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SPECTRUM Dental TEAMWORK

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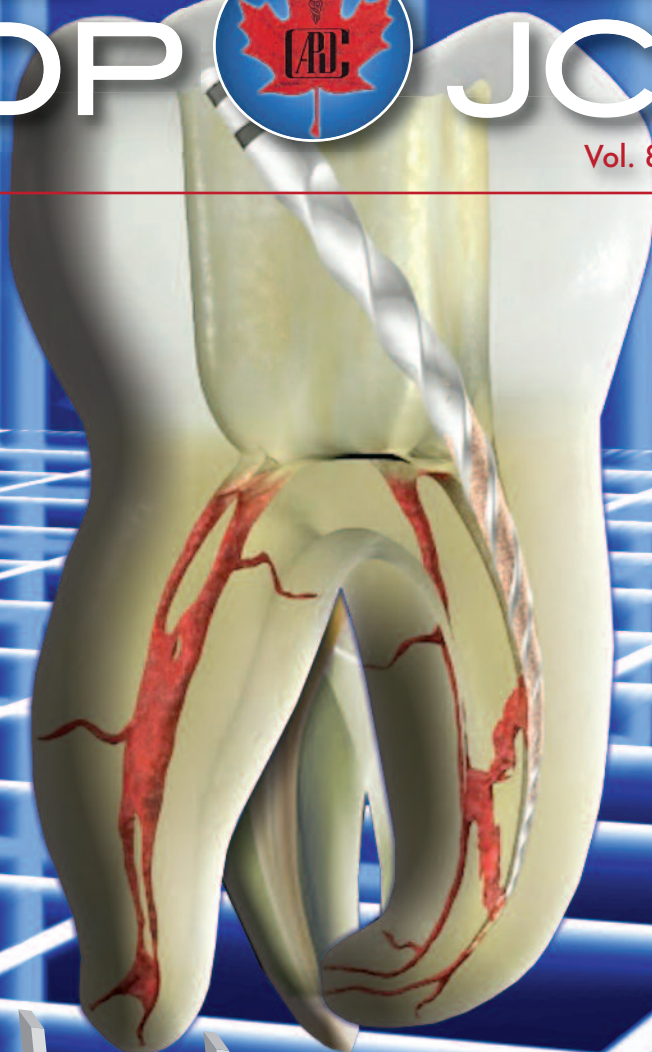
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Vol. 8, No. 2 – Summer/Été 2015



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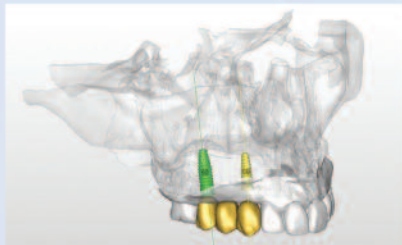
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President's Message

— *CARDP Toronto October 1-3rd, 2015*

Ian W Tester DDS, MSc

As President of the Canadian Academy of Restorative Dentistry and Prosthodontics it is my pleasure to invite you to attend the 23rd Annual Scientific Meeting (ASM) in Toronto at the Hotel Intercontinental (Front Street) October 1-3rd. Our organizing committee has put together a fantastic and diverse program of world renowned speakers. The unique format of our meetings blends an exceptional educational program with social events and camaraderie ensuring an amazing weekend that is not to be missed.

It has been an honour to work together for the past two years with an incredible, dedicated team of professionals that have put this meeting together. Our co-chairs for the clinic and essay program for the upcoming ASM are Dr. Tony Mancuso and Dr. Kim Parlett. They have received input on a variety of potential speakers from our "speaker's committee" which continuously evaluates potential lecturers. This committee is made up of members from across Canada and meets annually on Sunday morning after the ASM. Representatives of future meetings are present to ensure continuity and information sharing year to year. Our social programs are overseen by the Local Arrangements Chair. This year Dr. Carolyn Poon Woo has done a fantastic job of putting together a variety of fun and entertaining events. The rest of the ASM committee includes Dr. David Robertson, Dr. David Ellis, Dr. Donna Brode, Dr. Patrick Pedlar, Dr. Emo Rajczak, Dr. Larry Pedlar, Dr. Rick Freeman, Dr. Stan Tuck and Dr. Pio Modi. Our convention chair is Dr. Cary Letkemann.

Our program begins on Thursday October 1 with social events and a hands on program with Dr. Basil Mizrahi. The CARDP scientific lecture program continues on Friday October 2 with seven headline speakers who will lecture for one hour each. This fast paced day will be dedicated to the theme of our meeting; Inspiring Excellence. The Saturday lecture program includes one, 1 hour presentation and eleven 20 minute lectures from leading clinicians who will present clinically relevant topics that will be readily useable. CARDP's unique format offers all attendees the opportunity to maximize their educational experience in an atmosphere that is both refreshing and fun! We welcome new members and guests to attend our annual Scientific Meetings which are held each year (fall) in Montreal, Toronto, Halifax and Vancouver on a rotational basis.

The Canadian Academy of Restorative Dentistry and Prosthodontics was formed 23 years ago with the amalgamation of The Canadian Academy of Restorative Dentistry (CARD) and The Canadian Academy of Prosthodontics (CAP). This past year has been a very busy one for the CARDP board as we prepare our organization for the future. Our Applied Strategic Plan was developed by considering the Vision Path, Core Values and Steps necessary to achieve our goal of being the preeminent Canadian organization promoting excellence and education in Restorative Dentistry and Prosthodontics. I invite you to join us in Toronto for an outstanding weekend and experience all that CARDP has to offer. Further details and registration can be found at www.cardp.ca

Sincerely,



Ian W Tester DDS, MSc
President CARDP 2014-2015



Dr. Tester graduated from the University of Toronto with a DDS in 1982 and received a Master in Dental Sciences from Donau University in Krems Austria in 2004, with major emphasis on the treatment of the complicated patient using Orthodontics, Prosthetic Dentistry, physical therapy and medical intervention.

He now practices general dentistry in St. Catharines, Ontario with a focus on multidisciplinary treatment of the complex patient. He is a member of many professional and educational organizations in the United States and Canada and is a past President of the International Dental Study Club and a Fellow of the Canadian Academy of Restorative Dentistry and Prosthodontics, the American College of Dentists, the International College of Dentists, the Pierre Fouchard Society and the Academy of Dentistry International. He is a founding member of the International Academy of Advanced Definitive Dentistry (IAADD) and is section co-editor of the CJRDP in Occlusion and Temporomandibular Dysfunction.

Dr. Tester lectures in the U.S. and Canada on the topics of TMD, Function, Dysfunction, Esthetics and Occlusion in Restorative Dentistry. In addition, he is mentor to the Niagara Peninsula Dental Diagnostic Study Club.

Message du président

– *JCDRP Toronto, du 1er au 3 Octobre 2015*

Ian W Tester DDS, MSc

En tant que Président du Journal Canadien de Dentisterie Restauratrice et de Prosthodontie, j'ai le plaisir de vous inviter à assister au 23ème. Congrès Annuel Scientifique (CAS), qui se tiendra à Toronto, dans l'Hôtel Intercontinental (rue Front), du 1er au 3 Octobre. Notre comité organisateur a préparé un programme fantastique et diversifié, avec des orateurs de classe internationale. Le format unique de nos réunions incorpore un programme d'éducation exceptionnel, comprenant des manifestations sociales et de camaraderie, qui permettra une fin de semaine extraordinaire à ne pas manquer.

Ce fut mon privilège durant ces deux dernières années, de travailler avec une équipe incroyable et dévouée de professionnels, qui ont préparé ensemble cette rencontre. Nos deux Vice-Présidents pour les programmes cliniques du CAS, seront les Drs. Tony Mancuso et Kim Parlett. Ils ont été en contact avec une variété d'orateurs provenant d'un «comité d'orateurs», qui continuellement recherche de potentiels conférenciers. Ce comité est composé d'adhérents de tout le Canada, et se réunit annuellement, le dimanche matin après le CAS. Les représentants des futures rencontres seront là, pour garantir et partager les informations, et assurer la continuité d'une année à l'autre. Les programmes sociaux sont supervisés par le Président des Organisations Locales. Cette année le Dr. Carolyn Poon Woo a fait un travail extraordinaire en préparant une variété d'amusements et de divertissements. Le reste du comité CAS comprend le Dr. David Robertson, le Dr. David Ellis, le Dr. Donna Brode, le Dr. Patrick Pedlar, le Dr. Emo Rajczak, le Dr. Larry Pedlar, le Dr. Rick Freeman, le Dr. Stan Tuck et le Dr. Pio Modi. Notre Président de Congrès est le Dr. Cary Letkemann.

Notre programme débute le jeudi 1er Octobre avec une clinique de travail et des événements sociaux, dirigés par le Dr. Basil Mizrahi. Le programme de conférences scientifiques du JCDRP continuera le vendredi 2 Octobre avec 7 principaux orateurs, qui parleront chacun, une heure. Le rythme rapide de cette journée sera inspiré du thème de notre rencontre : Créer l'Excellence. Le programme de conférences du samedi, comprend une présentation d'une heure, et onze conférences de 20 minutes chacune, par des cliniciens hors pair, qui parleront de techniques facilement utilisables. Le

format unique du JCDRP offre à tous les participants la possibilité d'augmenter leur expérience éducationnelle, dans une atmosphère qui est la fois agréable et délassante ! Nous sommes heureux d'accueillir les nouveaux adhérents et les invités, qui assistent à nos Rencontres Scientifiques annuelles, se tenant chaque année (automne) à Montréal, Toronto, Halifax et Vancouver, à tour de rôle.

Le Journal Canadien de Dentisterie Restauratrice et de Prosthodontie a été formé il y a 23 ans par l'amalgamation, de l'Académie Canadienne de Dentisterie Restauratrice (ACDR), et de l'Académie Canadienne de Prosthodontie (ACP). L'année qui vient de s'écouler aura été une année bien remplie pour la direction du JCDRP, avec la préparation de notre avenir. Notre Plan Stratégique s'est développé, en tenant compte d'une Vision, de Valeurs Fondamentales et d'Étapes, toutes nécessaires pour atteindre notre but, afin de devenir l'organisation Canadienne la plus importante, en promouvant l'excellence et l'éducation, en Dentisterie Restauratrice et en Prosthodontie. Je vous invite donc à Toronto pour une exceptionnelle fin de semaine, et pour découvrir tout ce que le JCDRP peut vous apporter. Ceci est un Congrès à NE PAS manquer ! Pour de plus amples détails ou pour s'enregistrer, visitez www.cardp.ca

Sincèrement.

Ian W. Tester DDS, MSc
Président du JCDRP 2014-2015

People and Product News

Vita Announces New Vita North America President



Vita is proud to announce that Matthew O'Connell has joined the company as the President of Vita North America, effective immediately. The announcement was made by Vita North America CEO Dr. Emanuel Rauter and the Board of Directors after a nationwide search. Dr. Rauter added, "Matt's extensive experience in product sales within the dental industry and his enthusiastic attitude were keys in our decision. We feel Matt is uniquely qualified to lead Vita North America."

Matt comes to Vita North America from Sonendo, Inc., where he was Vice President of Sales. For more than twenty years he was with Ormco International, most recently serving as Vice President of Global Sales. He also held sales and management positions at Ormco, based in Orange, California, and spent time in Mexico City, spearheading Ormco efforts in Latin America. Matt also served as the Managing Director of Ormco Europe, based in Amersfoort, Netherlands.

Matt's undergraduate degree is from San Francisco State University and he holds a Masters in Latin American Studies from University of California, Santa Barbara. Matt, who is married and has two daughters, lives in Irvine, California.

Presentations by Dr. Roberts

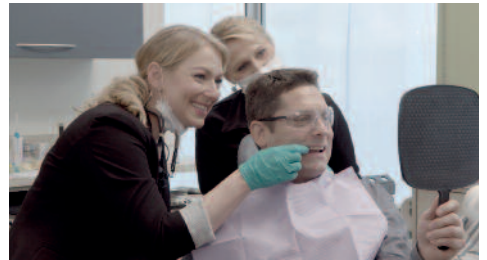


Dr. Roberts recently gave two presentations at the American Academy of Cosmetic Dentistry's (AACD) Scientific Session in San Francisco on the Therapeutic Uses of

Botox in Dentistry. Attendees learned about EMG guided Botox therapy for TMD, bruising, clenching, migraines, headaches, bruxism and pain.

Aurum Ceramic/Classic Launches "Ultra Conservative Minimal Prep Veneers" – A 4-Part Webinar Series

Aurum Ceramic/Classic Dental Laboratories is pleased to



announce the launch of our latest Webinar Series: "Ultra Conservative Minimal Prep Veneers" This new 4-part set



of Webinars covers everything you need to know to start and finish your first minimal-prep case. And, it's packed with invaluable tips for those already placing minimal prep veneers per routine in their practices.

Tracing an actual case from smile evaluation to cementation with a live patient, these webinars have been designed to deliver a true "over the shoulder" experience for the practitioner.

Featuring well-known lecturer and clinician Dr. Daniele Larose, this series is available On Demand at \$349.00 for the entire Four Webinar series or at \$99.00 per Webinar for each of the four titles. Both options include an on-going email Q&A component with Dr. Larose.

Contact the Aurum Ceramic/Classic Continuing Education Department at 1-800-363-3989 (or email us at ce@aurumgroup.com) for more information.

Straumann increases ownership of Neodent to 100%



Straumann has signed an agreement to increase its ownership of Neodent, Latin

America's leading dental implant company, from 49% to 100% in 2015, three years earlier than foreseen in a previous option agreement. The purchase price for the outstanding 51% is BRL 680 million (approximately CHF 210 million) paid in cash to the company's founding shareholders, Drs Clemilda de Paula Thomé and Geninho Thomé. The acquisition extends Straumann's overall leadership in implant dentistry and makes the Group a substantial contender in the global value segment.

Neodent specializes primarily in the design, development, and manufacture of dental implants and related prosthetic components. Under the entrepreneurial leadership of its founders, the company has expanded rapidly over the past 22 years and has a leading share of the world's second largest market for implant dentistry², Brazil. This success has been achieved through a philosophy of making tested implant solutions more affordable to a broader population.

In 2014, the company achieved revenues of BRL 258 million, generated predominantly in its domestic market, where revenue grew 8%. Neodent is highly profitable and the acquisition will be accretive to Straumann's reported EBIT margin from 2016.

Straumann invests in Valoc AG

Straumann, a global leader in replacement, restorative and regenerative dentistry, has signed an agreement to acquire 44% of Valoc AG, a privately-held Swiss company that develops and manufactures innovative retention systems for removable implant-borne dentures. Financial terms were not disclosed.

Market opportunity

One of the most popular modern treatment options for edentulous patients is to use dental implants to anchor a removable denture. The retention devices that attach the denture to the implant connection are sophisticated and precise, holding the denture firmly in place but also allowing it to be removed and replaced easily for cleaning.

An attractive system

Valoc's Swiss-made Novaloc[®] is a highly durable, precise, flexible and innovative attachment system, which is compatible with most leading dental implant systems. Its Optiloc[®] range, which is currently in development, will be one of the smallest overdenture attachment systems on the market, offering high durability and user-friendliness. Although Valoc is a young, growing company, its products have already become established in Germany and other central European markets, thanks to the fact that Medentika is their main distributor.

More information about Straumann and its products is available in the company's new annual report: www.straumann.com/ar2014

Unique Dental Supply Inc. News

"Unique Dental Supply Inc. is thrilled to announce that we are an official dealer for Panadent Corporation.

Unique Dental Supply Inc. is excited to be able to offer Panadent products across Canada. Our main goal is to assist and support customers with interest in Panadent products.

We have superb knowledge and customer service for the Panadent products and are able to offer exceptional value of the products. This allowing user to maximize the quality of the final products for the patients.

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Dent-line of Canada News

Dent-line of Canada, a division of Central Dental Ltd., announces the availability of BioHPP in Canada. BioHPP, manufactured by Bredent Group GmbH, is a PEEK-based ceramic reinforced high performance polymer used as a framework material in a range of applications. BioHPP has shock-absorbing "off-peak" characteristics that lower and delay the onset of occlusal forces, protecting both the dental prostheses and underlying biological structures from the damaging effects of bite forces. Available in pellets and ingots for the pressing technique or CAD-CAM discs for milling, BioHPP is versatile and integrates easily into existing lab workflows. BioHPP can be veneered with a range of materials including lithium-disilicate ceramics, composites, and visio.lign.



BioHPP

For more information contact Dent-line of Canada at 800-250-5111.

Powerful *partners*

NSK introduces its powerful handpieces with improved operational visibility and access



Market specialists in high-quality air driven handpieces and contra-angles, NSK is dedicated to delivering high performance products for the whole dental team at amazingly affordable prices.

NSK has always been positioned at the leading edge of dentistry, recently launching the NSK Ti-max Z900L, one of the world's most powerful air driven handpieces and the NSK Ti-max Z95L, the electric high-speed (1:5 increasing) contra-angle, which received a five-star review in a recent Dental Advisor (2014) clinical evaluation.

NSK Ti-max Z900L

NSK's new Ti-max Z air driven series includes one of the most powerful air turbines available to dental professionals, the Z900L, with a sensational 26W* power output. This is coupled with an even smaller head and optimal head angle to improve operational visibility and access, delivering exceptional performance in a beautifully sleek body.

While the Ti-max Z900L has a lightweight titanium body**, its newly developed bearings dramatically increases stability and durability leading to reduced running costs and noise output.

