de racine – la capacité de fabriquer des restaurations merveilleuses en céramique. Aucune autre thérapie aussi transformatrice ne s'est pointée depuis. Par conséquent, nous consolidons et raffinons ces technologies existantes qui sont, essentiellement, la matière première de notre programme pour 2013: L'art du savoir.

Dr. David Clark, originaire de Tacoma dans l'État de Washington, est parmi les sommités de la technologie clinique appliquée des composites. Il nous révélera l'utilisation des composites mordancées dans la fabrication de restaurations en résine qui sont supérieures, plus rapides d'exécution, plus esthétiques et plus résistantes. Si vous croyez maîtriser la technique, attendez de voir à quel point vous en deviendrez un champion.

Nous apprendrons comment faire de meilleurs implants dentaires, de façon plus rapide, esthétique et durable. Dr. Harold Baumgarten de Philadelphie fera la démonstration des techniques de fine pointe en implantologie.

L'utilisation de céramiques actuelles pour les couronnes et restaurations indétectables sera aussi présentée. Dr. Christian Coachman de Rio de Janeiro nous impressionnera avec ses créations complexes en porcelaine d'apparence tout à fait naturelle.

Dr. David Sweet, le dentiste le plus respecté au Canada, nous fera une présentation à ne pas manquer.

Ce ne sont que quelques exemples d'experts qui vous attendent à Vancouver. Ils discuteront non seulement de nos habiletés, mais aussi, sur comment améliorer celles-ci jusqu'à leur plein potentiel dans L'art du savoir.



CJRDP

Friday, September 27th Program

CARDP Vancouver - 55 min presentations



Dr. David Clark, Tacoma, Washington
Topic - Injection Molded Composite Dentistry:
The Dawn of a New Era
8:30 am – 9:30 am

Synopsis:

You are invited to experience a unique approach to modern resin dentistry. Learn how to create magical artistic effects with direct composite restorations particularly under the beautiful view of a clinical microscope. Direct Composite restorations are under-promoted and under-appreciated in today's world of implants and computer assisted ceramics yet direct composites can be the least invasive, most biomimetic, and wonderfully esthetic of all restorations. The challenge is that we must rely on our own hands to make the magic. Dr. Clark will present creative solutions to overcome the major clinical impediments to modern resin dentistry.

Learning Objectives:

1. Know the optimal mix of flowable and paste composite and the injection molding technique
2. Discern the modern model of crack initiation and propagation
3. Identify and treat early tooth fracturing
4. Combine anatomic matrices, emergence profile, and composite techniques for delivering esthetic dentistry

Biography:

Dr. David Clark founded the Academy of Microscope Enhanced Dentistry, an international association formed to advance the science and practice of microendodontics, microperiodontics, microprosthodontics, and microdentistry. He is a course director at the Newport Coast Oral Facial Institute in Newport Beach, CA, and is co-director of Precision Aesthetics Northwest in Tacoma, WA. He lectures and gives hands-on seminars internationally on a variety of topics related to microscope-enhanced dentistry.

He has developed numerous innovations in the fields of micro dental instrumentation, imaging, and dental operator design and authored several landmark articles. Dr. Clark is a 1986 graduate of the University of Washington, School of Dentistry. He maintains a microscope-centered restorative practice in Tacoma, WA.



Dr. Charles Shuler, Vancouver
Topic - What are these drugs our dental patients are taking?
9:30am – 10:30 am

Synopsis:

Many dental patients take medications for a medical condition. The numbers and types of medications available have increased dramatically over the years. The drugs prescribed for a patient can provide considerable insight into their systemic conditions and could require a patient management adjustment during dental care. Some of the medications also have side effects that either alter oral conditions or predispose to oral disease. As our patients are living longer with their teeth, knowledge of the drugs and an understanding of their impact on oral health is a critical component in dental treatment.

The electronic oral health record at the University of British Columbia Faculty of Dentistry listed more than 3500 different entries in the records of medications taken by patients. The drugs can be grouped into categories such as frequency prescribed, the organ system that is targeted, the medical condition being treated, the specific type of medication and the specific considerations during dental treatment.

Learning Objectives:

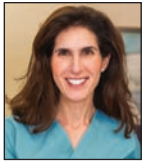
1. Identify the drugs most commonly prescribed for dental patients
2. Link the drugs with the medical conditions for which they were prescribed
3. List the types of side effects associated with medications
4. Determine the appropriate modification to dental care for patients taking these drugs
5. Identify the ways a dentist can obtain information about a medication prescribed for a patient

Biography:

Dr. Shuler is Dean of the Faculty of Dentistry of the University of British Columbia. Prior to being appointed at UBC he was a faculty member at the University of Southern California for 18 years where he served as Director of the Center for Craniofacial Molecular Biology as well as Director of the Graduate Program in Craniofacial Biology. He was Associate Dean for Student and Academic Affairs at the USC School of Dentistry.

He received his B.S. from the University of Wisconsin, his D.M.D. from Harvard, his Ph.D. in Pathology from the University of Chicago and his Oral Pathology education at the University of Minnesota and the Royal Dental College in Denmark. He has been active in assessing and managing clinical oral pathology patients with soft and hard tissue lesions. He also maintains a research program funded by the United States National Institute for Dental and Craniofacial Research.

Friday, September 27th Program CARDP Vancouver - 55 min presentations



Dr. Leslie David, Toronto

Topic - Questions and Realities in Contemporary Oral Surgery and Implant Care
11:00 am – Noon

Synopsis:

Advances have occurred in oral surgery and implant care over the years which greatly impact clinicians and patients alike. Options with regard to treatment and execution have become more advanced yet less invasive. A potpourri of frequently asked oral surgery questions pertaining to dental extractions, infections, and other basic oral surgery topics will be reviewed. In addition, the concept of immediate loading pertaining to the single tooth as well as the completely edentulous arch will be de-mystified.

Learning Objectives:

- Review the implant oriented dental extraction technique and basic oral surgery questions pertaining to general practice
- Understand the indications and contraindications of immediate implants and immediate loading in both the esthetic and posterior zones
- Review treatment planning and execution regarding immediate implants and immediate loading

Biography:

Dr. Lesley David is an oral and maxillofacial surgeon who obtained her dental degree from McGill University and practiced general dentistry for 2 years prior to pursuing Oral and Maxillofacial Surgery. Dr. David graduated from OMFS at the University of Toronto.

She is involved in teaching at the University of Toronto and is on staff at the Mt. Sinai, Credit Valley, and Trillium hospitals. She is a Fellow and examiner for the Royal College of Dentists of Canada. Dr. David has been involved in implant research, has various implant related publications, and lectures nationally and internationally on various topics in implant dentistry and oral surgery.



Dr. Harold Baumgarten, Philadelphia

Topic - Dental Implants in the Aesthetic Zone – Achieving and Maintaining Long Term Aesthetic Results
1:30 pm – 2:30 pm

Synopsis:

All too often, the aesthetics of an implant supported restoration look good on the day of insert but deteriorates over time. Success in the aesthetic zone requires the clinician to understand the many factors that must come together to achieve and maintain the aesthetic result for the long term. This lecture will discuss issues related to surgical and restorative techniques as well as implant design.