The Ti-max Z900L has an ergonomic body shape and introduces a new surface coating, Duragrip, providing superior grip and comfort. NSK is so confident about the performance of the Ti-max Z900L it comes with a three-year warranty (available for NSK and Kavo fittings).

The NSK Ti-max Z900L offers:

- Smooth operation
- High 26W power output
- Clean Head System
- Smaller head and optimal head angle
- Outstanding durability

- Solid titanium body**
- Anti-heat system
- Duragrip coating
- Microfilter.

A speed-increasing contra-angle

In a recent Dental Advisor (2014) evaluation the NSK Ti-max Z95L received a five star review with 100% of the review panel saying that they would recommend the product and 83% stating they would switch to using it.

During a three-month period the Ti-max Z95L was evaluated by 12 consultants and received a 98% clinical rating, whilst gaining the following exceptional comments:

- 'Best handpiece I have ever used'
- 'This is a high quality handpiece - quiet, vibration-free and dependable'
- 'Gets into tight areas well'
- 'Small head'
- 'Curved angle improves access'

The Ti-max Z95L is a high-speed (1:5 increasing) contra-angle designed to offer improved visibility through the reduction of head and neck size. While the Ti-max Z95L has a lightweight titanium body**, its gear shape and carbon coating provides durability and minimal noise output, The contra-angle has a four-port spray for effective cooling and runs with almost no vibration. An internal micro-filter traps waterline debris to promote consistent water flow In addition, the handpiece carries a two-year warranty. ■

* Only Z900L. Power output measured by NSK internal research department,

** Only external body component is titanium



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100% of all handpiece components are manufactured in-house in Japan.

Most power.

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Ti-Max Z900L*	26W	30-mo. warranty*
KaVo M8900 L ¹	23W	24-mo. warranty ¹
W&H Synea 500 Series TK-98L ²	21W	24-mo. warranty ²

*internal data
1. As listed at <http://www.kavousa.com>. Warranty extends to 30 months, if maintained in a KaVo QUATTROcare Plus.
2. As listed at <http://us-a-dec.com>

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Ask the Experts

Practice Transitions

Q I recently purchased a general practice and am struggling with the transition of the patients to me from the previous owner. Although I have owned the office for the past six months my schedule is always less than half full while the previous owner's schedule remains full. I am now finding it very difficult to manage my finances. Can you offer some advice about turning this situation around?

Dale Tucci explains:

I wish I could say that this scenario is uncommon, but with the price of practices and the voracious appetite to buy dental offices, this is becoming a significant and disturbing trend. Although it wouldn't be prudent to give advice without the critical information surrounding the specifics of your purchase, I'll address the question by examining some of the factors that lead to less than ideal practice transitions.

Here's a case study to illustrate a stress filled post-sale scenario we often encounter as consultants, and the issues that play a role:

Case Study

- Practice owner has the practice valued
- Purchaser acquires at 30% above the appraised value
- Transition will be completed without notifying the office manager or team members
- New owner appears in the practice day after deal is finalized
- New owner and seller explain to team the new "normal"

Transaction Outcomes

- The new owner has immediate debt load above the ability of the practice to produce
- Team are immediately stressed by uncertainty around the new owner, leadership and practice direction
- Many team members feel slighted as their employer did not inform them of the sale (given the confidentiality of this transaction)
- Team have no connection with the new owner and therefore feel they cannot communicate effectively with patients who will have a lot of questions
- Dentists and team are jolted into the reality that the previous practice no longer exists. At the same time, the new practice vision and business plan has not been defined or communicated with team members
- Seller remains scheduled and the new owner has few patients scheduled as the business has had zero preparation time to add another full time dentist to the practice

You may think all of the above outcomes can be managed over-time with the right leadership and team. However, in most cases the practice survives a poor transition often due to necessity rather than entrepreneurial efforts.

The stark reality here is that with the purchase price being 30% higher than the value, strategies to increase practice growth need to be defined and in motion long before the practice is valued. The pressure on the new owner to now service the debt and react quickly to expand is enormous.

As with so many purchases, the new owner isn't focused on changing very many things. He/she has enough on their plate just learning how to integrate with patients, team and another dentist!



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.

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David Harris is a private investigator and "dual certified" fraud examiner (CFE and CFF). He also has a graduate business degree and a professional accounting designation. He is CEO of Prosperident, the world's largest dental embezzlement investigation firm. Prosperident is consulted on hundreds of embezzlement matters annually and puts many thieves in jail. David has lectured at several universities in the faculties of dentistry, business and law, and has been interviewed on embezzlement by every major North America dental magazine. David is a highly entertaining and engaging speaker who draws on a vast amount of experience in his field. His company's web site is www.dentalembezzlement.com, and the phone number is 888-398-2327.

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Seller Outcomes

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- The seller may feel bad about not being able to share information about a sale with team members
- The seller now has a professional partnership in terms of patient treatment

Although the seller may have received much higher value for the business, the result is a heavy load of stress, not the least of which comes from his team and patients' reaction. In order to remain a productive associate, the seller must also have sufficient dentistry to keep his/her schedules full and at the same time, be actively encouraging patients to meet and seek care with the new owner.

The emotional toll of a swift transition on the previous owner cannot be overlooked. Everyone reacts differently to change, but because this one has been so abrupt, the impact on this dentist's leadership role in the office is undeniable. As a dental professional who has invested much time, energy and good old-fashioned sweat into the practice, it's only wise to plan and execute a professional departure.

It's clear that there is definite need for a significantly thoughtful and highly effective approach to business succession planning, based on the frequency of less than ideal practice transitions that we are aware of or involved in rectifying. Whether you are a few years away from a practice succession, in the midst of, or have completed a transaction, we urge you to be fully aware of the repercussions to patients, team, business performance and yourself if it's poorly managed.

The sale of a practice is the beginning of a new business. Our firm believes in developing succession plans that meet the needs of everyone involved.

Embezzlement

Q 1. If you could tell dentists only one thing about embezzlement, what is the most important information you could pass on?

2. With oil prices falling, which is likely to hurt the Canadian economy, do you expect to see an increase in embezzlement?

3. I am pretty sure that embezzlement isn't happening in my practice, because I check the day-end report from my practice management software every day to make sure that it is in balance.

4. Won't establishing and using individual logins for each staff member and me make embezzlement more difficult, or at least make it easier to identify the thief?

5. My office doesn't take in much cash, so I don't think I am at much risk of being embezzled.

David Harris explains:

1 Lots of doctors ask me what financial irregularities they should look for to spot embezzlement. First, embezzlement patterns aren't usually obvious by looking at reports from practice management software – normally to find these patterns, deeper analysis (the kind we do when investigating) is needed.

Second, statistically, most embezzlement is not uncovered by financial clues; typically it is the way that embezzlers behave that gets them caught. So my missive to your readers is to gain a better understanding of what embezzlement-like behavior looks like, and to carefully watch for it.

2 An interesting question – we find that embezzlers fit neatly into two categories, which we label “Needy” and “Greedy”. Needy thieves are in financial crisis and are stealing to pay for necessities. Greedy thieves are stealing for reasons of ego and conspicuously spend on luxury items. An economic crisis will bring out more of the Needy, when a spouse losing their job or a tightening of credit in the economy will create a financial crisis for some families. However, the Greedy are most active when the economy is booming, and they perceive others moving ahead more quickly than they are. So we see embezzlement in all phases of the business cycle, but the mix changes based on economic conditions.

3 The biggest mistake that embezzlement victims make is that they underestimate their adversary. Every embezzler in a dental office starts the same way – they study the doctor. They know your habits, and particularly what you check and what you don't.

If you are someone who regularly reviews the day-end report (a practice we highly recommend, by the way), a thief in your office certainly knows that you check it, and is therefore very unlikely to do something that leaves a visible trail on this report. They will either find an embezzlement pattern that does not adulterate the day-end report, or they will make use of one of the many techniques available to

them to “doctor” the report, so that suspicious transactions are not visible to you.

Many dentists overestimate the reliability of information emanating from their practice management software. Since in almost every office, it is staff who input information into the software, they have ample opportunity to manipulate what you see.

4 I think you are back to underestimating embezzlers. While we unconditionally recommend the use of individualized login information, we can’t discount a thief’s adaptation to this. Most thieves will quickly find a way to access someone else’s login information – they may know a place where the other user has written their password down, or they may use a technique called “shoulder surfing” where they watch someone log in repeatedly to glean that person’s password.

Once a thief has gained the ability to log in as someone else, they will freely embezzle, believing that the trail back to them is an obscure one.

5 I’ll make a couple of points here. First, you probably have no idea how much cash patients pay; what you know is how much cash is recorded in your software, which might be a different number. We’ve even seen embezzlers do things to manipulate how patients pay. For example, we have often seen an embezzler offer patients a discount for paying cash that has never been authorized by the doctor. The intent is to keep the amount of cash being deposited by the practice fairly constant, so that defalcation isn’t conspicuous.

The second point that I will make is that it isn’t terribly hard for a thief to steal payments made by other means; payments made by cheque, credit card or electronic deposit are all able to be monetized by a thief. Twenty years ago, I would have agreed with the statement that most dental embezzlement involves theft of cash, but I wouldn’t make the same statement today. ■

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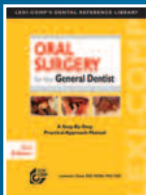
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Dr. Rony Dagher is an Endodontist and a fellow with royal college of Dentist of Canada who maintains a private practice in Mississauga Ontario Canada.

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Predictably

Successful

Endodontics

Cliff Ruddle

Cliff Ruddle discusses how predictably successful endodontics and minimally invasive endodontics can work alongside each other

Dr. Herbert Schilder used the title: 'Predictably successful endodontics' to describe many of the lectures he gave over about a 40-year timeline. In the most simple and direct way, these words promise long-term treatment success that is not only possible, but attainable. Central to predictably, successful treatment includes those factors that serve to influence the retention of critically essential teeth. In the present state of endodontic development, the mechanical steps to achieve predictably successful results include access preparation, glide path management, shaping canals, 3D disinfection, and filling root canal systems (Figure 1).

Perhaps the most important factor that serves to influence clinical treatment success is to recognise that pulpal degeneration occurs often within a complex anatomical space. Pulpal breakdown and disease flow occur along anatomical pathways and generally move in a coronal to apical direction. Secondary to pulpal breakdown, a lesion of endodontic origin (LEO) forms in the bone adjacent to a portal of exit (POE) (Schilder, 1976). In virtually all instances, LEOs will heal following endodontics because, like the extraction, clinical treatment is directed toward eliminating all the pulp, bacteria when present, and their related irritants.

Another factor influencing success is the often misunderstood concept of minimally invasive endodontics (MIE) (Ruddle, 2014). Specifically, there has been a one-sided clarion call for dentists to cut small sized access cavities, or to minimally shape canals, or to not shape canals whatsoever. Yet, the quintessential goals of

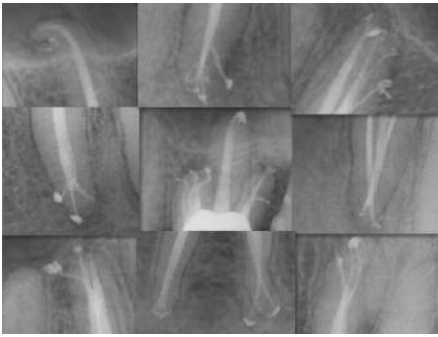


Figure 1: This collage of post-treatment endodontic images show the results and importance of treating root canal systems



Figure 2: A 30-year recall image of teeth UL4 and UL6 (palatal root) reveals predictably successful interdisciplinary treatment results



Figure 3a: A clinical photograph shows the orifices of these shaped canals smoothly blend into the axial walls of this funneled and finished access preparation



Figure 3b: A 20-year recall image demonstrates 3D endodontics and a protective restoration long-term success.

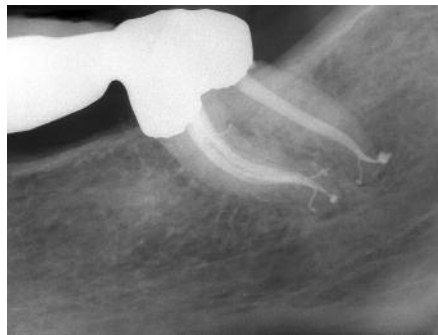


Figure 4: This post-treatment film reveals flowing multi-planar shapes to length. Note the six filled furcal and apical POEs



Figure 5: This animation shows the Protaper Sx file brush-cutting on the outstroke. The inset image emphasizes relocating the ML canal away from furcal danger

clinical endodontics are to eliminate all organic substrate and fill root canal systems. With the current technology available, these essential goals require preparing well-shaped canals that, in turn, promote 3D cleaning and filling root canal systems (Figure 2).

This article will focus on the current concepts for cutting access cavities and shaping canals in the context of balancing the endodontic objectives with the concept of MIE.

Endodontic access

The goal of endodontic cavity preparation is to gain access to the pulp chamber and the underlying root canal system (Ruddle, 1997). Endodontic access is the first mechanical step that will significantly influence a series of subsequent steps that serve to guide each case to a successful conclusion. With a thoughtful plan, the mechanical objectives are to penetrate, funnel, and create straight-line access to any given orifice. Upon identifying an orifice, the internal axial walls should be flared, flattened, and finished. Importantly, coronal interferences are eliminated to improve radicular access.

An effective access preparation allows files to be easily inserted directly into orifices, reagents to be strategically dispensed, and, regardless of the obturation method, root

canal systems to be filled. In furcated teeth, the access preparation is widest on the cavo-surface of a tooth and progressively funnels toward the pulpal floor. All unsupported dentine and enamel should be removed, as leaving this hard tissue has not been shown to strengthen teeth. Leaving trapped tissue, debris, or residual sealer within the access preparation is well known to contribute to staining and discoloration of the clinical crown following treatment (Ahmed, Abbott, 2012).

The goals of endodontic access and the concept of MIE are compatible and should coexist. Namely, access cavities should not be needlessly restrictive or excessively large; rather, the outline form and preparation should be just right. Ideally, access objectives are confirmed when all the orifices in furcated teeth can be visualised without moving the mouth mirror (Figure 3). The concept of MIE encourages maximising healthy tissue, but, and this is most important, MIE does not mean compromising the endodontic treatment goals. To use a car engine analogy, it is illogical to repair the engine through the tailpipe, rather than simply lifting the hood.

A restrictive access preparation compromises finding orifices and effectively treating underlying root canal systems. Further, when the access preparation is too small, it becomes

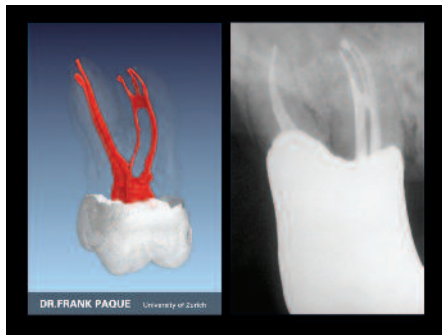


Figure 6: This μ CT image reveals a third system originating off the anastomosis between the MB1 and MB2 canals (courtesy of Dr Frank Paqué; Zurich, Switzerland). My 25-year recall of the buccal roots of tooth three depicts similar MB root anatomy and the long-term outcome of interdisciplinary treatment

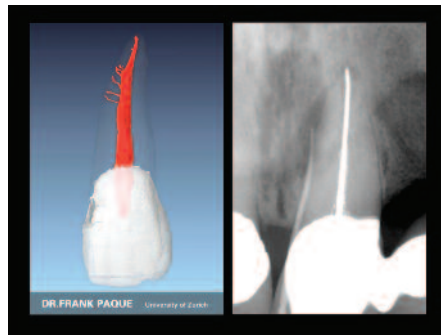


Figure 7a: This μ CT image shows a maxillary central incisor root canal system (courtesy of Dr Frank Paqué; Zurich, Switzerland). My pre-op film reveals an endodontically failing anterior bridge abutment. Note a gutta percha point tracing a sinus tract to a laterally positioned LEO

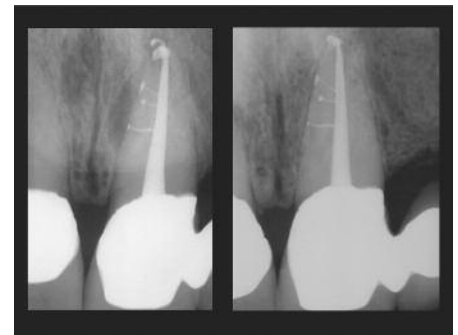


Figure 7b: The left post-treatment image shows the importance of treating root canal systems. The right image is a 22-year recall showing the inevitable potential for healing following complete treatment

needlessly difficult to place files, instruments, and devices into underlying canals, or to visualise internal fractures and their extent of propagation. Histological evidence demonstrates that eliminating coronal interferences serves to protect dentine on the furcal side of multi-rooted teeth (Ruddle, 2005). Working through a restrictive access preparation elevates frustration and serves to compromise each and every subsequent step that comprises start-to-finish endodontics.

On the other hand, access cavities that are prepared too large, structurally weaken natural or restoratively revised crowns and contribute to fractures and the premature loss of teeth. Over-prepared access cavities, with or without internally gouged axial walls, weaken tooth structure. Irregular axial walls compromise vision and frequently make it more difficult to insert instruments into any given orifice because of an iatrogenic ledge within the access cavity itself. In the instance of multi-visit endodontics, provisionalisation may become compromised in access preparations that exhibit reverse funnels.