Learning Objectives:

1. Learn the 6 factors responsible for the preservation of bone and soft tissue levels around an implant
2. Know why immediate implant placement and immediate restoration can provide superior aesthetic results
3. Understand how digital restorative technologies can provide superior tissue support and aesthetics

Biography:

In addition to Advanced Restorative and Aesthetic Dentistry, Dr. Baumgarten's practice includes advanced dental implant procedures. He is a consultant to a global dental implant company, is involved in clinical research and product development and lectures regularly around the world. He is also the author of chapters in dental textbooks, and a number of articles in peer reviewed journals.

In 2010, Dr. Baumgarten was selected as one of "The Best Dentists in America" and "Philadelphia Magazine's Top Dentists 2010" by a vote of his peers, and continues to give his patients the benefit of over 30 years of experience.



Dr. Christian Coachman, Rio de Janeiro, Brazil

Topic - Improving Dentist/Technician Communication for Optimum Smile Design and Ceramic Restorations.
2:30 pm – 3:30 pm

Synopsis:

We need to keep abreast of the latest developments in dentistry and incorporate new techniques and materials into our armamentarium on an ongoing basis. It is also essential that all of the team members participate proactively in the treatment planning process so that consistent interaction among the members of the dental team is required. Technicians should have a basic understanding of clinical procedures and the development of target-oriented communication protocols are essential prerequisites for a smooth workflow and the provision of high-quality service. Crucial treatment steps such as the



CJRDP

Friday, September 27th Program

CARDP Vancouver - 55 min presentations

diagnostic wax-up, the fabrication of the mock-up, shade selection, material selection, prep design, and the fabrication of temporary restorations, etc. can be greatly improved by taking into account the technician's perspective.

Learning Objectives:

- Plan ceramic restorations to fit the patients' esthetic and emotional needs
- Improve team communication by utilising simple digital tools
- Develop a Digital Smile Design and link it to the Esthetic
- Wax-up, Mock-up and Final Ceramic Restorations

Biography:

Dr. Christian Coachman graduated in Dental Technology in 1995 and in Dentistry at the University of São Paulo/Brazil in 2002. He attended the Ceramic Specialization Program at the Ceramoart Training Centre, where he also became an instructor. In 2004, Dr. Coachman was invited by Team Atlanta to become Head Ceramist of their laboratory, a position he held for over 4 years. He now works with many leading dentists around the world.

He is currently the scientific coordinator of an e-learning website and serves as a consultant for dental companies and offices developing products and implementing concepts. He has lectured and published internationally in the fields of esthetic dentistry, dental photography, oral rehabilitation, dental ceramics and implants.

Learning Objectives:

- Discover the role of forensic science in national and international systems of justice
- Realize the complexity of the criminal mind and appreciate the oddity of certain behaviors
- Appreciate the intensity and rigour with which criminal investigations are conducted

Biography:

With qualifications in dentistry, forensic dentistry and forensic medicine, Dr. Sweet is in a unique position to help police investigators solve the puzzles that are often present at crime scenes. His UBC laboratory has been involved in numerous high-profile criminal cases since its inception in 1996. Dr. Sweet developed new techniques that are now used internationally by investigators. He is a tenured professor at UBC Dentistry and director of North America's only laboratory dedicated to full-time forensic odontology research, teaching and casework.

In 2008, Dr. Sweet was invested as an Officer of the Order of Canada for his work as a forensic scientist, researcher, teacher and consultant. He was chief scientist for disaster victim identification at INTERPOL in France from 2005–2011 and a forensic advisor to the International Committee of the Red Cross in Switzerland from 2009–2012.



Dr. David Sweet, Vancouver

Topic: How do I kill you? Let me count the ways!

4:00 pm – 5:00 pm

Synopsis:

A biography exists in each human tooth and bone under its armour coating. By examining these tissues, forensic scientists can deduce the events of a person's life and death. The BOLD Forensic Lab at The University of BC uses information gleaned from these examinations to assist in the legal investigation of deaths here in Canada and around the world. This presentation is designed to both inform and entertain you about the forensic sciences. Dr. Sweet will illustrate some of the things that he has experienced working on 1100 cases on six continents.



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JCDRP

Programme du vendredi 27 septembre ACDRP Vancouver - Présentations de 55 mins



Dr. David Clark, Tacoma, Washington
Sujet: Moulage par injection de composites en dentisterie
08h30 – 09h30

Synopsis:

Vous êtes invités à faire l'expérience d'un nouveau genre de dentisterie moderne utilisant les résines. Apprenez à créer des effets artistiques dans les restaurations de composite direct. Celles-ci sont sous-évaluées dans un monde d'implants et de céramiques assistées par ordinateur. Or les composites directs peuvent être les moins envahissants et les plus biomimétiques et esthétiques de tous les types de restaurations. Le défi provient du fait que nous devons nous fier sur nos propres mains pour produire cette magie. Dr. Clark présentera des solutions originales pour surmonter les obstacles cliniques à la dentisterie de résine contemporaine.

Objectifs:

- Connaître le ratio optimal des composites fluides et conventionnels ainsi que les techniques de moulage par injection
- Discerner les modèles contemporains d'initiation et de propagation des fêlures
- Reconnaître et traiter les fractures dentaires précoces
- Combiner les matrices anatomiques, les profils d'émergence, et les techniques de composite pour une dentisterie esthétique

Biographie:

Dr. David Clark a fondé l'Académie de la dentisterie microscopique avancée, une association internationale qui a pour but de faire valoir la science et la pratique de la micro-endodontie, la micro-parodontie, la micro-prostodontie et la micro-dentisterie. Il dirige un cours au Newport Coast Oral Facial Institute à Newport Beach, Californie et est co-directeur d'Esthétique de précision à Tacoma dans l'État de Washington. Il donne aussi des conférences et des cours pratiques à travers le monde portant sur la dentisterie rehaussée au moyen de la microscopie. Il a développé plusieurs nouveautés en matière d'instrumentation, d'imagerie et de design de cabinets dentaires et est l'auteur de nombreux articles de pointe. Il fut promu en médecine dentaire de University of Washington en 1986 et maintient une pratique centrée sur les restaurations microscopiques à Tacoma.



Dr. Charles Shuler, Vancouver
Sujet: Quelles sont ces drogues que prennent nos patients?
09h30 – 10h30

Synopsis:

Plusieurs de nos patients prennent des médicaments pour raisons de santé. La quantité et les types de médicaments se sont multipliés au fil des ans. Les ordonnances du patient offrent un aperçu de sa condition systémique qui pourrait exiger un ajustement de ses soins dentaires. De plus, certains médicaments provoquent des effets secondaires qui modifient les conditions orales ou même prédisposent aux maladies buccales. Puisque nos patients vivent plus longtemps avec leur dentition, il devient essentiel de connaître les remèdes qui leur sont prescrits et l'impact de ceux-ci sur l'état de leur santé orale.

Le registre électronique de la santé bucco-dentaire à University of British Columbia a répertorié plus de 3 500 médicaments inscrits dans leurs dossiers patients. Ces médicaments se regroupent en catégories, telles leur fréquence de prescription, les systèmes ciblés, la maladie traitée, le type précis de la médication administrée durant les traitements dentaires.

Objectifs:

- Identifier les médicaments prescrits les plus communs
- Associer chaque médicament à la condition médicale traitée
- Dresser une liste des effets secondaires de ces drogues
- Choisir les rectifications à apporter aux soins dentaires s'il y a lieu
- Connaître les moyens de nous informer au sujet des médicaments de nos patients

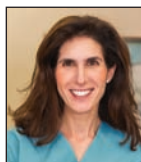
Biographie:

Dr. Shuler est doyen de la faculté de Médecine dentaire à University of British Columbia. Avant ce rôle, il était membre de la faculté de University of Southern California pendant 18 ans où il dirigeait le Center for Craniofacial Molecular Biology en plus du programme de deuxième cycle en biologie craniofaciale. Il y occupait aussi le poste de vice-doyen aux études à l'École de Médecine dentaire. Il a mérité un B.S. de University of Wisconsin, son D.M.D. de Harvard, son Ph.D. en pathologie de University of Chicago et sa formation en pathologie orale de University of Minnesota et du Royal Dental

Programme du vendredi 27 septembre ACDRP Vancouver - Présentations de 55 mins



College au Danemark. Il poursuit ses activités dans la gestion des patients en pathologie orale ayant des lésions aux tissus mous et durs. D'autre part, il continue à oeuvrer dans un programme de recherche subventionné par le United States National Institute for Dental and Craniofacial Research.



Dr. Leslie David, Toronto

Sujet: Les questions et les faits concernant les soins en chirurgie buccale et en implantologie

11h00 – 12h00

Synopsis:

Les progrès des dernières années en chirurgie buccale et en soins implantaire ont considérablement affecté les cliniciens et leurs patients. Les options de traitements et d'exécution sont à la fois plus avancées et moins envahissantes. Une foire aux questions portant sur les extractions dentaires, les infections, ainsi que d'autres sujets fondamentaux seront adressées. Nous tenterons aussi de démystifier le concept de la mise en charge des dents unitaires et de l'arcade complètement édentée.

Objectifs:

- Revoir la technique d'extraction d'une dent en prévision d'un implant ainsi que des questions portant sur la chirurgie buccale en dentisterie générale
- Saisir les indications et contre-indications d'implants immédiats et de la mise en charge immédiate dans les zones esthétiques et postérieures
- Revoir le plan de traitement et d'exécution pour les implants immédiats et leur mise en charge immédiate

Biographie:

Promue de McGill University, Dr. David a pratiqué la dentisterie générale pendant 2 ans avant de se spécialiser en chirurgie buccale et maxillofaciale à University of Toronto où elle enseigne présentement.

Elle est aussi rattachée aux hôpitaux Mt. Sinai, Credit Valley et Trillium. Elle est Fellow et examinatrice du Royal College of Dentists of Canada. Elle est impliquée dans la recherche sur les implants, publiée dans divers ouvrages sur l'implantologie, et donne des conférences aux niveaux national et internationaux sur des sujets touchant la dentisterie implantaire et la chirurgie buccale.



Dr. Harold Baumgarten, Philadelphia

Sujet: Les implants dentaires dans la zone esthétique – leur exécution et leur maintien à long terme

13h30 – 14h30

Synopsis:

Trop souvent, une restauration implanto-portée paraît bien au départ mais son esthétique détériore avec le temps. Afin d'éviter ce problème, le clinicien doit se familiariser avec tous les facteurs qui entrent en jeu. Cette présentation discutera des techniques chirurgicales et restauratrices ainsi que du design des implants.

Objectifs:

- Connaître les 6 facteurs responsables de la préservation des niveaux de tissus mous et osseux autour de l'implant
- Comprendre pourquoi le placement immédiat d'un implant et la restauration immédiate donnent des résultats esthétiques supérieurs
- Comprendre comment les technologies numériques de restaurations fournissent un meilleur support des tissus et de l'esthétique

Biographie:

La pratique du Dr. Baumgarten, forte de 30 ans, comprend une dentisterie restauratrice, esthétique et implantaire. Consultant pour une multi-nationale, il fait aussi de la recherche clinique et le développement de produits, en plus de donner des conférences autour du globe. Il a signé des chapitres de textes dentaires et de nombreux articles dans des journaux dentaires revus par des pairs. En 2010 Dr. Baumgarten fut nommé par ses collègues et par Philadelphia Magazine l'un des meilleurs dentistes en Amérique.



Dr. Christian Coachman, Rio de Janeiro, Brésil

Sujet: Améliorer la communication entre dentiste et technicien dans le but d'optimiser les restaurations de céramique et la physiologie du sourire - 14h30 – 15h30

Synopsis:

Nous nous devons de nous tenir à jour sur les derniers développements en dentisterie et d'incorporer de nouvelles



JCDRP

Programme du vendredi 27 septembre ACDRP Vancouver - Présentations de 55 mins

technologies et matériaux dans notre arsenal de pratique. Pour ce faire, il s'avère essentiel que tous les membres de l'équipe dentaire participent aux plans de traitements en maintenant entre eux une constante interaction. Ainsi, les techniciens dentaires doivent posséder une connaissance de base des procédures cliniques, et la mise en place d'un protocole de communication avec ces derniers assurera leur meilleur service et une fluidité dans le déroulement des opérations. Les étapes indispensables des traitements, telles les cirages diagnostiques, la fabrication de maquettes, la sélection de la teinte et des matériaux, le design des tailles et la fabrication de restaurations temporaires, etc., seront considérablement améliorées en tenant compte de la perspective du technicien.

Objectifs:

- Planifier les restaurations selon les besoins esthétiques et affectifs des patients
- Améliorer la communication parmi l'équipe dentaire à l'aide de simples outils numériques
- Développer un design numérique d'un sourire et le lier aux cirages diagnostiques esthétiques, aux maquettes et aux restaurations en céramique

Biographie:

Dr Coachman a terminé sa technologie dentaire en 1995 et son cours de dentisterie à l'Université de Sao Paulo en 2002. Il a assisté au programme de spécialité en céramique au centre Ceramcoat où il a enseigné par la suite. Puis en 2004 Team Atlanta a demandé au Dr. Coachman de devenir leur céramiste en chef, ce qu'il a fait pendant 4 ans. Présentement, il travaille avec plusieurs dentistes partout dans le monde et est le coordonnateur scientifique d'un site web de formation. Il est consultant pour des compagnies dentaires développant des produits, donne des conférences et contribue à des publications qui portent sur la dentisterie esthétique, la photographie dentaire, la réhabilitation orale, les céramiques dentaires et les implants.



Dr. David Sweet, Vancouver
Sujet: Comment puis-je te tuer?
16h00 – 17h00

aminant leurs tissus, les médecins légistes peuvent déduire les événements de la vie et de la mort d'un individu. Le laboratoire BOLD du Dr. Sweet prend les renseignements relevés des examens dans le but de contribuer aux investigations légales de mortalités ici au Canada et partout dans le monde. Cette présentation veut vous renseigner et vous divertir à l'aide d'exemples retenus parmi plus de 1 100 cas répartis sur 6 continents.