Neither modern-day endodontic practice, nor the concept of MIE dictate which rotary cutting bur, diamond, or ultrasonically-driven instrument should be used to initiate, rough-in, or competently finish any given access preparation. When preparing the access cavity, it is not the type of bur that is most important. What is most important is for the clinician to understand the access concept, recognise the orientation between the crown and root, and appreciate the relative position of the pulp chamber from tooth to tooth (Figure 4) (Ruddle, 2007).

Anatomical examination of the coronal-most aspect of virtually all canals in furcated teeth consistently reveals they are not centred within the mesiodistal dimensions of roots.

Rather, the coronal-most aspect of these canals is positioned closer to the furcal-side concavity of the root. Clinicians should deliberately use a brushing motion, on the outstroke, to eliminate triangles of dentine and intentionally relocate this aspect of the canal away from external root concavities (Figure 5). Histological evidence demonstrates that removing triangles of dentine results in more radically centred final preparations, which, in turn, makes teeth more fracture resistant (Ruddle, 2002; Ruddle, 2005).

Protecting furcal-side dentine comes at the expense of selectively removing cervical dentine. Restorative dentistry has identified the biological, mechanical, and aesthetic guidelines required for any coronal preparation, which are based on the material utilised. Experienced dentists appreciate that, in the instance of full coverage, the buccal and lingual aspects of a circumferential ferrule are superior at resisting vertical and lateral occlusal loading than the mesial and distal aspects of the ferrule. The concept of MIE recognises the importance of maximising furcal side dentine, which protects against weakening roots, strip perforations, and longitudinal fractures.

Endodontic canal preparation

The mechanical necessity for preparing or shaping canals has long been recognised as an essential step in endodontic treatment. Yet, the concepts concerning the role of canal preparation have differed markedly based on the development of endodontics at any given period of time. Over the past decades, root canal preparation has been described in different ways, including instrumentation, biomechanical instrumentation, and chemomechanical instrumentation. Each has something to offer, has been described in its own way, and is intended to move forward the

thinking and actual manner in which root canals are prepared. However, none of these instrumentation concepts convey the actual objectives of root canal preparation.

In 1974, Dr Herbert Schilder precisely described the mechanical objectives for preparing a canal that, when fulfilled, would ensure the biological goals for long-term success. It is noteworthy that these objectives were published long before any proposal of the more contemporary concepts of minimally invasive dentistry and, more recently, MIE. The paradox for dentists is, whereas the Schilderian objectives have undergone rigorous scientific and clinical scrutiny for more than 40 years, MIE is a concept that has yet to be defined, has no clinical guidelines, and is currently being exploited with virtually no published scientific evidence.

Shaping refers to the conscious development of a preparation that is unique, specific, and appropriate for any given root canal and its corresponding root. Schilder used the expression, 'the look,' to describe any well-shaped canal that appropriately enlarges, mechanically reproduces, and flows with the original anatomy of the root canal (Figure 4). Shaping canals creates sufficient space to hold an effective reservoir of irrigant that, upon activation, can penetrate, circulate, and digest tissue from the uninstrumentable portions of a root canal system (Ruddle, 2008). Histological μ CT (computerised tomography) images emphasise the importance of shaping canals, which, in turn, facilitates the exchange of irrigants, 3D cleaning, and filling root canal systems (Figure 6) (Schilder, 1967).

Just like the endodontic access preparation, any given canal can be underprepared, over-prepared, or prepared

just right in accordance with Schilderian principles. Histological examination of endodontic failures routinely demonstrates that underprepared canals, although instrumented, are neither shaped nor cleaned (Figures 7) (Ruddle, 2002). Underprepared canals limit the effective exchange of irrigant into all aspects of the root canal system. Certainly, underprepared canals harbour residual pulpal remnants, often bacteria and debris that continue to be a major cause of post-treatment disease. Universally, underprepared canals rarely exhibit filled root canal systems.

On the contrary, over-prepared canals violate both the mechanical objectives of canal preparation and the concept of MIE. Coronally over-prepared canals weaken roots, predispose to hopeless fractures, and invite strip perforations. Contrary to what has been reported, the Schilderian shaping objectives do not obligate dentists to make round canals in irregular cross-sections, nor command dentists to shape canals to the radiographic apex, a frequently misused term. Further, there is a misunderstanding regarding preparing a canal to a continuous taper.

Virtually all non-manipulated canals exhibit natural taper over their length. As such, good shaping techniques reproduce this original anatomical form, emphasise deep shape, and consciously focus on a more conservative tapered shape in the body of the root. More than a decade ago, and long before the concept of MIE was introduced, the Protaper system's Finishing files (Dentsply Tulsa Dental Specialties) were designed with fixed tapers from D1-D3, then decreasing percentage tapers from D4-D16 to conserve dentine in the body of the canal (Ruddle, 2001). For example, a regressively



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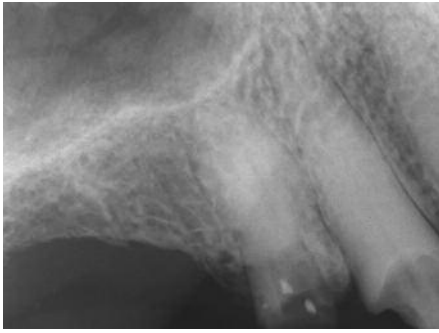


Figure 8a: My 1983 preoperative radiographic reveals coronally broken down and endodontically involved teeth UR3 and UR4

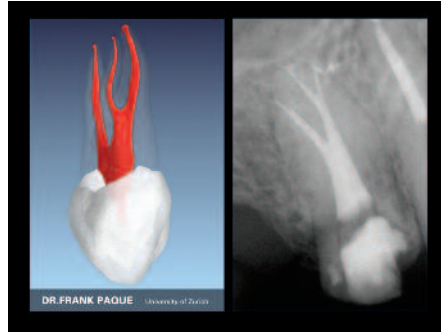


Figure 8b: A μ CT image of a maxillary first bicuspid shows three systems and an anatomically broad isthmus between the buccal and lingual canals (courtesy of Dr Frank Paqué; Zurich, Switzerland). My posttreatment film reveals the buccal and lingual systems are joined by a deep and broad isthmus that extends to midroot. Note the buccal and lingual canals bifurcate at mid-root and the lingual system bifurcates in its apical one-third

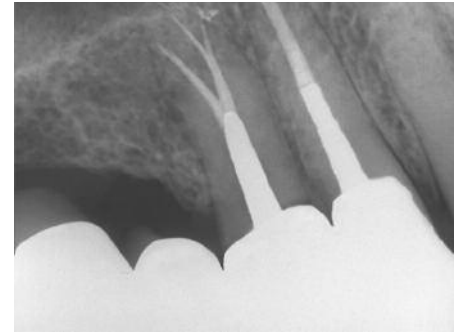


Figure 8c: A 27-year recall film in 2010 demonstrates predictably successful interdisciplinary results

tapered Protaper 25/08 Finishing file has a D16 diameter of 1.05mm, whereas a fixed tapered 25/08 file would have a D16 diameter of 1.53mm.

Another misunderstanding that continues to sabotage success is over-enlarging the terminal extent of canals (Ruddle, 2002). Histological evidence demonstrates the importance of deep shape by showing a 40/06 preparation is no cleaner than a 20/10 preparation (Albrecht, Baumgartner, Marshall, 2004). It is interesting to note that the 20/10 file utilised in this study has a maximum flute diameter of 1.00mm versus the 1.80mm that would be expected if the fixed taper extended over 16mm of cutting blades. Importantly, over-preparing the foramen leads to wet canals, post-treatment flare-ups, surgeries, and extractions. Evidence is readily available that demonstrates how well-shaped canals that emphasise keeping the foramen as small as practical readily exchange irrigants throughout the root canal system (Caron et al, 2010; Kanter et al, 2011). Over-prepared canals, or what have been termed ‘freeways to length’, are the antithesis to Schilder’s mechanical shaping objectives.

Misinformation

In the 40 years I have been practising endodontics, I have not seen what has been termed ‘an epidemic of fractured teeth’, even after routinely utilising a microscope since 1988. What I have seen is a number of post-treatment failures resulting from not placing an effective coronal restoration. However, the article entitled ‘Fracture resistant endodontic and restorative preparations’, in the February 2013 issue of *Dentistry Today*, attributes an endodontic failure to overfunneling the coronal two-thirds of a canal. Yet, multiple photographs of this same extracted tooth show a large

invasive class II composite restoration with no protective cuspal coverage. Certainly, over-prepared canals weaken roots, but it is undeniable that unrestored, endodontically treated posterior teeth, left to occlusal loads, frequently and hopelessly fracture (Goodacre, Spolnik, 1995).

In the above referenced article, the author states that: ‘Intentional shaping directed toward achieving some kind of “look” may result in a tooth that exhibits what many might characterise as “endodontic excellence” yet is crippled in the process, even before the restorative needs are considered (Figure 19).’ This statement is arrogant and represents both misinformation and scientific misconduct. The referenced figure shows a tooth I endodontically treated, but my post-treatment image was published without my knowledge or permission. For the record, following my endodontic treatment, the prosthesis was fabricated, placed, and a recall radiograph at 27 years demonstrates the interdisciplinary result (Figure 8). It is my hope that members of the dental profession, authors in particular, would perform necessary due diligence prior to publishing.

Future

Predictably successful endodontics is currently dependent on preparing the access cavity, shaping canals, and cleaning and filling root canal systems. Going forwards, the question that must be scientifically answered is, how restrictive can any given access cavity or root canal be prepared, and – this is most important – still enable the root canal system to be both 3D cleaned and filled? Until this question is universally answered in collaborative research, it would be wise to continue to practise utilising the best evidence, coupled with the most proven treatment concepts and techniques. There

is an old expression: 'Model success. Success leaves clues'. Long-term endodontic treatment success should integrate respect for the concept of MIE, while concomitantly fulfilling the mechanical and biological treatment objectives. ■

References

- Ahmed H and Abbott P (2012) Discolouration potential of endodontic procedures and materials: a review. *Int Endod J* 45(10): 883-897
- Albrecht L Baumgartner J and Marshall J (2004) Evaluation of apical debris removal using various sizes and tapers of profile GT files. *J Endod* 30(6): 425-428
- Caron G Nham K Bronnec F and Machtou P (2010) Effectiveness of different final irrigant protocols on smear layer removal in curved canals. *J Endod* 36(8): 1361-1366
- Goodacre C and Spolnik K (1995) The prosthodontic management of endodontically treated teeth: a literature review. Part III. Tooth preparation considerations. *J Prosthodont* 4(2): 122-128
- Kanter V Weldon E Nair U Varella C Kanter K Anusavice K and Pileggi R (2011) A quantitative and qualitative analysis of ultrasonic versus sonic endodontic systems on canal cleanliness and obturation. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 112(6): 809-813
- Ruddle C (1997) Microdentistry: identification & treatment of MBII systems. *J Calif Dent Assoc* 25(4)
- Ruddle C (2001) The protaper endodontic system: geometries, features, and guidelines for use. *Dentistry Today* 20(10): 60-67
- Ruddle C (2002) Cleaning and shaping root canal systems. In *Pathways of the Pulp* 8th edition. St Louis: Mosby Co
- Ruddle C (2005) The protaper technique. *Endodontic Topics* 10:187-190
- Ruddle C (2007) Endodontic access preparation: an opening for success. *Dentistry Today* 26(2): 114-119

- Ruddle C (2008) Endodontic disinfection: tsunami irrigation. *Endodontic Practice* 11(1): 7-15
- Ruddle C (2014) Focus on: Minimally invasive endodontics. *Dentistry Today* 33(4)
- Schilder H (1967) Filling root canals in three dimensions. *Dent Clin North Am* 11: 723-744
- Schilder H (1974) Cleaning and shaping the root canal. *Dent Clin North Am* 18(2): 269-296
- Schilder H (1976) Canal debridement and disinfection. In *Pathways of the Pulp* 1st edition. St Louis: Mosby Co



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The case of the triple rooted premolar – an investigation into modern endodontic procedural technique

Mohit Dabb presents a clinical case using modern endodontic techniques to help with pain relief and restoration

The case to be presented and also deconstructed pertains to a maxillary first premolar. The UR4 belonged to a retired engineer; it had undergone endodontic treatment some 12 years earlier and was the mesial abutment of a three unit fixed bridge (UR6-UR4). The UR6 had failed five months previously and so had been extracted and the bridge sectioned at the distal margin of the UR5. This now resulted in a gap and an occlusally-unfavourable distal cantilever. To compound matters further the patient began to feel a deep-seated ache, which became unresponsive to his analgesic efforts, high in the buccal sulcus adjacent to the UR4. A referral for pain relief and restoration of the space was sought.

After thorough examination and history taking, a digital periapical radiograph was taken, which revealed a poorly filled palatal root short of the apex and a periapical radiolucency centred around the mesial root. The mesial root filling was of good length but skewed in direction in relation to the centre of the root (Figure 1).

Cutting into the abutment

Maxillary first premolars usually have two canals, the incidence of three canals is rare, about 1.6%. If there are three canals, the buccal root usually houses the extra canal in a separate root form or as two fine roots fused into one. An aberrant canal



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busy general dental practitioner. He is a founder and director of Modus and accepts referrals for all aspects of endodontics.

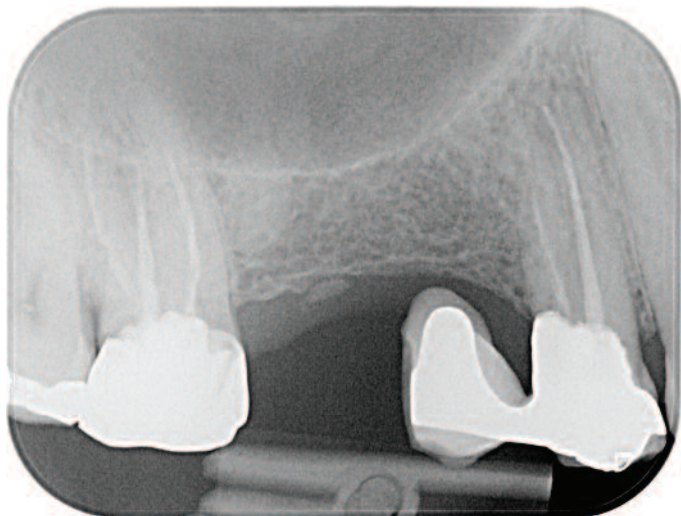


Figure 1: Pre operative view

missed could harbour necrotic pulpal tissue. In retreatment cases mysterious causes of pain are usually down to pulpal remnants hidden in extra canals or isthmuses, fins or anastomoses.

Returning to the case in question, there appeared to be two to three millimetres of uncharted mesial canal space to the existing root filling. After discussing the radiographic findings with the patient it was felt worthwhile to investigate further and so, after adequate anaesthesia and rubber dam placement, a slot-like access was cut into the existing crown. The parameters of the outline form were the tip of the working palatal cusp and two millimetres shy of the buccal non-working cusp tip. Upon penetration of the porcelain bonded abutment, recurrent caries was encountered and removed, and the access to the pulp chamber continued with the XLTD (extra-long tapered diamond) burr from the LA Axxess Kit (Sybronendo, California, USA). At this point exhibit one was found, a separated file fragment, lying amidst the mass of gutta percha (Figure 2).

Clinical access and canal location is hugely dependent on the quality of the magnification and lighting utilised. Surgical length or extra-long diamond or carbide burs also help to keep the visual field clear of obstruction by the handpiece. The LA Axxess burr is invaluable in roughing out the shape of the pulp chamber and removing obstructive triangles of dentine by dropping into the canals and marrying them to the axial line angles. Any further, deeper searching for canals may be completed with ultrasonics – the Start-X tips (Dentsply Maillefer,

Ballaigues, Switzerland) being the author's weapons of choice. Again, ultrasonic instrumentation facilitates investigation of the depths of the pulp chamber by optimising vision.

Very quickly the tell-tale burr marks of previous searches were uncovered and the MB (mesiobuccal) and DB (distobuccal) canals were found. A partially vital and purulent MB canal presented itself and the access cavity was refined to a T shape. A central dividing burr scorch between the two mesial canals shows how close the previous operator was to uncovering the MB canal and with it success or indeed perforating the pulpal floor and imminent failure. An elegantly finished access cavity allows the smooth path of a hand-file from the coronal access to the entrances of all canals without the need for direct vision (Figure 3).

Canal filing

All canals were negotiated to their physiologic termini with a size 8K file and patency was ensured and verified with the aid of an electronic apex locator. A glide path was established with size 10 and 15K files in an M4 Safety handpiece (Axis/Sybron Endo, Coppel, Texas) – a reciprocating device turning a hand file through 30 degrees of clockwise and counter-clockwise rotation in an oscillating movement.

The working length was confirmed with a size 15K file in the presence of a viscous chelator such as Glyde (Dentsply), again with an apex locator until the reading obtained was static for three seconds. The canals were medicated with calcium hydroxide and temporarily sealed with sterile cotton wool and Cavit (3M Espe). The patient was scheduled to return five days later.