Objectifs:

- Découvrir le rôle de la médecine légale dans divers systèmes juridiques
- Comprendre la complexité du cerveau criminel et discerner certains comportements insolites
- Saisir l'intensité et la rigueur dans lesquelles les investigations criminelles se déroulent

Biographie:

Qualifié en matières dentaires, légales et médico-judiciaires, Dr. Sweet peut aider les investigations policières à résoudre des crimes. Son laboratoire à UBC, qu'il dirige depuis sa fondation en 1996, s'implique dans plusieurs cas criminels et les nouvelles techniques que le Dr. Sweet a développées sont utilisées par les enquêteurs à travers le monde. Il est professeur à UBC tout en oeuvrant dans son laboratoire, le seul en Amérique du nord dédié à la recherche et l'enseignement de l'odontologie légale. En 2008 Dr. Sweet mérita l'Ordre du Canada pour l'ensemble de son oeuvre. De 2005 à 2011, il aidait Interpol en France à identifier les victimes de sinistres et entre 2009 – 2012 il était aussi conseiller médico-légal pour la Croix rouge internationale en Suisse.

Synopsis:

Chaque dent et chaque os cache une histoire humaine. En ex-

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Zirconia – The Power of Light

by Aldo Zilio

This highly requested international speaker and author, offers the reader multiple solutions for achieving success in working with Zirconia. Thanks to his vast experience with Zirconia, the author describes, in his 11 chapters text and 1200 outstanding images, his step-by-step approach to creating zirconia solutions for many different types of cases.

Introduction

Premise

Chapter 1: Light

Chapter 2: Ceramics on metal and the press technique

Chapter 3: Zirconia: structure, processing, finishing, staining and adhesion analysis

Chapter 4: First clinical experiences with colored zirconia

Chapter 5: Zirconia between light and matter

Chapter 6: Form, vision, structure

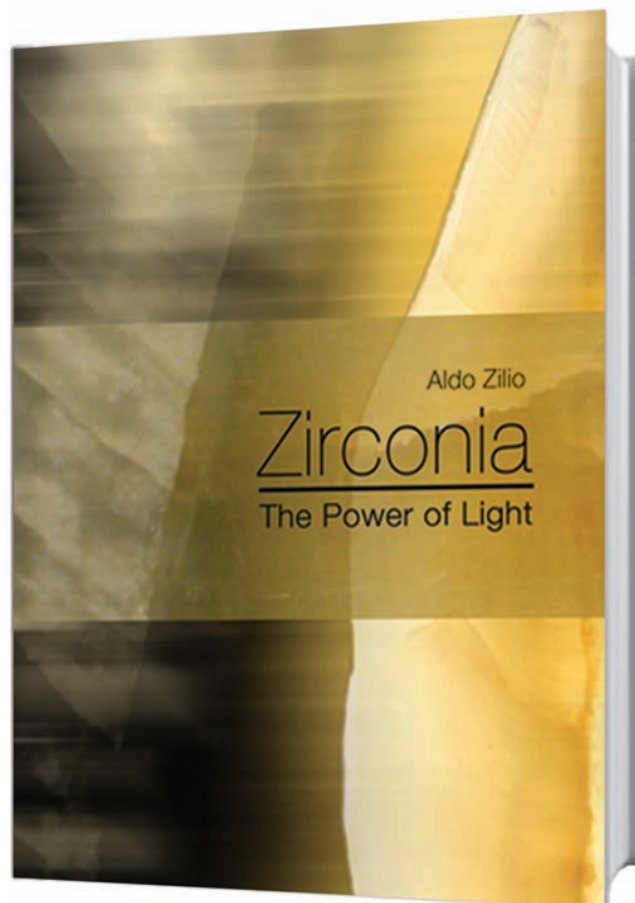
Chapter 7: Zirconia: the removable prosthesis between new opportunities and traditional solutions

Chapter 8: Large implant restorations: screwed, cemented, or...

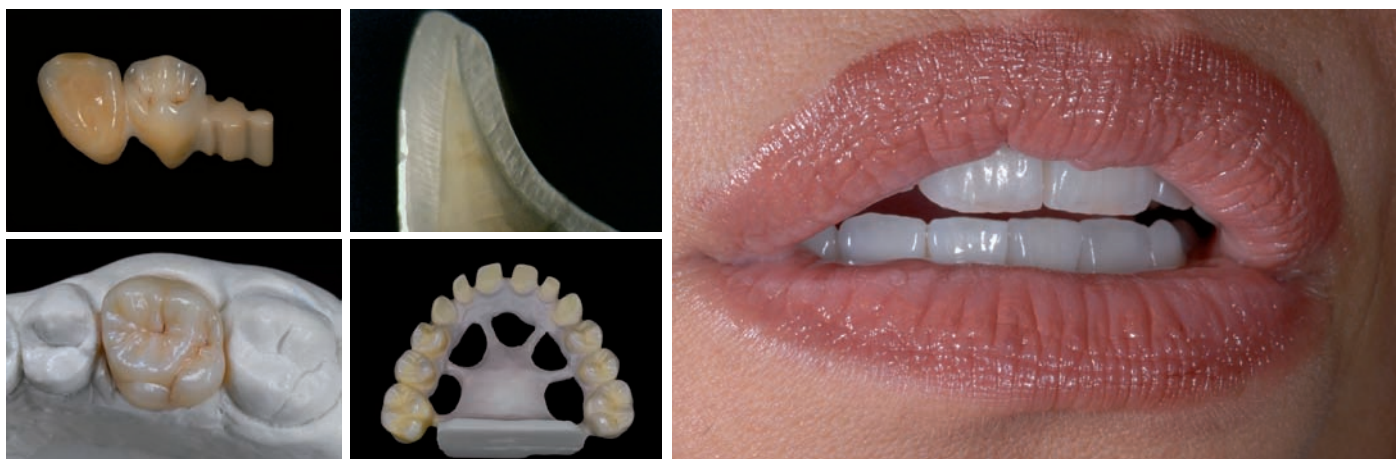
Chapter 9: The high translucency of zirconia

Chapter 10: The strength of translucency. The major cases in a new light.
Using new materials in an innovative way

Chapter 11: New aesthetic dimensions in large implant restorations



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2013 Annual Scientific Meeting Congrès scientifique annuel 2013