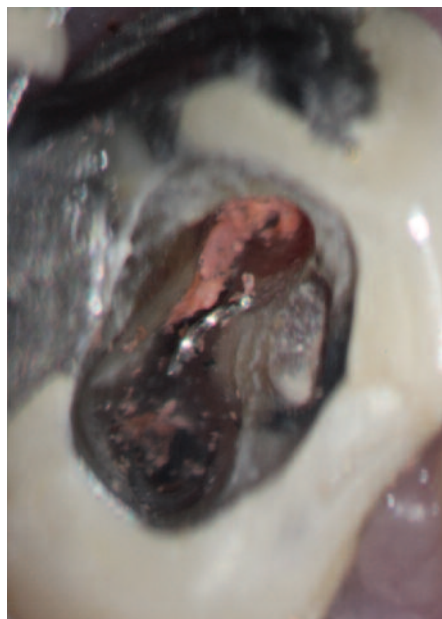


Figure 2: A separated file fragment was found lying amongst the gutta percha



Figure 3: An elegantly finished access cavity

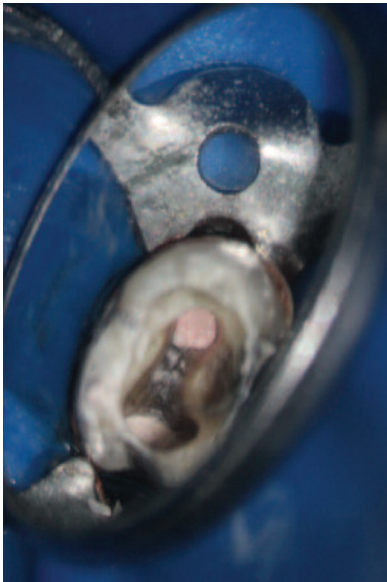


Figure 4: A syringe backfill technique was employed to fill the canals 1mm below the canal orifices

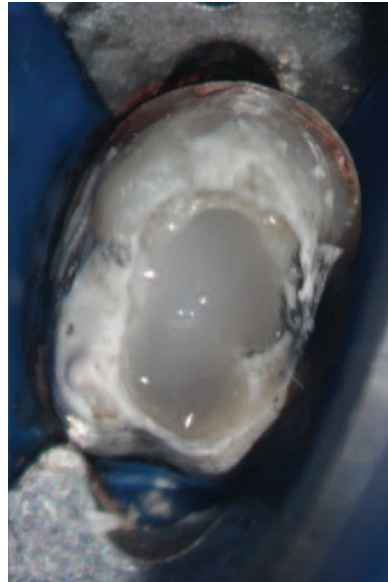


Figure 5: The Resilon was light cured for 40 seconds and any remnants from the pulp chamber walls and floor was cleaned with isopropyl alcohol

matter deep into the dentinal tubules. It is the only currently used solution that can do this and is of utmost importance in removing necrotic tissue remnants as well as biofilm.

With the case almost closed, all that remained was to fill the canals using a polyester fibre called Resilon (Realseal, Sybronendo, Orange, USA). Master cones were fitted 0.5mm short of full working length in a wet canal containing EDTA (17%) and the System B Elements unit (Sybronendo, Orange, USA) was used to downpack through the polyester core material using the continuous wave technique. A syringe backfill technique was employed to fill the canals 1mm below the canal orifices (Figure 4).

The Resilon was light cured for 40 seconds and any remnants from the pulp chamber walls and floor was cleaned with isopropyl alcohol before an etched and bonded restoration was placed to form a strong coronal seal (Figure 5).

Shaping of the canal system

At the second visit the buccal tenderness had resolved, but the reluctant cantilever bridge had debonded the night before. Clinically, this allowed the opportunity to scrutinise the UR4 for adverse signs before placement of the rubber dam.

Shaping of the canal system was carried out exclusively in the presence of EDTA (Edetic Acid) (17%) using the novel TF Adaptive system (Sybronendo, Orange, USA) utilising SM1, SM2 and SM3 files corresponding to 20 .04, 25 .06 and 35 .04 ISO sizes respectively. Each file was cleaned with isopropyl alcohol after use and patency ensured before the use of the next file in the series. The TF adaptive system uses patented, complex algorithms to switch between continuous rotation and reciprocation, rather like an automatic gearbox. The finer buccal canals were prepared to a 25 .06 shape and the palatal canal to a 35 .06 after using appropriate K files to gauge the apical terminal diameter, rather like a feeler gauge.

At this point, heated (38°C) sodium hypochlorite (5%) was introduced into the canal system and was refreshed every six minutes for a total of 40 minutes (the author prefers a 20 minute 'soak' for nonvital cases and 40 minutes for vital cases – this case was treated as vital due to the bloody remains found in the MB canal). Ultrasonic agitation of the reagent was performed with the Irrisafe file (Sateltec Acteon, France) 1mm short of working length for three minutes.

Filling the canals

After the EDTA solution has removed the smear layer and any dentinal mud created by mechanical or hand filing, the sodium hypochlorite has the best chance to dissolve organic

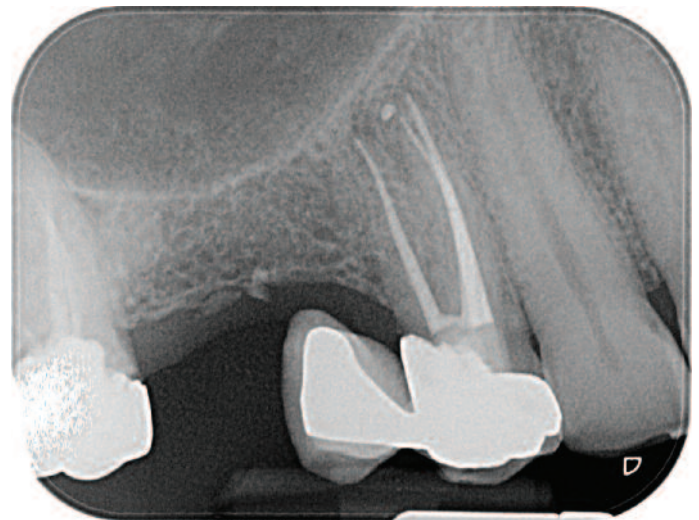


Figure 6: Post operative view

Summary

In summation, the initial failure of the case may be attributed to a

- Lack of adequate vision: magnification/lighting
- Failure to appreciate the nuances of variant tooth anatomy
- Inadequate access form – resulting in an over stressed file
- Inadequate management of the 'glide path'.

This, however, does tend to hold true for the majority of our failures. ■

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Alternative Framework Design Concepts *for the All on 4™ Solution*

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Mamaly Reshad B.D.S, MSc
Domenico Cascione BS, CDT
Claudio Tinti, CDT

The predictability of successful osseointegrated implant rehabilitation of the edentulous jaw as described by PI Branemark introduced a new era of management for the edentulous predicament. Implant rehabilitation of the edentulous patient re- mains one of the most complex restorative challenges because of the number of variables that affect both the esthetic and functional aspect of the prosthesis.

The routine treatment for edentulism has been complete dentures.

Epidemiological data has reported that the adult population in need of 1 or 2 dentures would increase from 35.4 million adults to in 2000 to 37.0 million adults in 2020; and the researchers warn that their estimates may be “significantly conservative.

Clinical studies have reported that patients with dentures have shown only a marginal improvement in the quality of life when compared with implant therapy. The common reasons for dissatisfaction in patients using dentures are pain, areas of discomfort, poor denture stability and difficulty eating as well as lack of or compromised retention capability.

Treatment planning of edentulous patients with fixed restorations on dental implants has undergone a paradigm shift since the introduction of graft-less solutions.

Today, patients have options whereby in the right indication complete rehabilitation can be accomplished by the use of four to six implants per arch. The huge advantage of this procedure is reduced number of implants and the ability to bypass extensive grafting procedures. This rehabilitation not only satisfies esthetics and function but also considerably reduces costs for the patient. This ultimately results in increased patient acceptance and an increased number of patients treated. Very few patients today are



Figure 1: Horizontal ledge present in Maxillary prosthesis



Figure 2: Anterior implants placed too shallow and in non ideal angulations compromising restorative space.



Figure 3: Wax Try in to verify esthetics and contours



Figure 4: Milled provisional restorations fabricated, note position of access holes

able to afford extensive implant rehabilitations on six to eight implants and the All on 4™ or graft-less protocol is gaining popularity as being the preferred treatment for the edentulous patient.

In a world environment where the numbers of edentulous patients are increasing, there are not enough available dentists trained in these protocols to be able to treat them. Patients are not given these options because of the dentist's reluctance to offer them. Reasons for this are lack of education and the notion that these treatment protocols are not predictable. Delivering graft-less protocols requires attention to detail from a surgical, prosthodontics and laboratory perspective. Only through adequate education and training will the results compare to published data using conventional protocols.

Patient that present with a terminal dentition seek solutions that involve fully implant supported fixed restorations. From prosthodontic and esthetic standpoints these patients present with teeth that are in unfavourable positions. Patients with missing posterior teeth are often diagnosed as having lack of posterior support. With this diagnosis a presentation of splayed, supra-erupted teeth often results. Both of these

events may be physiological or pathological and coupled with dento-alveolar compensation.

Dento-alveolar compensation is the process in which the housing around the tooth will undergo compensatory changes in order to maintain occlusal contact with the opposing dentition. As a result of these changes a lack of restorative space often results. Adequate restorative space is critical, and guide- lines exist depending upon the type of prosthesis being treatment planned. There must be adequate space for bulk of restorative material that also permits a prosthesis design to establish esthetics and hygiene. If space is limited, re-establishing a patient's vertical dimension, altering the opposing occlusion or alveolectomy should be considered.

With the increasing use of graft-less protocols, implants are often placed where the available bone is. As a result, the trajectory of the screw access is often in an unfavorable position. Even in situations where pre-angled abutments are used the clinician is often faced with the difficult situation of designing a framework and restorations to satisfy the requirements of esthetics, biomechanics and long term function.



Figure 5: Access holes covered using composite resin



Figure 6: Esthetics and Phonetics verified

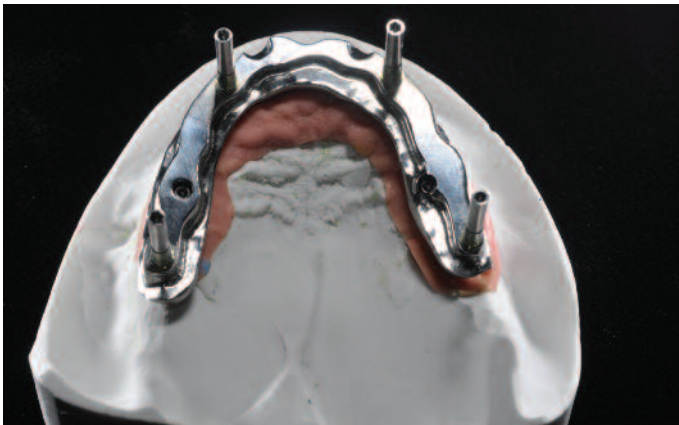


Figure 7: A primary titanium bar corrects the anterior implant angulation



Figure 8: A secondary zirconia suprastructure in monolithic zirconia and designed for minimal layering of ceramics

This article will present an alternative framework design for the All on 4™ solution

A patient presented seeking replacement of her existing restorations. These restorations had been fabricated according to the all on 4™ protocol. Both maxillary and mandibular restorations were acrylic resin/titanium prostheses. Her chief complaint was the horizontal ledge present in her maxillary prosthesis (Fig 1).

Poor emergence profile can occur as a result of too shallow an implant placement or restoration at abutment level when there is lack of restorative space. It is the authors opinion that the additional room gained by restoring directly to the head of the fixture in the All on 4™ protocol is advantageous in being able to gain space for contouring the restoration so that an appropriate emergence profile exists. In this particular patient presentation, the implants were placed at an angle that would be un-restorable for a screw-retained restoration if the esthetic concerns of the patient were to be satisfied (Fig 2). The implants had also been placed too shallow. If the

situation had been corrected with pre-angled abutments two problems would arise.

1. Lack of restorative space compromising the biomechanics of the restoration
2. Display of metal from the facial surface.

An alternative type of bar was designed to address these particular concerns

Splinted impressions were made at abutment level for the posterior implants and at implant level for the anterior implants. Master casts were verified and a wax try in performed (Fig. 3). This try in confirmed jaw relation records and communicated esthetic parameters to the patient. Lip support was evaluated and accepted. Based on the denture set up a milled provisional restoration was fabricated (Fig. 4). The provisional was tested in the patients mouth for three months prior to fabrication of the definitive prosthesis. The access holes for the misaligned implants were covered using composite resin. (Figs. 5,6)

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The definitive restoration had to satisfy a few criteria

- Correction of the mis-aligned implants
- Be 100% retrievable
- Provide support for the cantilever.

The definitive restoration (Diamart Implant solutions™), was fabricated using

- A. Titanium bar for primary splinting of the implants and support of the cantilever in zirconia (Fig. 7)
- B. Zirconia Suprastructure for strength and esthetics (Fig. 8)
- C. Minimal layering for maximal esthetics. (Fig. 9)

Laboratory considerations for design

There are specific design requirements for fabrication of such a specific bar.

The design must maximise the strength of each material. The minimum dimensions (Fig 10) have to be satisfied.



Figure 9: Layering of ceramics to maximize esthetics

The design takes advantage of the fit of the titanium bar and the esthetics and strength of the zirconia. The zirconia superstructure is screwed onto the titanium base using multi-unit abutment prosthetic screws. Within the zirconia substructure are titanium inserts so when torque is applied it is distributed to the titanium inserts rather than the zirconia. (Fig. 11) The titanium inserts must incorporate retentive features, have sufficient height and be conical to allow easier cementation within the zirconia structure. These ultimately will be cemented with a resin cement.

The laboratory must receive the following from the clinician in order to fabricate the definitive restorations

1. Accurate splinted impressions – The technician pours the impressions and fabricates a master cast. The technician will also provide a verification jim and a two piece occlusal rim for jaw relation records.
2. Jaw relation records – technician will do an ideal diagnostic denture tooth set up
3. Denture tooth try in and verification of jaw relationship records.
4. Fabrication of acrylic prototype. The clinician will verify contours incial edge position and occlusion.

The acrylic prototype is scanned and a titanium substructure is digitally subtracted from it. (Fig. 12) It must have specific dimensions and an undersurface which is convex. The same scan is used to mill a zirconia suprastructure which is minimally cut back for porcelain application. The definitive restoration is designed to have occlusion in monolithic zirconia and minimally layered with ceramics for maximum esthetics.

A final clinical try in is performed to ensure patient satisfaction prior to the titanium inserts being definitively luted into the zirconia suprastructure. (Fig. 13)

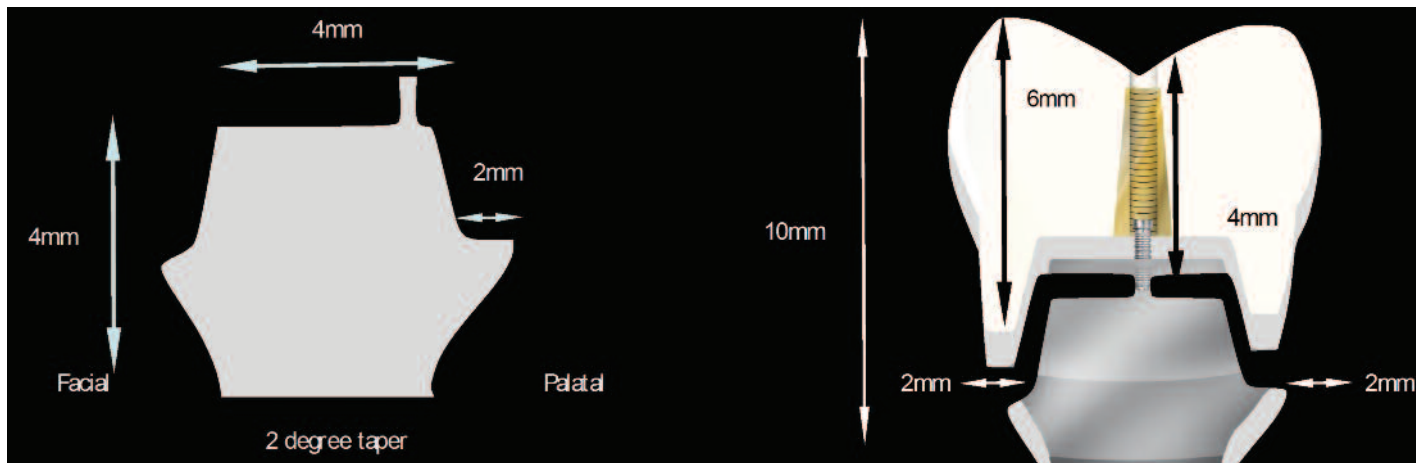


Figure 10: Minimum dimensions have to be satisfied.



Figure 11: There are titanium inserts within the intaglio of the zirconia suprastructure so that when torque is applied it is distributed to the titanium rather than the zirconia.

At the delivery appointment the titanium substructure is delivered and screws torqued according to manufacturer recommendations, there will be a 0.5mm compression of the tissue by the titanium substructure.

The zirconia suprastructure is also screwed in and screws torqued according to manufacturer recommendations. (Figs. 14, 15, 16, 17)

There should be minimal or no occlusal adjustment at this appointment since the occlusion has been verified at many stages.

The Diamart Implant Bridge™ has many advantages

1. It combines the fit of titanium with the strength and esthetics of zirconia
2. The titanium substructure supports the cantilever



Figure 12: Acrylic prototype is scanned and Zirconia suprastructure is milled.