September 25th–28th, Vancouver, British Columbia

THE ART OF WHAT WE KNOW – L'Art du Savoir

TIME	Wednesday, September 25, 2013	LOCATION
9:00 AM 5:00 PM	Hands-On Course	Port of New York
6:30 PM 11:00 PM	CARDP Executive Dinner Meeting	Port of Vancouver
	Thursday, September 26, 2013	
7:00 AM 4:30 PM	Sturgeon or BC Salmon Fishing	Meet in Lobby Renaissance Harbourside Hotel 6:45 am
8:30 AM 4:30 PM	Golf at Shaughnessy Golf Course	Meet in Lobby Renaissance Harbourside Hotel 8:15 am
11:00 AM 3:00 PM	Cooking Vancouver	Meet in Lobby Renaissance Harbourside Hotel 10:30 am
12:00 AM 11:59 PM	Scientific Set-up	Harbourside Ballroom I
8:00 AM 6:00 PM	Trade Show Set-up	Harbourside Ballroom II & III
11:00 AM 8:00 PM	Registration	Harbourside Foyer
3:00 PM Finish	Journal Meeting (TBC)	President's Suite
6:00 PM 10:00 PM	Eat-Meet-Greet Welcome Buffet with Sponsors	Harbourside Ballroom II & III
	Friday, September 27, 2013	
7:00 AM 5:00 PM	Registration	Harbourside Foyer
7:00 AM 8:15 AM	Breakfast with Sponsors	Harbourside Ballroom II & III
8:15 AM 5:00 PM	Scientific Sessions	Harbourside Ballroom I
9:30 AM 3:30 PM	Vancouver Highlights – Guest event	Meet in Lobby Renaissance Harbourside Hotel 9:15 am
10:30 AM 11:00 AM	Break with Sponsors	Harbourside Ballroom II & III
12:00 PM 1:30 PM	Lunch with Sponsors	Harbourside Ballroom II & III
3:30 PM 4:00 PM	Break with Sponsors	Harbourside Ballroom II & III
6:30 PM 9:30 PM	Yachting in Vancouver - Sunset Bay II	Meet in Lobby Renaissance Harbourside Hotel 6:00 pm
	Saturday, September 28, 2013	
7:00 AM 12:00 PM	Registration	Harbourside Foyer
7:00 AM 8:30 AM	Breakfast with Sponsors	Harbourside Ballroom II & III
7:00 AM 8:30 AM	CARDP Member Breakfast	Tuscany Ballroom (Main Floor)
8:30 AM 12:00 PM	Scientific Sessions	Harbourside Ballroom I
9:50 AM 10:30 AM	Break with Sponsors	Harbourside Ballroom II & III
12:00 PM 2:00 PM	CARDP Members & Invitees Lunch	Tuscany Ballroom (Main Floor)
2:00 PM 4:00 PM	High Tea - Guest Event	Fairmont Pacific Rim Hotel
2:00 PM 5:00 PM	Table Clinics	Vistas Room (Top Floor)
6:30 PM 7:30 PM	President's Reception	Vistas Room (Top Floor)
7:30 PM 12:30 AM	President's Gala - Dinner Dance	Tuscany Ballroom (Main Floor)
	Sunday, September 29, 2013	
9:00 AM 12:00 PM	Clinic and Essay Committees Meeting	Port of New York

WORK – PLAY – LEARN

Congrès annuel 2013, 25–28 septembre, Vancouver

L'ART DU SAVOIR

TRAVAILLER – JOUER – APPRENDRE

TIME		MERCREDI 25 SEPTEMBRE	LOCATION
09h00	17h00	Cours pratique	Port of New York
18h30	23h00	Dîner-réunion CA de l'ACDRP	Port of Vancouver
		JEUDI 26 SEPTEMBRE	
07h00	16h30	Pêche esturgeon ou saumon	Rassemblement foyer 06h45
08h30	16h30	Golf au Shaughnessy	Rassemblement foyer 08h15
11h00	15h00	Cuisiner Vancouver	Rassemblement foyer 10h30
00h00	23h59	Préparation salle de conférence	Harbourside Ballroom I
08h00	18h00	Mise en place des exposants	Harbourside Ballroom II & III
11h00	20h00	Inscription	Foyer de l'hôtel
15h00		Réunion du Journal	Suite du Président
18h00	22h00	Buffet de bienvenue	Harbourside Ballroom II et III
		 VENDREDI 27 SEPTEMBRE 	
07h00	17h00	Inscription	Foyer de l'hôtel
07h00	08h15	Petit déjeuner + commanditaires	Harbourside Ballroom II et III
08h15	17h00	Conférences	Harbourside Ballroom I
09h30	15h30	Reliefs Vancouver – pour invités	Rassemblement foyer 09h15
10h30	11h00	Pause avec commanditaires	Harbourside Ballroom II et III
12h00	13h30	Repas avec commanditaires	Harbourside Ballroom II et III
15h30	16h00	Pause avec commanditaires	Harbourside Ballroom II et III
18h30	21h30	Dîner-croisière sur Sunset Bay II	Rassemblement foyer 18h00
		SAMEDI 28 SEPTEMBRE	
07h00	12h00	Inscription	Foyer de l'hôtel
07h00	08h30	Petit déjeuner + commanditaires	Harbourside Ballroom II et III
07h00	08h30	Petit déjeuner membres ACDRP	Tuscany Ballroom
08h30	12h00	Conférences	Harbourside Ballroom I
09h50	10h30	Pause avec commanditaires	Harbourside Ballroom II et III
12h00	14h00	Repas membres + collègues	Tuscany Ballroom
14h00	16h00	High Tea – pour invités	Fairmont Pacific Rim Hotel
14h00	17h00	Démonstrations cliniques	Salle Vistas
18h30	19h30	Réception du Président	Salle Vistas
19h30	00h30	Gala du Président	Tuscany Ballroom
		DIMANCHE 29 SEPTEMBRE	
09h00	12h00	Réunion comités organisateurs	Port of New York



CJRDP

WEBSITE INFO AND SOCIAL PROGRAM THE ART OF WHAT WE KNOW

Host City Info	
Travel Information	Vancouver International Airport - www.yvr.ca
Vancouver Tourism Information	www.hellobc.com/Vancouver-Weekend www.tourismvancouver.com/do/ http://vancouver.ca/green-vancouver/about-vancouver.aspx
Accommodations	Host Hotel: Vancouver Renaissance Harbourside Hotel 1128 West Hastings Street Vancouver, BC V6E 4R5 • Daily Hotel Rate \$219 Sgl/DbI plus applicable taxes (All Rooms are Harbour View Rooms) Phone Reservations: (604) 689-9211 / 1-800-905-8582 Online Reservations: Book Your Room Online Hotel Info: Renaissance Vancouver Harbourside Hotel

SOCIAL ACTIVITIES

Sturgeon or Salmon Fishing on the Fraser River Thursday, September 26 (7:00 am - 4:30 pm)

Sturgeon fishing in British Columbia with Cascade Fishing Adventures is an unforgettable experience. Sturgeon fishing guests swear that the Fraser River White Sturgeon "acipenser transmontanus" is by far the largest and most exciting freshwater sport fish to be found. Reaching weights exceeding 1,000 pounds, these sturgeon inhabit the murky waters of the mighty Fraser. Special tackle and gear is required for these great fish which is provided for you on your fishing adventure. A boat is a necessity as well and it must be rigged properly to fish for these giants.

Or: Try British Columbia Salmon fishing for the largest of the Pacific salmon, the Chinook, on the Fraser River, located in the heart of the beautiful Fraser Valley. Cast or fly fish for our fall run of Coho salmon. Whatever your choice, our team of Government licensed fishing guides are ready to show you what fishing in British Columbia is all about.

Included in your Fishing Package:

- Exclusive boats for 4 guests each
- All fishing gear, tackle, bait, boat fuel, and waders (where needed)

- Transportation to and from the hotel and boat launches
- Luncheon and non alcoholic beverages
- Fishing license fee

Personal Requirements

To ensure your comfort, please bring appropriate clothing for the day. Dressing in layers is suggested with hat, boots and sunscreen. Don't forget your cameras – a point and shoot style digital camera or SLR are fine. The boats are covered enough to provide adequate protection for cameras that are not water resistant.

Sturgeon fishing: _____ or Salmon fishing: _____
(indicate one)

Thursday, September 26 (7:30 am – 4:30 pm)

Meet in Hotel lobby 6:45 am

\$295 pp (taxes included)

Registrant _____ Guest _____ (space is limited)

Website: <http://www.bcsturgeon.com>

Golf at Shaughnessy Golf Course

Thursday, September 26 (8:30 am - 4:30 pm)

Tee off 9:30 am

About the Golf Course – Shaughnessy is a parkland style course overlooking the Fraser River and Strait of Georgia. The course was built in 1960 and many of its 150 species of beautiful



trees were donated and planted by the members of the time. Shaughnessy's goal is for everyone to experience a very special day so guests and members are requested to follow certain rules:

Dress Code

- Wear tidy and appropriate attire for the various club areas (course, courts, fitness, clubhouse, etc.)
- Denim or denim like material is not accepted in any area of club property
- Bare midriffs are unacceptable
- Caps and clothing with commercial logos not related to golf or tennis are not allowed

Includes transfer to and from the Renaissance Vancouver Harbourside Hotel, green fees and carts, plus lunch in the Spruce Room (club rentals available on site)

Golf at Shaughnessy Golf Course

Thursday, September 26 (8:30 am – 4:30 pm)

Meet in Hotel lobby 8:15 am

\$340 pp (taxes included)

Registrant _____ Guest _____ (space is limited)

Website: www.shaughnessy.org/

Cooking Vancouver

Thursday, September 26 (11:00 am - 3:00 pm)

The Dirty Apron Cooking School is one of Vancouver's most unique venues and favourite culinary playgrounds. Everyone loves food, and absolutely nothing unites people quite like creating and sharing a meal. **Prepare to roll up your sleeves and get your apron dirty!**

Instruction focuses on popular regional cuisines as well as basic skill sets for ingredient-focused cooking, and students use only the best tools of the trade. Expert tutor chefs will guide the group as they create their own three course sumptuous meal. Then you'll sit and enjoy the dishes in a beautiful dining-room with a glass or two of selected wines.

Cooking Vancouver

Thursday, September 26 (11:00 am – 3:00 pm)

Meet in Hotel lobby 10:30 am

\$165 pp (taxes included)

Registrant _____ Guest _____ (space is limited)

Website: www.dirtyapron.com/

Eat, Greet & Meet - Welcome Dinner Buffet
Thursday, September 26 (6:00 pm - 10:00 pm)
Harbourside Ballroom, Second Level

Starting off this year's 21st Scientific Meeting will be our Opening Reception hosted in the Harbourside ballroom and foyer on the second level of the Vancouver Renaissance Harbourside Hotel. Join our meeting sponsors, other registrants and guests to rekindle old acquaintances and make new ones. A dinner buffet will be available for all to enjoy offering a variety of traditional, regional foods.

So plan to be in Vancouver early to join us for the 2013 Scientific Meeting.

Complimentary with registration (6:00 pm - 10:00 pm)

Dress Code – Casual

Registrant _____ Guest _____
 (Please indicate if you plan to attend)

Vancouver Highlights

Guest Event

Friday, September 27 (9:30 am – 3:30 pm)

Departing the Vancouver Renaissance Harbourfront Hotel we will make our first stop at the Museum of Anthropology at UBC for a guided tour, followed by a visit to the gift shop. MOA, is a place of extraordinary architectural beauty, provocative programming and vibrant, contemporary exhibitions; a place of active exploration and quiet contemplation - of world arts and cultures.

Next you'll visit Seasons in the Park for an elegant luncheon in the beautiful gardens with spectacular views. Finishing off the day you'll board the coach for Afternoon Tea (or a glass of wine) and a Garden tour at Dr. Dennis and Lydia Nimchuk's home.

Vancouver Highlights Partner/Guest Event:

Friday, September 27 (9:30 am – 3:30 pm) Meet in Hotel lobby 9:15 am

\$120 pp (taxes included)

Guest Event _____

Evening Yachting & Dinner on the Sunset Bay II

Friday, September 27 (6:30 pm - 9:30 pm)

Meet in Hotel lobby 6:00 pm

Boarding commences at 6:00 pm and disembarks at 10:00 pm



CJRDP

WEBSITE INFO AND SOCIAL PROGRAM THE ART OF WHAT WE KNOW

Join us for a Reception and evening Dinner Cruise offering some of the most spectacular views of Vancouver and surrounding areas. We will gather in the Hotel lobby for a short walk (8 minutes) to the Sunset Bay II, specially docked for us next to the float plan dock to the left of the Convention Centre (West Cordova Street at Bute)

Award winning Executive Chef Natasha Harris and the Sunset Bay Yacht Group's culinary team will prepare a buffet dinner to start off the evening, completed by a relaxing water cruise.

Evening Yachting and Dinner on the Sunset Bay II

Friday, September 27 (6:30 pm – 9:30 pm)

Meet in Hotel lobby 6:00 pm

\$160 pp (taxes included)

Registrant _____ Guest _____

Signature High Tea at the Fairmont Pacific Rim Hotel Guest Event

Saturday, September 28 (2:00 pm - 4:00 pm)

Tea consumption increased dramatically in the early nineteenth century when Anna, the 7th Duchess of Bedford, is said to have complained of "having that sinking feeling" during the day. At the time it was usual for people to take only two meals per diem, breakfast, and a late dinner. The solution for the Duchess was a pot a tea and a light snack in the afternoon.

Friends were eventually invited to join her in her rooms at Woburn Abbey and this summer practice proved so popular that the Duchess continued it when she returned to London. So join your friends at the Fairmont Pacific Rim Hotel for a memorable afternoon. Please meet at the Fairmont Pacific Rim directly (near the Renaissance Harbourside Hotel), 1038 Canada Place, Lobby Lounge Terrace.

Signature High Tea at the Fairmont Pacific Rim Hotel

Partner/Guest Event

Saturday, September 28 (2:00 pm – 4:00 pm)

\$50 pp (taxes included)

Guest Event _____

President's Gala

Saturday, September 28 (6:30 pm - 12:30 am)

Vancouver Renaissance Harbourfront Hotel

In each city we meet, we try to improve on past galas, so they keep getting better due in great part to the friendships we've

created along the way. Join us for this 21st President's Gala champagne reception on the top floor of the Renaissance Harbourside, with spectacular views from the Vistas Room. Then we'll move to the main level in the Tuscany Ballroom to feast on a marvellous Gala dinner, followed by dancing to the Blue Meanies, who have been playing music from the 50s onward in the Vancouver area for 20+ years, on big and small stages alike. The Blue Meanies offer diverse, no warm-up required, concentrated, big-sound entertainment.