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Figure 13: After final clinical try in Titanium inserts are bonded



Figure 14a: Primary Titanium bar in place

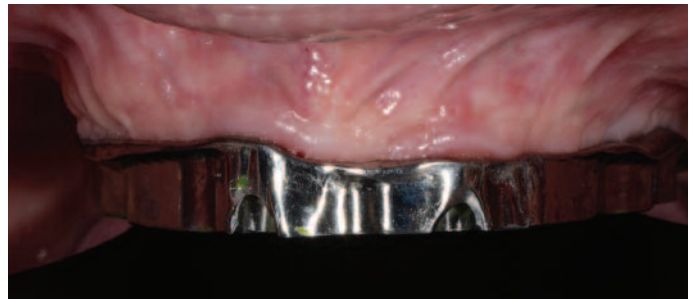


Figure 14b: Close adaptation of the bar with the tissue



Figure 15: Try in of Zirconia suprastructure on top of titanium bar

3. The primary bar allows correction of any implant trajectory
4. The restoration is 100% retrievable
5. The Zirconia suprastructure can be segmented into multiple pieces

It provides solutions when the clinician is challenged with non-ideal implant angulations and allows a definitive restoration that satisfies the requirements of fit, esthetics and biomechanics whilst making the restoration retrievable.

The Advantages of this Prosthesis are

1. it provides the advantages of the fit of titanium and the esthetics of zirconia
2. The restorations is 100% retrievable
3. It can be CAD designed
4. It can be made in multiple sections so that if a problem should arise the individual section with the problem can be addressed. ■

Delivery



Fig. 16



Fig. 17

Figures 16 and 17: delivery of definitive prosthesis



Dr. Saj Jivraj completed his dental degree at the University of Manchester in England and his Advanced Prosthodontic training at the University of Southern California. He is the former Section Chairman of Fixed Prosthodontics and Operative Dentistry at the University of Southern California School of Dentistry. Dr. Jivraj has published numerous

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From 2005 to 2008 he was Research Associate and Program Director, Advanced Training for Dental Technology at the Center for Dental Technology, the University Of Southern California Herman Ostrow School Of Dentistry. He is a Clinical Assistant Professor and Course Director for the Advanced Dental Morphology for the Operative Dentistry Program at the University Of Southern California Ostrow School Of Dentistry. He is a winner of award 2007 Judson C. Hickey in the research category in the Journal of Prosthetic Dentistry.

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‘Aesthetic shaping of the neck/positive *side effects on the gingiva*’

Warren Roberts, DMD

This article discusses the relationship between Platysma, a large muscle of the face and neck, and the periodontium of the lower teeth. The article explores the relationship between the contraction of the platysma muscle during its repeated use as a muscle of facial expression, the pull of labial mandibular frenums and the development of gingival recession. The use of Botox Cosmetic to soften the action of this muscle is suggested as a minimally invasive therapy in preventing gingival recession.

It is now widely recognized that there is a critical relationship between the muscles of facial expression, facial soft tissue contours and dental smile design ⁽¹⁾. Among other factors, the amount of upper incisor display is influenced by the volume of the cheeks, the fullness of the lips and even the activity of muscles in the glabellar region. All the muscles of facial expression are interconnected ⁽²⁾. The aging soft tissue of the face must be included in the diagnosis prior to definitive cosmetic dental treatment as the final restorative approach needs to take into account other facial esthetic treatments that many patients undertake. Is it possible that other muscles of facial expression also exert a dental influence, specifically the “aging” of the periodontium? With age occurs gingival recession, loss of attached gingiva and exposed root surfaces (Fig. 1). These conditions pose an

ongoing maintenance problem as well as contributing to tooth loss. Traditionally gingival recession has been attributed to aggressive tooth brushing or flossing, untreated periodontal disease, occlusal dysfunction, abfraction, genetics and age. There may be another factor that has been overlooked. Current treatment for lack of gingival attachment often involves surgical intervention through various grafting procedures (Fig. 2 & 3). Subsequently, the frenums are often still observable exerting a downward pull (Fig. 4). Which muscles contribute to this force both before and after periodontal surgery (Fig. 5 & 6a,b,c)? Could these muscles be a major factor in the development and progression of gingival recession? Do we now have a way of decreasing the undesirable action of these muscles in the periodontium?



Figure 1: The aging periodontium with gingival recession, loss of attached gingiva & exposed root surface



Figure 2: Maxillary palate donor site for free gingival tissue graft



Figure 3: Surgical repair of attached gingiva & recession



Figure 4: Post-op site with increased attached gingiva- the frenums are still active

The orbicularis oris muscle surrounds the oral aperture. It has no bony origin and is suspended in space by muscles radiating from it in all directions. There are various muscles that pull the corners of the mouth inferiorly---depressor anguli oris, depressor labii inferioris, mentalis and platysma (Fig. 5) Platysma (Fig. 6a,b,c) is a large, broad sheet of muscle that arises from the fascia covering the upper parts of the pectoralis major and deltoid. Its fibers cross the clavicle and proceed obliquely upward and medially along the side of the neck. The anterior fibers, Platysma Mandibularis (Fig. 6a) interface below and behind the mental symphysis with fibers of the muscle of the opposite side. Its middle fibers, Platysma Labialis (Fig. 6b) cross the mandible, some inserting into the bone below the oblique ridge, others into the skin of the subcutaneous tissue of the lower part of the face and frenums. The posterior fibers, Platysma Modiolaris (Fig. 6c) blend with the muscles about the angle and lower part of the mouth, the modiolus. The anterior portion is the thickest part of the muscle and depresses the jaw and draws down the lower lip and angle of the mouth in the expression of melancholy. When all the fibers of Platysma work together, it increases the diameter of the neck as seen during intense breathing after fast running. Platysma muscle bands can become thick and cordlike as we age. Activation of the platysma muscle can present clinically as strong vertical bands extending from its origin near the clavicle to the angle of the mouth. Commonly there are four vertical bands

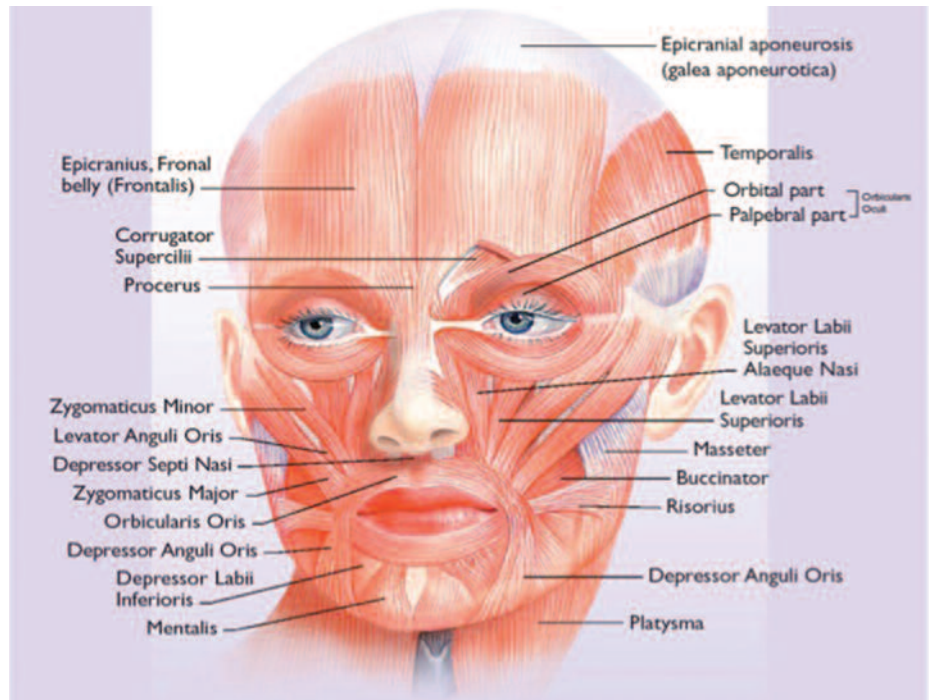


Figure 5: Muscles of the face

(Fig.7, 8 & 9). The left & right anterior vertical bands are related to the development of the anterior jowl (the fold of loose flesh under the lower jaw that develops as we age). The left & right lateral vertical bands are related to the downward pull of the angle of the mouth and the lateral jowl (Fig.10 & 11). With age there is greater platysma banding and an increase in the diameter of the neck and jowl development in the lower face through repeated use of the muscle (Fig.12 &13).

Photography is essential in evaluating the action of muscles and their influence on the face and neck⁽³⁾. As esthetic dentists that also incorporate facial esthetic treatments into our dental practice we use photography daily as part of our diagnosis, treatment planning and follow up procedures. We soon realized that the status of current medical photography was not adequate for our needs. We developed a series of photographs that when combined with the standard cosmetic dental photography (such as the series taught by the AACD) allowed much more information to be obtained. The Roberts



Figure 6a: Frontalis Mandibularis

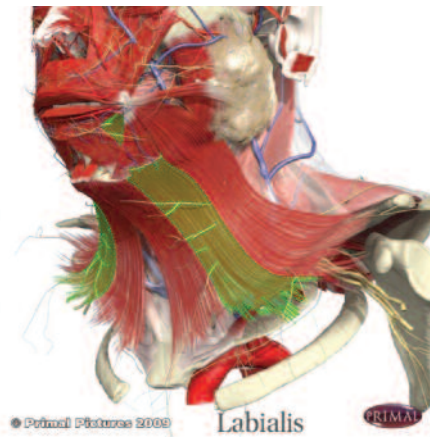


Figure 6b: Frontalis Labialis

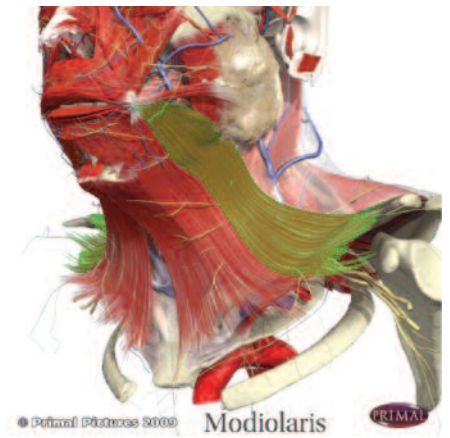


Figure 6c: Frontalis Modiolaris



Figure 7: Full face frontal active showing the two anterior & two posterior vertical platysma bands



Figure 8: Sagittal right active showing the anterior & posterior vertical platysma bands



Figure 9: Sagittal left active showing the anterior & posterior left vertical platysma bands

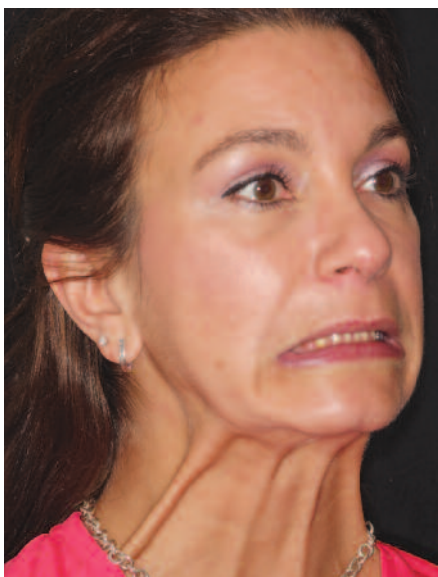


Figure 10: 45 degree right active showing the two anterior & two posterior vertical platysma bands



Figure 11: 45 degree left active showing the two anterior & two posterior vertical platysma bands



Figure 12: Only smiling- showing the increase in the diameter of the neck & jawline development with age



Figure 13: Artist conception of the Facial Aging process by Coleman

Facial Rejuvenation Photography series (RFRP) comprises 28 facial photographs and 1 intra-oral photograph to assist in overall facial aesthetic diagnosis and treatment planning (Fig 14). Both the patient and the treating dentist are able to view the face from various angles in the relaxed state and also when the muscles of facial expression are activated (Fig 15). The RFRP series assists in evaluating muscle size, strength and position relative to the aging process. After reviewing the RFRP series of many patients we have observed that the platysma bands are frequently asymmetrical in their pull (Fig.16 & 17) evidenced facially by the appearance of a jowl primarily on one side (Fig.18 & 19). Furthermore, we found that those patients exhibiting unilateral platysma bands often also exhibited unilateral gingival recession. This occurs in all age groups from younger patients with virgin teeth (Fig.20-22), to older individuals (Fig.24-26). Further review showed a marked correlation between the strength of the platysma band and gingival recession in many patients. This observation has led to the hypothesis that the strong influence of platysma contributes to gingival recession, particularly those with a genetic



Figure 14: Roberts Facial Rejuvenation Photography (RFRP) series 28 facial & 1 intraoral



Figure 15: Patient viewing the RFRP series On the monitor & highlighting on their own photograph areas of concern



Figure 16: Full face frontal relaxed with canted mouth to right & necklace lines



Figure 17: Full face frontal active with unilateral right Platysma bands involved in cant



Figure 18: Sagittal right active with right unilateral Platysma



Figure 19: Sagittal left active with no left platysma band-note the lack of left jowl



Figure 20: Younger patient full face frontal relaxed with canted mouth to right with necklace lines



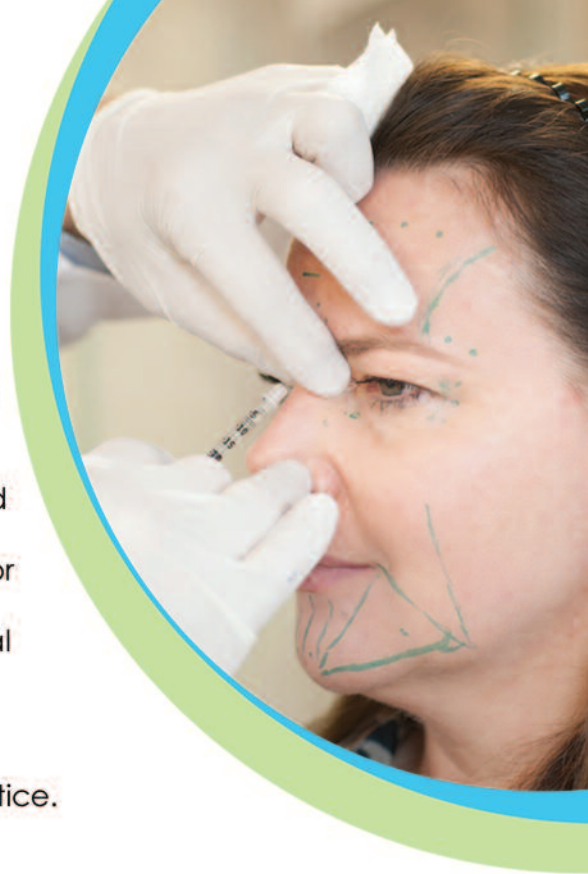
Figure 21: Younger patient full face active unilateral right platysma bands involved in cant

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Figure 22: Close up face canted mouth down on the right-note the indentation on the left neck



Figure 23: Younger patient with unilateral right platysma associated with more recession on same right side



Figure 24: Older patient full face frontal relaxed



Figure 25: Older patient full face frontal active with right unilateral anterior platysma band

risk factor for recession. If one strongly activates one's own platysma muscles, it is easy to feel this large muscle's pull intra-orally. Using the RFRP series, intra-oral photography and periodontal charting it is possible to document the association of gingival recession and the inferior pull of platysma.

Botox Cosmetic is used extensively and safely to decrease the action of the muscles of facial expression and soften the appearance of the face and neck. It is frequently used to decrease the strength of the platysma muscle and its



Figure 26: Older patient with unilateral right Platysma with more aggressive right gingival graft

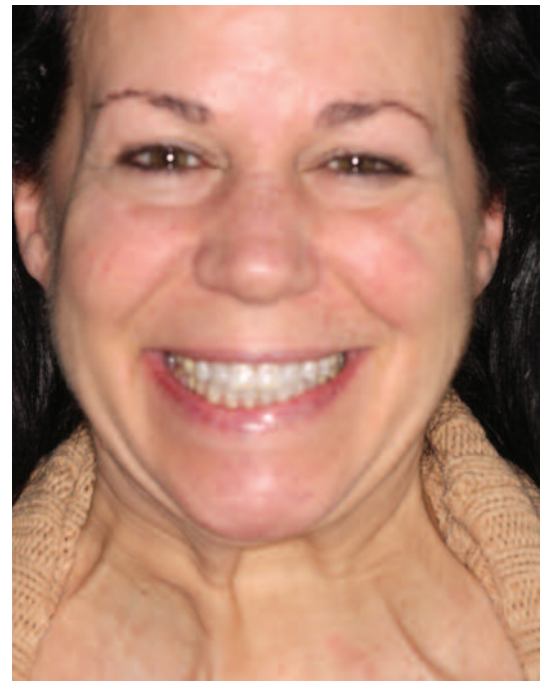


Figure 27: Full face frontal active with large neck



Figure 28: Full face frontal active 4 weeks (mid treatment) showing reduced activity & neck size

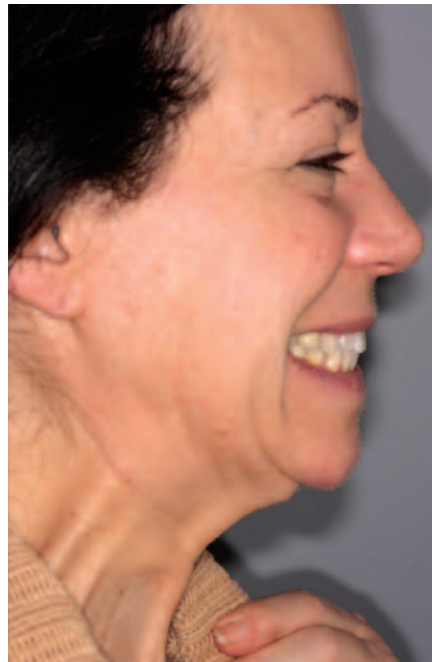


Figure 29: Sagittal right active with large neck



Figure 30: Sagittal right 4 weeks (mid treatment) showing reduced activity & neck size

inferior pull, minimizing the development of the jowls on the sides of the face and the appearance of “necklace lines” around the neck. Apart from the positive esthetic effect this treatment has on the neck (Fig:27-37), Botox therapy may also prove to have a significant therapeutic effect in preventing gingival recession in the mandible. Could softening the action of this large muscle that exerts a strong downward pull adjacent to delicate gingival tissues improve periodontal health by reducing gingival recession and loss of gingival

attachment? The evidence strongly points in this direction. Further research is needed to determine if Botox Cosmetic can be used preventatively as a minimally invasive treatment for gingival recession and to reduce the need for surgical intervention.