President's Gala

Vancouver Renaissance Harbourfront Hotel

Reception 6:30 pm – Vistas Room, top floor

Dinner/Dance 7:30 pm – Tuscany Ballroom, main floor

\$195 pp (taxes included)

Registrant _____ Guest _____





Information sur la ville hôte

Information sur le transport	Aéroport international de Vancouver – www.yvr.ca
Information touristique	www.hellobc.com/Vancouver-Weekend www.tourismvancouver.com/do/ http://vancouver.ca/green-vancouver/about-vancouver.aspx
Accommodations	Vancouver Renaissance Harbourside Hotel 1128, West Hastings Street - Vancouver BC V6E 4R5 Tarif quotidien: 219\$ par chambre plus taxes (toutes les chambres ont vue sur le port) Réservations par téléphone: (604)689-9211-1-800-905-8582 Réservations en ligne: https://resweb.passkey.com/Resweb.do?mode=welcoming_ei_new&eventID=10290760&fromResdesk=true

PROGRAMME SOCIAL

Pêche à l'esturgeon ou au saumon sur la rivière Fraser Jeudi 26 septembre (07h00 – 16h30)

Avec Cascade Fishing Adventures, la pêche à l'esturgeon en Colombie Britannique devient une expérience inoubliable. L'esturgeon blanc des eaux de la rivière Fraser, 'acipenser transmontanus' est, à peu de choses près, le poisson d'eau douce le plus impressionnant et excitant à pêcher car son poids peut atteindre plus de 1 000 livres (453 kg). Cela nécessite donc un attirail tout particulier qui vous est fourni pour votre aventure, incluant une embarcation spécialement équipée.

OU, Lancez la mouche au plus grand saumon du Pacifique, le Chinook, sur la rivière Fraser, au cœur de la vallée du même nom. Le Coho s'y trouve en automne. Vos guides expérimentés et licenciés vous offriront une expérience unique de la pêche en Colombie Britannique.

Inclus dans votre forfait:

- Embarcations pour 4 pêcheurs, essence
- Équipement, gréments, appâts, cuisardes (où requises)
- Transport aller-retour de l'hôtel et aux bateaux
- Repas du midi et breuvages non-alcoolisés
- Permis de pêche

Effets personnels

Afin d'assurer votre confort, les vêtements appropriés sont recommandés: plusieurs couches, chapeau, bottes, écran solaire. N'oubliez pas vos appareils photos.

Pêche à l'esturgeon _____ ou Pêche au saumon _____

(indiquez votre choix)

Jeudi 25 septembre (07h30 – 16h30)

Rassemblement au foyer de l'hôtel 06h45

295\$ pp (taxes incluses)

Participant inscrit _____ Invité _____ (places contingentées)

Site web: <http://www.bcsturgeon.com/history.htm>

Golf au Club de golf Shaughnessy

26 septembre (08h30 – 16h30)

Départ à 09h30

À propos du parcours

Shaughnessy est un parcours qui surplombe la rivière Fraser et le détroit Georgia. Instauré en 1960, le terrain ressemble à un parc avec ses 150 espèces d'arbres splendides qui furent plantés par les membres de l'époque. Afin que tout le monde puisse jouir de leur expérience à Shaughnessy, membres et invités sont priés d'acquiescer à certaines règles:



JCDRP

INFORMATION SUR LE SITE WEB ET LE PROGRAMME SOCIAL L'ART DU SAVOIR – TRAVAILLER – JOUER – APPRENDRE

Code vestimentaire

- Tenue soignée et appropriée pour les divers lieux du club (parcours de golf, courts de tennis, mise en forme, pavillon)
- Tissus en denim (jeans) ou qui ressemblent au denim ne sont aucunement acceptés sur la propriété
- Ventres exposés sont inacceptables
- Casquettes et vêtements avec des logos non reliés au golf ou au tennis ne sont pas permis

Le transfert aller-retour de l'hôtel Renaissance Vancouver Harbourside, les tarifs de parcours et voitures électriques, le repas du midi sont inclus (location de bâtons sur place)

Golf au Shaughnessy Golf Course

Jeudi 26 septembre (08h30 – 16h30)

Rassemblement dans le foyer de l'hôtel 08h15

340\$ pp (taxes incluses)

Participant inscrit _____ Invité _____ (places contingentes)

Site web: www.shaughnessy.org/

Cuisiner Vancouver

Jeudi 26 septembre (11h00 – 15h00)

L'école Dirty Apron est parmi les attractions préférées de Vancouver car tout le monde aime manger et se rassembler autour d'un repas bien préparé et partagé avec convivialité. Alors roulez vos manches et salissez vos tabliers!

La cuisine régionale et les aptitudes culinaires de base sont les vedettes de la séance de formation où les élèves travaillent avec les meilleurs équipements qui soient. Des chefs d'expérience guident chaque groupe dans la préparation d'un délicieux repas trois services, accompagné d'un ou deux verres de vin assorti, servi dans une belle salle à manger.

Cuisiner Vancouver

Jeudi 26 septembre (11h00 – 15h00)

Rassemblement dans le foyer de l'hôtel 10h30

165\$ pp (taxes incluses)

Participant inscrit _____ Invité _____ (places contingentes)

Site web: www.dirtyapron.com/

Buffet de bienvenue

Jeudi 26 septembre (18h00 – 22h00)

Salle de bal Harbourside – deuxième niveau

Notre 21^{ème} congrès annuel débutera avec une réception d'ouverture à la salle de bal et au foyer du deuxième étage du Vancouver Renaissance Harbourside Hotel. Venez rencontrer commanditaires, collègues et invités, renouez avec vos amis puis faites de nouvelles connaissances. Un buffet vous sera offert, présentant plusieurs plats traditionnels de la région.

Arrivez tôt pour démarrer notre congrès 2013 à Vancouver.

Inclus avec votre inscription

(18h00 – 22h00)

Code vestimentaire

Décontracté

Participant inscrit _____ Invité _____

(Veuillez confirmer votre présence)

Reliefs de Vancouver

offerts aux invités des participants inscrits

Vendredi 27 septembre (09h30 – 15h30)

Nous quitterons notre hôtel pour nous diriger au musée d'anthropologie de University of British Columbia et un tour commenté, suivi d'une visite à la boutique du musée. L'édifice, qui possède une architecture extraordinaire, offre une programmation vibrante et provocante dans ses expositions contemporaines. C'est un endroit de découverte active puis de contemplation tranquille – un monde d'art et de cultures. Un élégant repas du midi nous attend à Seasons in the Park dans ses jardins avec vues imprenables. Pour clôturer la journée, nous sommes invités pour le thé (ou un verre de vin) et une visite des jardins de la demeure de Dennis et Lydia Nimchuk.

Les incontournables de Vancouver (pour invités)

Vendredi 27 septembre (09h30 – 15h30)

Rassemblement dans le foyer de l'hôtel 09h15

120\$ pp (taxes incluses)

Activité pour les invités des participants inscrits _____

Soirée et dîner sur le Sunset Bay II

Vendredi 27 septembre (18h30 – 21h30)

Rassemblement dans le foyer de l'hôtel 18h00

Embarquement à 18h00 et débarquement à 22h00

Soyez des nôtres pour ce dîner-croisière qui offre de surcroît des panoramas magnifiques de Vancouver et ses environs. À



compter du foyer de notre hôtel, nous nous rendrons à pied (8 minutes) au Sunset Bay II qui nous attendra au quai à gauche du centre des congrès (West Cordova et Bute).

La chef de renommée Natasha Harris et l'équipe culinaire du Sunset Bay Yacht Group auront préparé un splendide buffet, repas qui sera agrémenté d'une croisière reposante.