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Figure 31: Sagittal left active with large neck



Figure 32: Sagittal left active 4 weeks (mid treatment) showing reduced activity & neck size

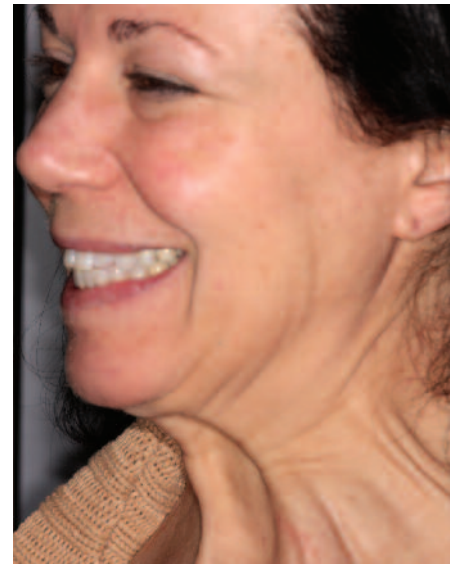


Figure 33: 45 degree left active with large neck



Figure 34: 45 degree left active 4 weeks (mid treatment) showing reduced activity & neck size



Figure 35: 45 degree right active with large neck



Figure 36: 45 degree right active 4 weeks (mid treatment) showing reduced activity & neck size



Figure 37: Full face frontal relaxed, A pleased patient 4 weeks (mid treatment) showing reduced neck size

It is time for the dental profession and our research facilities to begin to explore ways to utilize the therapeutic and cosmetic benefits of the medication.

In our next article we would like to explore the cosmetic use with the benefits to the periodontium. ■

References:

- (1) Roberts, J & W Incorporating Facial Rejuvenation into the Dental Practice Teamwork 2015 Vol.8 No.1: 52-61
- (2) Friedman, S.M. Visual Anatomy I Head & Neck 1970:55
- (3) Roberts, J. & W. Botox and Photography Teamwork 2015; Vol.8 No.2: 50-62



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Treatment planning of implants in the aesthetic zone: part two

Planification d'un traitement pour implants, dans la zone esthétique : deuxième partie

Abstract

Aims and objectives

The aim of this article is to discuss the fundamental considerations of treatment planning implants in the aesthetic zone.

Readers will:

- Learn the factors that affect predictability
- See the aspects that affect the aesthetics of the final outcome
- Understand the major indications for dental implant treatment.



Bony Anatomy of the Implant Site

For successful esthetic restoration of implants, the bony housing must have a three dimensional configuration that permits placement of an implant in a restoratively ideal position.¹⁵ If the bony anatomy is inadequate, a bone grafting procedure may be required to enhance the site. When these situations are encountered the patient must be made to understand that a successful outcome will involve replacing more than just a “missing tooth”. The patient must also understand that the missing hard and soft tissue architecture will need to be rebuilt so that optimum esthetics can be achieved.

The definitive implant restoration needs to be surrounded by a hard and soft tissue environment which is in harmony with the surrounding dentition. It is not only the amount of bone and soft tissue present prior to implant surgery but the precision of surgical execution which leads to an overall favorable outcome. Several key

analyses need to be performed prior to commencing with implant placement. A diagnostic wax-up highlighting tissue deficiencies and final tooth positioning can assist in the planning process (Figs. 24a,b).

Facio-lingual ridge anatomy should be evaluated to determine if there is sufficient crest width to house the implant. Deficient alveolar crest width will require a bone augmentation procedure to allow the implant to be placed in the ideal position (Fig. 25). Clinical sounding techniques or sophisticated radiographic techniques such as tomograms or CT scans can assist in diagnosing deficiencies in this dimension (Figs. 26, 27, 28).

Mesio-distal space should be equal to that of the contra- lateral tooth, excess or deficiencies in this dimension need to be addressed through orthodontics, enameloplasty or restoration either prior to or after implant placement.

The most critical dimension remains the apico-coronal

Buts et objectifs.

Le but de cet article est de discuter les considérations fondamentales d'une planification de traitement pour implants, dans la zone esthétique.

Les lecteurs pourront :

- Connaître les facteurs affectant cette prévisibilité
- Découvrir les aspects qui affectent l'esthétique du résultat final
- Comprendre les informations importantes d'un traitement dentaire pour implant

dimension; Deficiencies in this dimension can result from periodontal disease, trauma, atrophy and infection. Vertical grafting is complex and the site may require several surgeries to achieve an optimal configuration. The most efficient method to evaluate this dimension is through the use of a diagnostic template highlighting the proposed gingival margin of the implant restoration.

Two anatomic structures are important in determining predictability of soft tissues after implant placement. The first is the height and thickness of the facial bony wall and the second is the bone height of the alveolar crest in the interproximal areas.

Height and thickness of facial bony wall

The position of the osseous crest is an important predictor for gingival levels. Kois¹⁶ in a survey of 100 patients classified patients as having high, normal or low crests. This was based on the vertical distance of the osseous crest to the free gingival margin. The greater the distance from the osseous crest to the free gingival margin the greater the risk of tissue loss after an invasive procedure. Kois proposed that if the total vertical distance of the total dento-gingival complex on the mid-facial aspect is 3mm a slight apical loss of tissue up to 1mm is

anticipated after extraction and immediate implant placement. Greater or lesser than 3mm indicates the change will be relatively negligible to more than 1mm. Measuring the distance from the free gingival margin to the osseous crest prior to extraction is an important diagnostic predictor of the anticipated final position of the free gingival margin.



Figure 24: A diagnostic wax-up can highlight the deficiency of the hard and soft tissue and can indicate to the surgeon how much augmentation is required

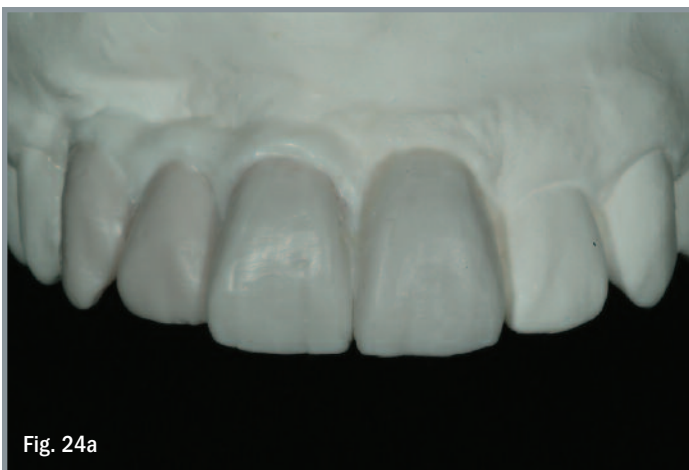


Fig. 24a



Fig. 24b

Figures 24a and 24b: Pink ceramics utilized to disguise soft tissue deficiency

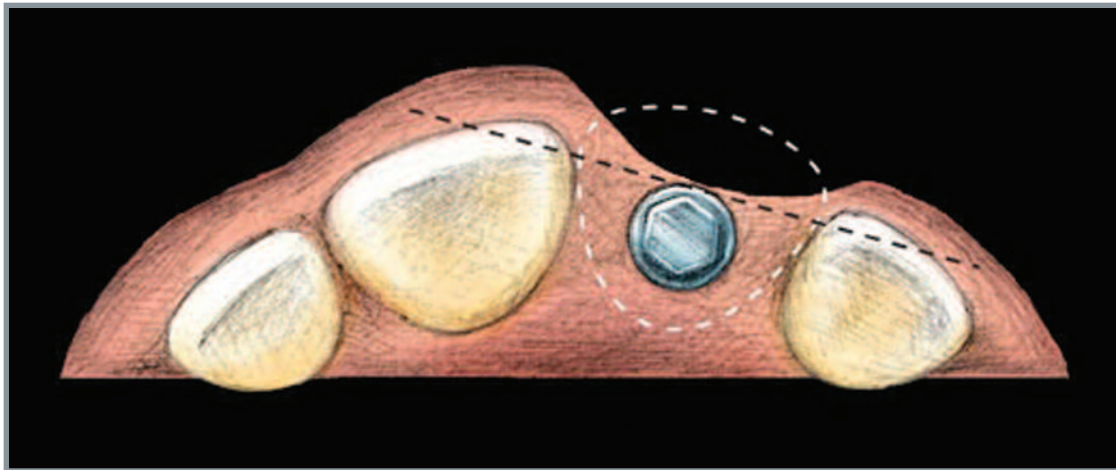


Figure 25: A deficient alveolar crest will not allow the implant to be placed in an ideal position. There will be insufficient bony housing to accommodate the fixture



Figure 26: Clinical slide of inadequate bucco-lingual width for implant placement



Figure 27: Bone augmentation of the site pictured in Fig. 26



Figure 28: Ideal implant placement, note adequate ridge contours

Height of bony crest in the interproximal area

The interproximal bony crest plays a critical role in the presence or absence of peri-implant papillae. A clinical study around teeth¹² measured the distance from the interproximal contact to the vertical height of bone and observed how frequently the interproximal space would be filled completely by soft tissue. When the contact point to the bone was 3-5mm, papilla always filled the space. When the distance was 6mm papilla was absent 45% of the time and with a distance of 7mm, papilla did not fill the space 75% of the time. A difference of 1-2mm is significant in obtaining soft tissue esthetics. This has been confirmed with implant supported restorations.¹⁷ Kan et al¹⁸ have also shown that the height of peri-implant papillae in single tooth gaps is independent of the proximal bone level next to the implant but is dependent on the interproximal bone height of the adjacent teeth. From a diagnostic perspective sounding from the tip of the papilla to the (Figs. 29, 30) interproximal bone crest of the adjacent tooth would be an important predictor. If this distance is 5mm or less there is an increased likelihood that the interproximal tissues will be predictably maintained following implant placement and restoration. If the distance is greater

than 5mm the papilla cannot be predictably maintained after surgical intervention (Figs. 30, 31).

Implant Position

Esthetic implant placement is driven by both a restorative and biological philosophy. Esthetically the implant should be placed to satisfy the parameters of contour so that the restoration is pleasing. Biologically it should be placed to allow maintenance of both hard and soft tissue architecture. If the tooth to be replaced has not yet been removed, several determinations should be made prior to the extraction.^{9,10} Immediately placing the implant after extraction helps to shorten the treatment time and may reduce the amount of ridge width reduction that accompanies tooth extraction. In addition if bone deficiencies are present orthodontic eruption of the tooth prior to extraction can help to increase the amount of hard and soft tissue in the future implant site.^{19,20,21}

The need for precision in implant placement varies according to each individual case. For example in the edentulous mandible there is need for precision only in the facio-lingual direction. The need for precision increases in the partially edentulous



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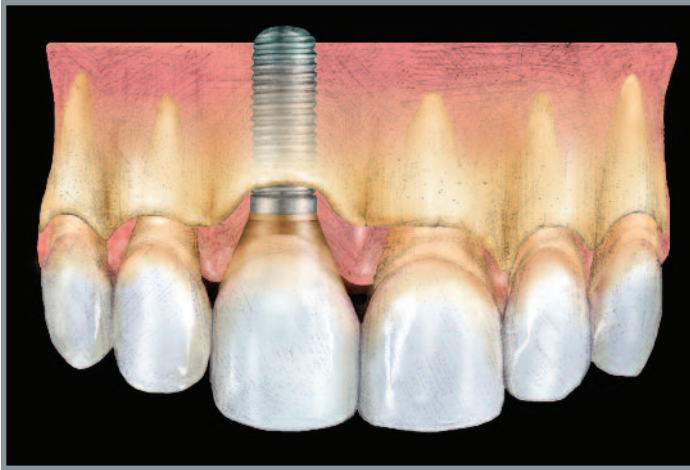


Figure 29: If attachment of adjacent teeth is deficient it is unlikely that the interdental papilla will be maintained

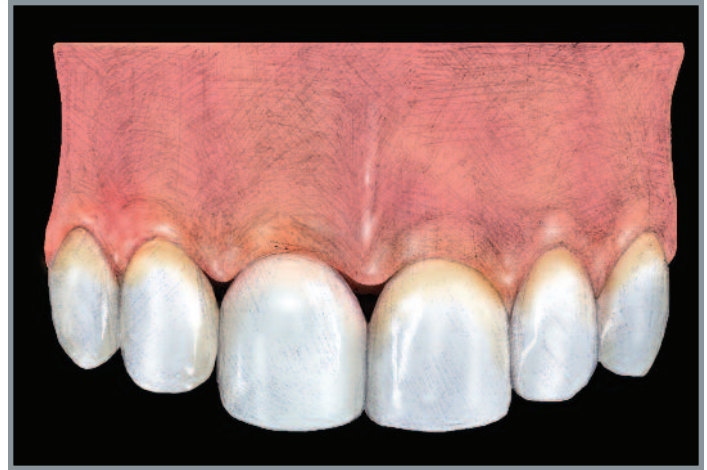


Figure 30: Black triangles are likely to result between the implant restoration and adjacent teeth

jaws according to the teeth treated and the positions of the neighboring and opposing teeth. The most challenging is the anterior maxilla where a malposition of less than a 1mm can jeopardize the overall treatment outcome.

In most situations involving a single anterior implant restoration, the esthetic considerations are more important than functional considerations. As such axial loading is not as critical as it is with posterior implant restorations. Implant position is critical to the final esthetic outcome and needs to be considered in all three dimensions and in relation to the adjacent teeth. Misalignment of the implant in the prosthetic space can have adverse esthetic consequences.

Apico-coronal placement

Apico-coronal positioning appears to be the most critical aspect. Deficient tissue in this dimension can result from several factors. This type of tissue needs to be addressed during treatment planning. Because of the complexity of vertical hard and soft tissue grafting these patients are placed in a high risk group.

Most often tooth loss is followed by bone loss of minor or major importance. It is necessary to evaluate the discrepancy between the bone level at the proposed implant site and the level at the adjacent teeth. Too large a difference represents a risk to both periodontal and peri-implant tissue health. Facing this, the surgeon should consider reconstructing the ridge prior to implant placement.

The apico-coronal positioning of the implant is the vertical discrepancy between the occlusal surface of the implant and the peaks of the bony septa proximal to the adjacent teeth, the most pleasing esthetic result occurs when this discrepancy is minimal.

To obtain appropriate apico-coronal positioning of the implant a diagnostic wax-up needs to be completed and from this a surgical guide is made. The emergence profile and the shape of

the restoration are reproduced on the guide to verify the implant positioning on placement.

A maxillary central incisor measures on average 7-8mm mesio-distally and 6mm facio-lingually at the emergence from the soft tissue. A 4.0mm implant needs to be placed 3-4mm apical to the gingival margin of the contra-lateral tooth to allow the restoration to emerge with a natural profile. A vertical distance of 3-4mm is needed for gradual transition from the 4mm diameter of the implant platform to the 7-8mm dimension at the gingival margin. If a lateral incisor is being replaced the implant would not have to be placed so apically since the average diameter of the crown at the gingival margin is 5mm and less room is required for transition (Figs. 33,34,35,36,37)

There are also situations in which there is excess tissue height and these require attention as well. In these types of patients a bone scalloping procedure is required to allow placement of the implant shoulder in a subgingival position, once again the most efficient way to examine this is through a surgical guide highlighting the proposed gingival margin.

Errors in apico-coronal implant placement can have serious esthetic and biomechanical implications. An implant placed too coronally will not allow adequate transition from the head of the implant to the point where the restoration exits from the free gingival margin. The restoration will look short in comparison to the contra-lateral tooth. The only prosthetic "bailout", for this type of situation is to provide a ridge-lapped restoration with contours that are pleasing to the observer's eye. (Figs. 38, 39).

Problems can also result when implants are placed too apical. Clinically if an implant is placed too apically with excessive countersinking procedures an unnecessary amount of bone loss will occur (Fig. 40). Because this bone loss takes place circumferentially it will affect not only the proximal bone structure but also the height of the facial bone wall and can lead to undesirable soft tissue contours.²²

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Figure 31: Diagnostic sounding of the bone interproximally is a good clinical indicator in predicting post-treatment papilla levels



Figure 32: Radiograph of Fig. 31, the right lateral incisor has been treatment planned for an implant restoration. Due to attachment loss on the adjacent canine it is unlikely that the interproximal papilla will be maintained

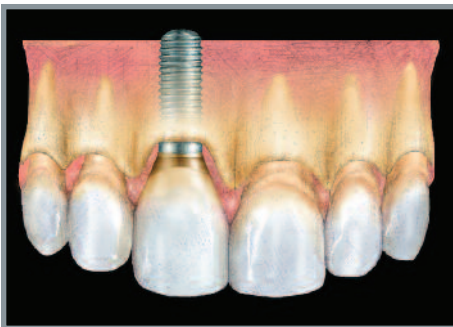


Figure 33: Ideal implant placement for central incisor. Implant should be placed 3-4mm apical to the existing free gingival margin. Adequate room is required for transition from the head of the implant to the point where the restorations exits the free gingival margin. Note minimal bone discrepancy between the implant and the adjacent teeth

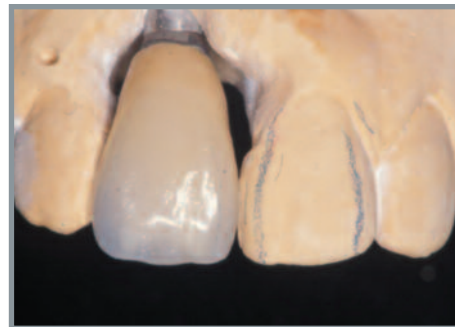


Figure 34: Laboratory slide depicting ideal implant placement and transition required



Figure 35: Occlusal view of implant restoration shown in Fig. 34



Figure 36: Lateral view of implant restoration in Fig. 34 showing fill of interproximal soft tissue



Figure 37: Facial view of implant restoration in Fig. 34 showing esthetic harmony

A practical problem in placing an implant too deep is access for instrumentation. Making an impression of a deeply placed implant can be a difficult experience (Fig. 41). The soft tissue tends to collapse, there is tissue impingement when trying to locate the head of the implant and seating is difficult to evaluate. This is specific to external hex systems.

If an implant is placed too deep a screw-retained restoration is the treatment of choice. The literature shows that removing all the cement when an implant is placed so deep can prove to be a difficult endeavor. Agar et al²³ found that when six

experienced investigators were asked to remove cement there was a surprising amount of cement left behind, these can lead to serious soft tissue complications.

Mesio-distal Placement

Improper mesio-distal positioning of implants can also have a substantial effect on the generation of interproximal papillary support as well as on the osseous crest of the adjacent tooth. An implant should be placed 1.5mm-2mm from an adjacent tooth. Placement too close to the adjacent tooth can cause



Figure 38: Placement of an implant too shallow will result in inadequate space for transition and a short restoration in length

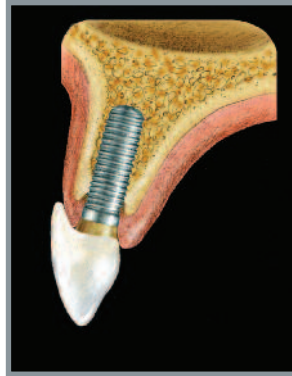


Figure 39: A prosthetic bailout for too shallow implant placement is to ridge lap the restoration onto the tissues

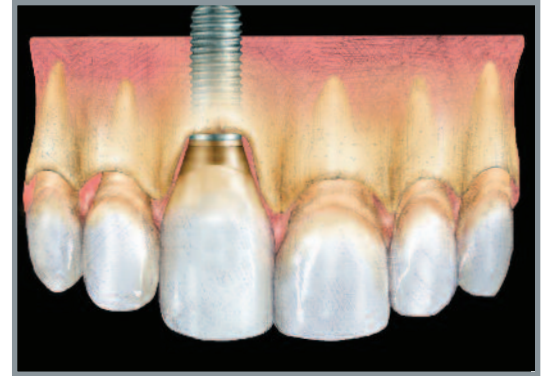


Figure 40: Too deep an implant placement can result in biomechanical problems. Note level of the bone around implant in relation to the adjacent teeth. This deep a placement can result in fistula formation and constant postoperative maintenance problems

resorption of the interproximal alveolar crest to the level of that on the implant.²⁴ With this resorption comes a reduction in papillary height. Restorative problems exist as well. Poor embrasure form and emergence profile will result in a restoration with a long contact zone and compromised clinical outcomes.

The loss of crest height on adjacent teeth is caused by bone saucerization routinely found around the implant shoulder in

implants. This has two dimensions a horizontal and a vertical. Radiographs only demonstrate the horizontal aspect of bone saucerization, the proximal bone saucerization measures 1-1.5mm from the implant surface. This distance needs to be respected on implant placement to prevent vertical bone loss on adjacent teeth.²⁵

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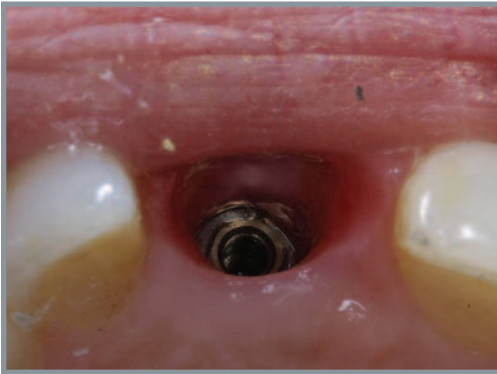


Figure 41: Too deep an implant placement can result in soft tissue collapse and difficulty in instrumentation

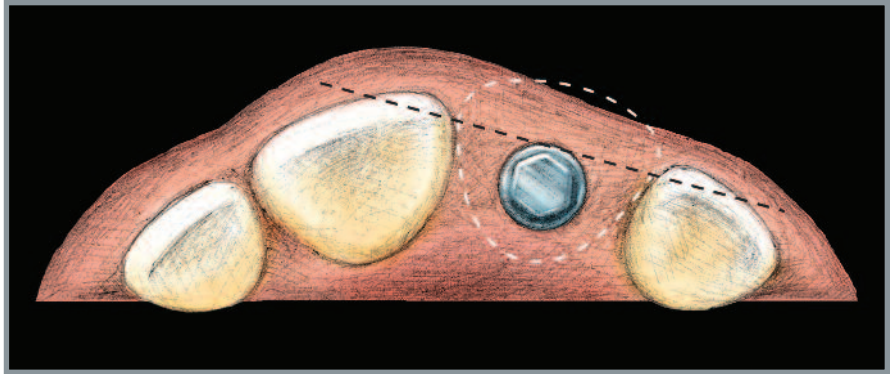


Figure 42: Ideal implant placement should be palatal to an imaginary line that outlines the curvature of the teeth. (Modified from Parel SM, Sullivan DY)²⁸

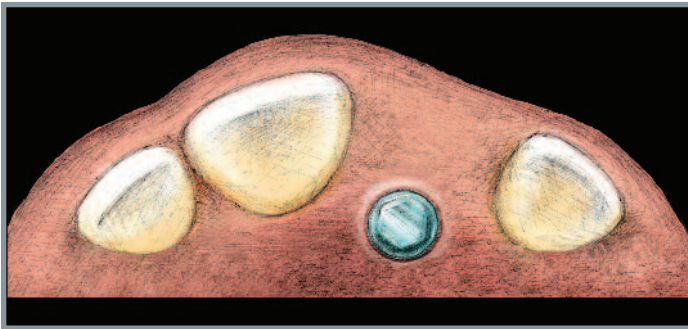


Figure 43: Too palatal an implant placement

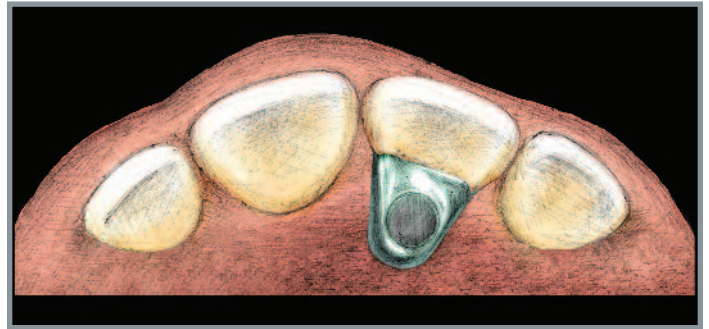


Figure 44: The restoration for the implant placement in Fig. 43 would require an excessive facial cantilever

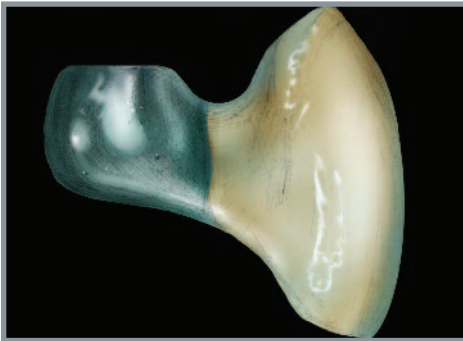


Figure 45: Profile of restoration in Fig. 44 illustrating a biomechanical and hygienic compromise

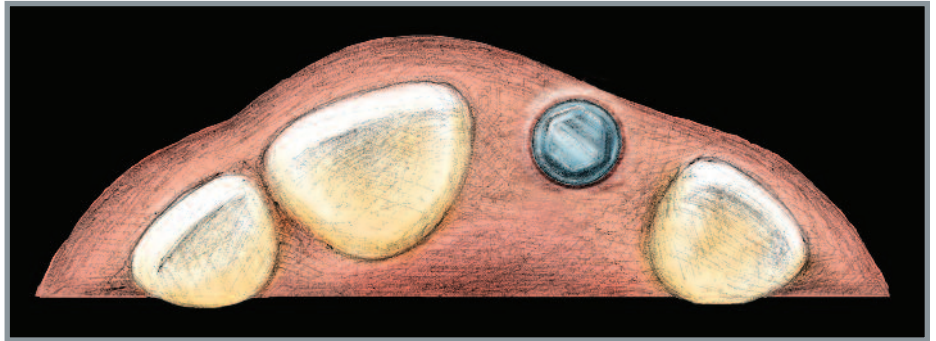


Figure 46: Too facial an implant placement

Facio-lingual Placement

The crest width needs to be examined to determine the presence or absence of bone atrophy.

Placement will vary depending on the mechanism of retention of the final restoration (Screw-retained vs. Cement-retained)

Deficient alveolar crest width may require augmentation so that the implant can be positioned in the correct facio-lingual position.

Computerized tomographic scan techniques are useful in assisting to determine width. The amount of bone available should be at least 1mm greater than the implant diameter on each side. Hence a 4mm diameter implant would require 6mm of bone. The single implant placed in the maxillary anterior region should be situated palatal to an imaginary line that outlines the curve of the arch formed by the facial surfaces of the adjacent teeth (Fig 42).²⁶

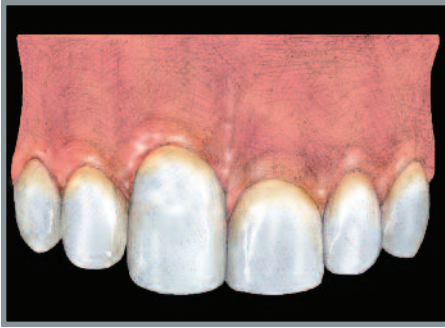


Figure 47: Too facial an implant placement will result in facial bone resorption and apical migration of the soft tissue. The resulting restoration will appear long in comparison to the contra-lateral tooth

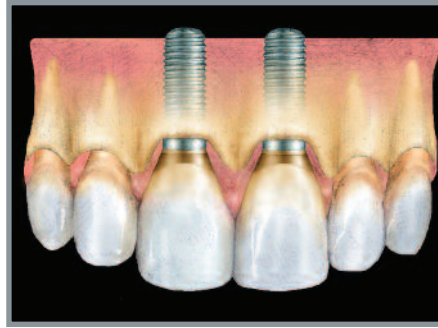


Figure 48: When implants are placed 3mm and greater apart the bone loss from the adjacent implants does not overlap resulting in minimal crestal bone loss. (Modified from Tarnow et al,¹¹)

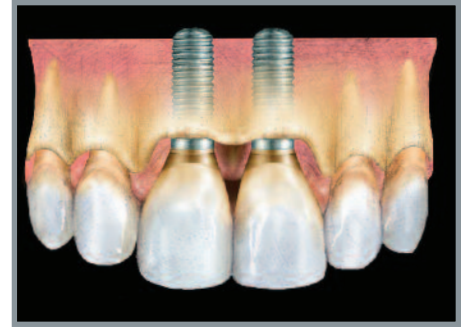


Figure 49: When implants are placed too close together, bone loss from adjacent implants overlaps resulting in additional loss of the crestal bone. (Modified from Tarnow et al,¹¹)

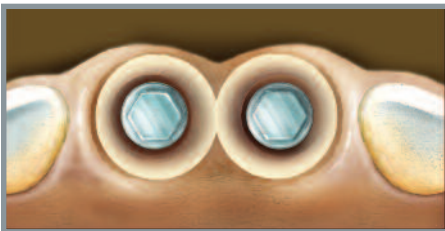


Figure 50: Bone loss is circumferential around the implants. When implants are placed too close together the vertical and horizontal components of bone loss compromise the peak of the interproximal bone and thus the resulting soft tissues



Figure 51: Ideal implant theoretically will maintain the interproximal peak of bone, however there are no long term studies to support this

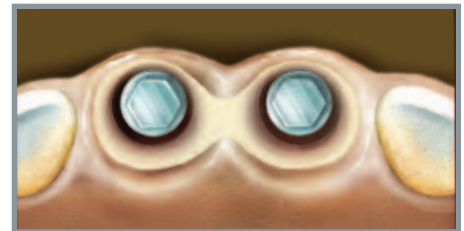


Figure 52: If implants are placed too facial this will compromise the thickness of the facial bony plate which can eventually resorb. This will result in apical migration of the soft tissue

Implants placed too palatal complicate development of hygienic contours. Biomechanical complications can also arise as a result of cantilever forces on the screw joint of external hex systems (Figs. 43, 44, 45). Implants are often mistakenly placed too facial. This error results in excessive resorption of the supporting osseous structure resulting in a restoration that will appear long in comparison to the contra-lateral tooth. Placement of a restoration such as this in the esthetic zone is certainly unlikely to meet the patient's desires (Figs. 46, 47).

Considerations for Multiple Implants

Patients with extended edentulous spaces present greater anatomic and esthetic challenges making it even more difficult to obtain an esthetic result with certainty. Following extraction and wound healing of two adjacent teeth the ensuing apical and facio-lingual resorption results in an edentulous segment which is flattened. The same diagnostic considerations need to be addressed as when looking at single tooth edentulous sites. The aim prior to implant placement is to have a 3-dimensional configuration of hard and soft tissue which will allow placement of implants in an ideal position. The placement of two missing central incisors poses an additional challenge. Following surgical placement an additional peri-implant bone remodeling takes place. In the frontal plane two processes occur one between

the implant and the adjacent natural tooth and one between the two adjacent implants. On the tooth implant side the predictability of the interdental papilla is governed by the height of the interproximal bone crest of the tooth. If this height is favorable there is good certainty that the interdental papilla will be maintained following implant placement. The bone crest between the two implants is likely to undergo further resorption in an apical direction; this is accompanied by a loss of interimplant soft tissue which in the case of multiple edentulous sites will result in black triangles between the adjacent restorations. Many clinicians have sought after the ideal implant distance required to maintain the interdental papilla. Tarnow and colleagues¹¹ performed a radiographic study to address this clinical problem. Radiographic measurements were taken at a minimum of 1 and 3 years after implant exposure. All radiographs were taken with a paralleling technique.

Radiographs were computer scanned imaged and magnified for measurement.

The following measurements were taken:

1. Lateral distance from the crest of the inter-implant bone to the implants
2. Vertical crestal bone loss
3. Distance between the implants at the implant/abutment interface.