Soirée et dîner sur le Sunset Bay II

Vendredi 27 septembre (18h30 – 21h30)

Rassemblement dans le foyer de l'hôtel 18h00

160\$ pp (taxes incluses)

Participant inscrit _____ Invité _____

Le High Tea au Fairmont Pacific Rim Hotel offert aux invités des participants inscrits Samedi 28 septembre (14h00 – 16h00)

La consommation du thé a connu une montée en flèche au XIX^{ème} siècle lorsque Anna, la septième duchesse de Bedford, qui avait des malaises causés par «un creux dans l'estomac» durant la journée, implanta la tradition du thé l'après-midi. Avant ce temps, les gens ne prenaient que deux repas par jour: le petit déjeuner et un souper tard dans la soirée. La duchesse invita des amis à se joindre à elle pour une tasse de thé et un goûter les après-midis quand elle séjournait à Woburn Abbey mais cette pratique est devenue vite si populaire qu'elle continua la nouvelle tradition à Londres. Joignez-vous à vos propres amis au Fairmont Pacific Rim pour une expérience inoubliable du High Tea. Rendez-vous directement à cet hôtel, situé près du Renaissance Harbourside au 1038, Canada Place, à la terrasse du foyer au rez-de-chaussée.

Le High Tea au Fairmont Pacific Rim Hotel (pour invités)

Samedi 28 septembre (14h00 – 16h00)

50\$ pp (taxes incluses)

Activité pour les invités des participants inscrits _____

Gala du Président

Samedi 28 septembre (18h30 – 00h30)

Vancouver Renaissance Harbourfront Hotel

Chaque année, nous tentons de surpasser les galas précédents, ce qui veut dire qu'ils ne vont qu'en s'améliorant, et cette tendance est due, en grande partie, aux liens amicaux que

nous entretenons d'une fois à l'autre. Ce 21^{ème} gala ne fera pas exception. Réunissons-nous pour le champagne à la salle Vistas du Renaissance Harbourside, perché au dernier étage avec vues époustouflantes. Par la suite, nous nous rendrons au niveau principal de l'hôtel, à la salle de bal Tuscany pour un merveilleux festin et de la danse accompagnée des Blue Meanies. Cet orchestre joue de la musique des années 50 jusqu'à aujourd'hui depuis plus de 20 ans. Leur répertoire diversifié est un spectacle concentré à grand déploiement.

Gala du Président

Vancouver Renaissance Harbourside Hotel

Samedi 28 septembre – Réception: 18h30 Salle Vistas, dernier étage

– Souper/danse: 19h30 – Salle de bal Tuscany, niveau principal

195\$ pp (taxes incluses)



Call for Papers

CARDP's Executive Board has concluded a publishing agreement with Palmeri Publishing Inc. The Academy's Journal (CJRDP/JCDRP) is published four times a year since 2008 with a circulation of 7,000. The 2013 Journal Production Schedule is accessible at <http://www.cardp.ca/sitedocs/2013%20CJRDP%20Production%20Schedule.pdf>

Scientific articles are Peer Reviewed. The Journal welcomes article contributions from its members, guest dentists and dental technologists as well as the dental industry.

Editor: Dr. Hubert Gaucher

Associate Editors: Drs. Maureen Andrea, Emo Rajczak and Dennis Nimchuk

Section Editors: Drs. Kim Parlett, Ian Tester, Ron Zokol, Yvan Fortin, Paresh Shah, Izchak Barzilay, Peter Walford, Allan Coopersmith and Mr. Paul Rotsaert

I – Scientific Articles: (Original Research Studies, Reviews, Case Reports): Please refer to these "Instructions to Authors" for details. www.cardp.ca/sitedocs/CJRDP-Guidelines-PPI-PR1.pdf%2002-12.pdf

For Case Reports please review this information: <http://www.cardp.ca/sitedocs/CJRDP-Case-Report-Authors.pdf>

II – Member News: Please forward any news of interest to the Profession.

III – Young Authors Awards Fund: Financial contributions to this fund will recognize a dentist with 5 years' experience or less or a graduate student in Canada, with a \$1,000 award for the best published article of the year.

IV – Dental Student Award Fund: Financial contributions to this fund will recognize a dental student in Canada, who will receive a \$500 award for the best published article of the year.

V – Industry News and Product Profile Articles: New dental products, technologies and industry services are presented to readers using articles that originate from the industry and that are identified as such. This information is contained in the above "Instructions to Authors" and in the following Journal Media Kit: <http://www.cardp.ca/sitedocs/MediaKit-2013-email.pdf>

If you have comments or suggestions about submissions or would like to become more involved with the Journal, please contact the Editor:

Dr Hubert Gaucher
hgaucher@sympatico.ca
Tel: (418) 658-9210
Fax: (418) 658-5393



Demande de communications

L'ACDRP a conclu une entente de publication avec Palmeri Publishing Inc. Le journal de l'Académie (CJRDP/JCDRP) est publié depuis 2008 et a une circulation de 7 000 exemplaires. Il y a quatre parutions par année. La cédule de production 2013 du Journal est accessible à <http://www.cardp.ca/sitedocs/2013%20CJRDP%20Production%20Schedule.pdf>

Les articles scientifiques font l'objet d'une revue par des pairs.

Le Journal accueille des articles de ses membres, de dentistes et de prothésistes dentaires invités ainsi que de l'industrie dentaire.

Rédacteur en chef: Dr Hubert Gaucher

Rédacteurs associés: Drs Maureen Andrea, Emo Rajczak et Dennis Nimchuk

Rédacteurs de sections: Drs Kim Parlett, Ron Zokol, Yvan Fortin, Paresh Shah, Izchak Barzilay, Peter Walford, Allan Coopersmith et M. Paul Rotsaert

I – Articles scientifiques: (Recherches originales, revues, rapports de cas): Veuillez vous référer aux «Instructions aux auteurs» pour les détails. <http://www.cardp.ca/sitedocs/CJRDP-Guidelines-PPI-PR1.pdf%2002-12.pdf>

Pour le Rapport de cas, veuillez consulter le document suivant: <http://www.cardp.ca/sitedocs/CJRDP-Case-Report-Authors.pdf>

II – Nouvelles des membres: S.V.P nous envoyer toute information pertinente à la profession.

III – Bourse pour les jeunes auteurs: Les contributions financières permettront de remettre une bourse de 1 000\$ à un dentiste ayant moins de cinq ans de pratique et/ou à un(e) étudiant(e) diplômé(e) au Canada pour le meilleur article publié au cours de l'année.

IV – Bourses pour étudiant(e) en Médecine dentaire: Les contributions financières permettront de remettre une bourse de 500\$ à un étudiant ou étudiante en Médecine dentaire au Canada pour le meilleur article publié au cours de l'année.

V – Nouvelles de l'industrie et Articles publicitaires: Les nouveaux produits, technologies et services de l'industrie sont présentés aux lecteurs utilisant des articles venant de l'industrie et qui sont identifiés comme tels. Cette information est contenue dans les «Instructions aux auteurs» ci-haut ainsi que dans la Trousse Média: <http://www.cardp.ca/sitedocs/MediaKit-2013-email.pdf>

Si vous avez des commentaires ou des suggestions ou si vous désirez vous impliquer davantage dans notre Journal, veuillez communiquer avec le Rédacteur en chef:

Dr Hubert Gaucher
hgaucher@sympatico.ca
tél: (418) 658-9210
télécopieur: (418) 658-5393



The Canadian Academy of Restorative Dentistry and Prosthodontics
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