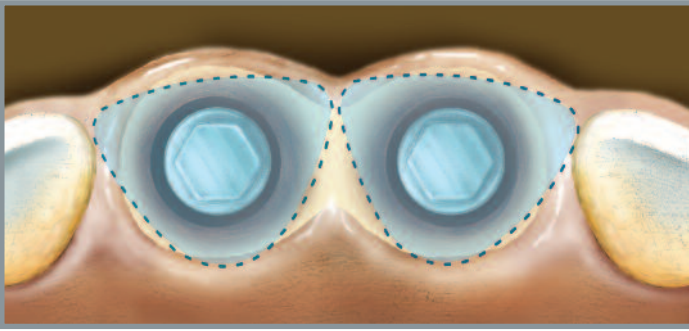


Figure 53: Ideal implant placement will allow fabrication of restorations with ideal contours

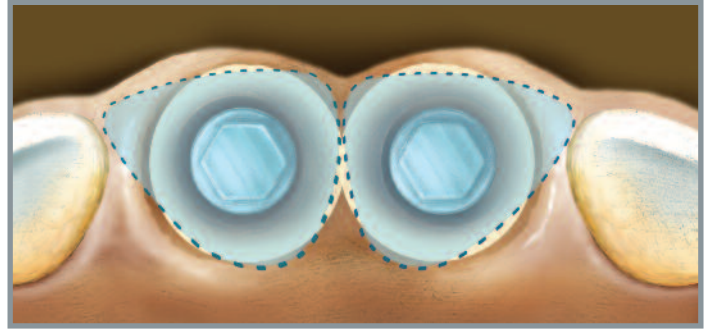


Figure 54: Implants placed too close together will result in compromised restorative contour

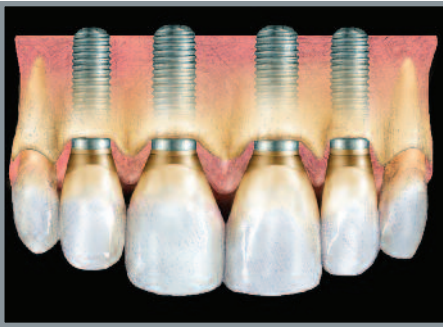


Figure 55: Placement of adjacent implants compromises the inter implant peak of bone resulting in resorption and soft tissue loss

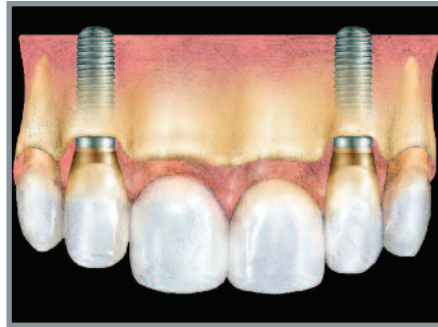


Figure 56a: It is easier to develop illusion of papilla between an implant and an adjacent pontic. Implant placement philosophy should take advantage of such techniques



Figure 56b: Patient suffered trauma. This patient has been treatment planned for extraction of the laterals incisors, root banking of the central incisors and placement of implants in lateral incisor region to support a four unit bridge



Figure 56c: Four unit bridge on two implants in lateral incisor region. Note how tissue in central incisor region has been sculpted. Note how buccal contours of tissue in central incisor region has been maintained



Figure 57: Clinical slide showing implant placement so that illusion of papilla can be developed



Figure 58: Facial view of slide in Fig. 57

When implants were placed too close together the bone remodeling overlapped to a great degree and consequently resulted in loss of vertical bone height and this subsequently had soft tissue implications.

When implants were placed 3 mm and greater, lateral bone loss from the adjacent implants did not overlap with minimal resultant crestal bone loss. They concluded that it is more difficult to create or maintain papilla between two adjacent implants than it is between an implant and a natural tooth.

Their recommendation was that when 2 implants are placed adjacent to each other in the esthetic zone a minimum of 3mm of bone should be retained between them at the implant/abutment level (Figs. 48, 49). This particular study addressed bone loss between the implants. It should be remembered that the bone saucerization has two dimensions a horizontal and a vertical. Radiographs only demonstrate the horizontal aspect of bone saucerization. Bone loss occurs circumferentially around the implant and when two implants are

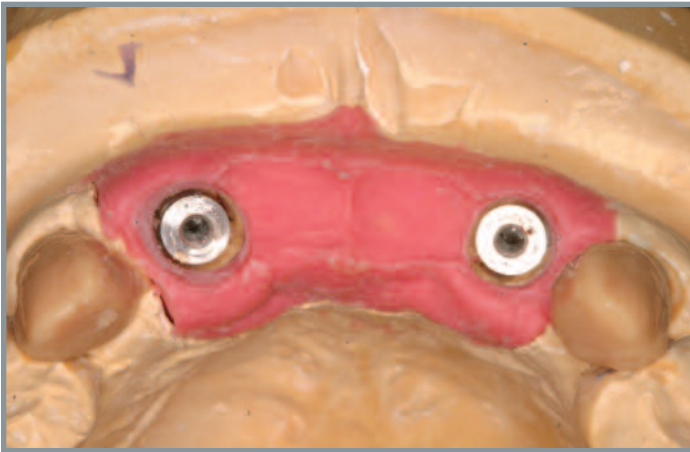


Figure 59: Intra-oral photograph depicting placement of two implants in upper right lateral incisor and upper left canine region



Figure 60: Laboratory slide illustrating 5 unit splinted screw-retained bridge with pontics designed to compress tissue and provide illusion of interproximal papilla

placed adjacent to each other facial bone loss also occurs (Figs. 50, 51). This has implications in terms of stability of the facial gingival margin. If the implants are placed too far forward there will be less facial bone and this will ultimately result in apical migration of the free gingival margin (Fig. 52). Placement of adjacent implants is also critical for restorative contours, placing implants too close together makes it difficult for the laboratory technician to fabricate restorations with pleasing esthetic contours.

Tarnow and colleagues²⁷ also performed a study to determine the height of the soft tissue to the crest of the bone between two adjacent implants. This was done independent of the location of the contact point.

They looked at 136 inter-implant papillary heights in 33 patients by 8 examiners. A standardized periodontal probe was used and placed from the height of the papilla to the crest of the bone.



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Figure 61: Lateral view of 5 unit screw-retained zirconia bridge. Note how soft tissue has been developed



Figure 62: Buccal view of bridge depicting sculpting and maturation of soft tissue to give appearance of interproximal papilla

What they found was that the mean height of papilla between two adjacent implants was 3.4mm with a range of 1-7mm.

Although this was a retrospective study and there were many variables such as operator, implant type, placement and so forth, it did give us information that soft tissue between two adjacent implants in the esthetic zone is not a predictable procedure, and when treatment planning, the patient must be aware of this or alterations must be made in the treatment plan to provide an esthetic result.

Recreating interdental papilla between two adjacent implants is a formidable task. Restoratively clinicians alter the position of the contact point to give the illusion of papilla. The thin spicule of bone remaining between the implants may be sufficient to maintain the papilla during the first few years of the restorations service. However, there are no clinical studies with long term results presented to date to illustrate the predictability of papilla between two adjacent implants.

Another clinically challenging situation is replacement of a maxillary canine and adjacent lateral incisor. This becomes clinically more challenging because the edentulous space is smaller and the inter-implant soft tissue tends to be less voluminous. Consideration in this instance should be given to placement of a single implant in the canine region and cantilevering a lateral incisor from it. Placement of the implant should follow all the principles discussed previously in the article.

Replacement of several missing teeth with implants allow for the use of fixed partial dentures and the opportunity to utilize ovate pontics to help support the soft tissue and give an illusion of papillae. The authors have encountered many situations where one implant per tooth philosophy is espoused to. This can be particularly detrimental in the esthetic zone. The literature is quite clear that maintaining papillae between

implants is not predictable. Even with the advent of scalloped type implants there are no long term studies showing papilla maintenance. For an aesthetic outcome it is more predictable to place implants away from each other so that the intervening soft tissue can be sculpted to give the illusion of papilla. One common error often published in the literature is placement of 4 implants to replace lateral incisor to lateral incisor. This philosophy of implant placement will not yield an esthetic outcome (Fig. 55). Placement of two implants in both lateral incisor regions and fabrication of a fixed partial denture sculpting the intervening tissue with ovate pontics is likely to produce an illusion of papilla which will be more pleasing to the observer's eye (Figs. 56a,b,c). This placement philosophy can also be reserved for extended edentulous spans where esthetics is of paramount importance (Figs. 57,58,59,60,61,62).

Placement of implants in multiple edentulous spaces must follow the same principles as for single tooth situations; placement must follow appropriate diagnosis and treatment planning, which includes a diagnostic wax-up and fabrication of a surgical guide to facilitate implant placement. If these techniques are not followed it is all too easy to find implants in the wrong position where prosthetic strategies have to be utilized to satisfy the patients demand for esthetics. In situations like these patient expectations are unlikely to be met (Figs. 59, 60, 61).

Conclusion

When a patient has a missing anterior tooth and desires replacement, a decision must be made by the dentist and patient as to the method of replacement. Common choices would include a conventional fixed partial denture, a resin bonded fixed partial denture or an implant borne restoration. Each has its advantages and disadvantages. The conventional fixed partial

denture has the advantages of being an established treatment procedure, of having predictable esthetics, and being expedient. It has the disadvantage of requiring preparation of adjacent teeth and potential risk for periodontal and pulpal tissue. The resin bonded partial denture has the advantages of preserving tooth structure, having predictable esthetics and reduced cost. It has the disadvantages of being technique sensitive for the dentist and technician and often losing retention which may lead to decay. Implants used to replace missing teeth in the esthetic zone have many advantages from preservation of unrestored adjacent teeth, halting the resorption of edentulous spaces and providing support. However, at present it has the disadvantages of long treatment time, requiring a provisional restoration during implant integration, requiring surgical placement of the implant, requiring surgical uncovering of the implant, requiring a provisional after the implant is uncovered and having higher cost. Much effort is being directed at shortening the treatment time and making delivery of the service more time efficient. Immediately loading implants is one direction that many researchers and clinicians are taking – however the parameters to when immediately loading implants is possible have not been established and until that time – immediately loading implants must be made on an individual and case by case basis taking into account all the factors that affect loading of the initially non- osseointegrated implants.

Even with all the disadvantages listed the implant supported single tooth restoration can be successfully executed when all the factors discussed in this article are addressed. When one or more of the adjacent teeth are unrestored or in need of only a minor restoration, the single tooth implant should be considered the restoration of choice.

References

1. Sullivan RM. Perspective on Esthetics in Implant Dentistry. *Compendium*, Aug 2001, Vol 22, No 8 p685-692.
2. Adell R., Eriksson B., U., Branemark P.I., Jemt T., A Long term follow up study of osseointegrated implants in the treatment of totally edentulous jaws. *Int J Oral Maxillofac Implants* 1990; 5:347-359
3. Naert I. Quirynen M., van Steenberghe D., Darius P. A study of 589 consecutive implants supporting complete fixed prostheses. Part II: Prosthetic aspects. *J Prosthet Dent* 1992; 68:949-56
4. Belsler UC Esthetic checklist for the fixed prosthesis. Part II: Biscuit bake try in. In Scharer P, Rinn LA, Kopp FR (eds). *Esthetic guidelines for Restorative Dentistry*. Chicago: Quintessence, 1982:188-192.
5. Magne P, Belsler U. Natural Oral esthetics. In *Bonded Porcelain restorations in the Anterior Dentition. A Biomimetic Approach*, Chicago: Quintessence, 2002 57-99.
6. Tjan AH, Miller GD The JG :Some esthetic factors in a smile. *J Prosthet Dent* 51(1):24-28, 1984.
7. Kois JC Esthetic extraction site development: The biological variables *Contemporary Esthetics and Restorative Practice* 2:10-18, 1998
8. Saadoun et al Selection and ideal tri-dimensional Implant position for soft tissue esthetics. *Pract Perio & Aesthet Dent* 1999, 11(9):1063-1072
9. Kois JC Predictable Single Tooth Peri-implant Esthetics: Five Diagnostic Keys. *Compendium* Nov 2004 Vol 25, No 11 p 895-905.
10. Salama H, Salama M, Kelly J. The orthodontic-periodontal connection in implant site

- development *Pract Periodontics Aesthet Dent*. 1996 Nov-Dec; 8(9):923-32
11. Tarnow DP, Cho SC, Wallace SS. The effect of inter-implant distance on the height of inter-implant bone crest. *J Periodontol*. 2000 Apr; 71(4):546-9.
 12. Tarnow DP, Magner AW, Fletcher P. The effect of distance from the contact point to the crest of bone on the presence or absence of the interproximal dental papilla *J Periodontol* 1992; 63 995-886.
 13. Becker W, Ochsenein C, Tibbetts L et al. Alveolar bone anatomic profiles as measured from dry skulls. *Clinical ramifications J Clin Periodontol* 24(10):727-731, 1997.
 14. Phillips K, Kois JC. Aesthetic peri-implant site development. The restorative connection. *Dent Clin North Am* 1998; 42:57-70
 15. D'Addona A, Nowzari H. Intramembranous autogenous osseous transplants in aesthetic treatment of alveolar atrophy. *Periodontol* 2000. 2001; 27:148-61.
 16. Kois JC, Kan JY. Predictable peri-implant gingival esthetics. Surgical and prosthodontic rationales. *Practical periodontics and Aesthet Dent* 2001; 13:691-698
 17. Choquet V, Hermans A, Adriaenssens P, Daelemans P, Tarnow DP, Malevez C. Clinical and radiographic evaluation of the papilla level adjacent to single tooth implants. A retrospective study in the maxillary anterior region. *J Periodontol* 2001; 2:1364-1371
 18. Kan J, Rungcharassaeng K, Umezaki K, Kois JC. Dimensions of peri-implant mucosa. An evaluation of maxillary anterior single implants in humans. *J Periodontol* 2003; 4:557-562.
 19. Chee WW. Treatment planning and soft-tissue management for optimal implant esthetics: a prosthodontic perspective. *J Calif Dent Assoc*. 2003 Jul; 31(7):559-63.
 20. Chee WW. Provisional restorations in soft tissue management around dental implants. *Periodontol* 2000. 2001; 27:139-47.
 21. Neale D and Chee W.W.L. Development of soft tissue emergence profile: A technique *J Prosthet Dent* 1994; 71: 364-8
 22. Buser D, Martin W, Belsler UC. Optimizing Esthetics for Implant restorations in the Anterior maxilla: anatomical and Surgical Considerations
 23. Agar J, Cameron SM, Hughbanks JC, Parker MH. Cement removal from restorations luted to titanium abutment with simulated subgingival margins. *J Prosthet Dent* July 1997 Vol 78 No 1 , p43-47
 24. Thilander B, Odman J, Jemt T. Single implants in the upper incisor region and their relationship to the adjacent teeth. An 8 year follow up study. *Clin Oral Implants Res* 1999; 10:346-355
 25. Esposito M, Ekestubbe A, Grondahl K. Radiological evaluation of marginal bone loss at tooth surfaces facing single Branemark implants. *Clin Oral Implants Res* 1993 Sep; 4(3):151-7
 26. Chiche FA, Leriche MA. Multidisciplinary implant dentistry for improved aesthetics and function. *Pract Periodont Aesthet Dent* 1998; 10(2):177-186.
 27. Tarnow D, Elian N, Fletcher P, Froum S, Magner A, Cho SC, Salama M, Salama H, Garber DA. Vertical distance from the crest of bone to the height of the interproximal papilla between adjacent implants. *J Periodontol*. 2003 Dec; 74(12):1785-8.
 28. Parel SM, Sullivan DY. Esthetics and Osseointegration. *Publisher Osseointegration Seminars Incorporated* 1989

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Anas Aloum, BDS



Mamaly Reshad,
DDS, MSc

Treatment planning in aesthetic dentistry

Dr. Anas Aloum and Dr. Mamaly Reshad demonstrate two step-by-step aesthetic case studies

Plan de traitement en dentisterie esthétique

Dr. Anas Aloum et Dr. Mamaly Reshad démontrent, point par point, deux études de travaux esthétiques.

Abstract

To achieve success in aesthetic dental treatments, proper treatment planning and execution are needed. The two cases below will demonstrate this procedure in a step-by-step fashion.

Résumé

Pour obtenir un succès dans des traitements dentaires esthétiques, un plan de traitement et d'exécution adéquats, sont nécessaires. Les deux cas ci-dessous expliqueront ces procédés d'une manière point-par-point.



Case 1 (Figures 1-17)

The first patient is a woman in her sixties. Her complaint is of a 'yellow smile' as she described it.

On the first two images, the old composite restorations are clearly deteriorating, and black spaces are seen between her teeth as a result of recession. The first step in this case is to make clean diagnostic impressions to produce study models. A diagnostic wax-up is prepared. The waxup is then transferred to the mouth via a silicone mould and pressed using Bis-Acryl material. Aesthetics are then carefully analysed on the patient's face, lips and smile.

Guided preparation is carried out by removing a uniform layer for the future porcelain veneer restorations. Immediate dentin sealing is performed on the exposed dentin to achieve a stronger bond. Alveolar models are



Fig. 1

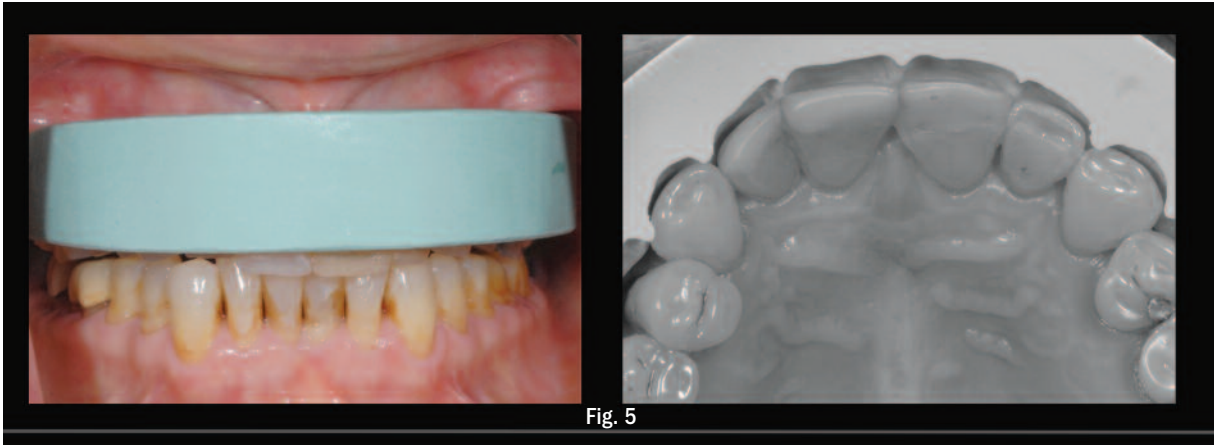




Figure 6



Figure 7



Figure 8 - Immediate dentin sealing ... stronger bond strength

then used as the working dies for the porcelain veneers. A controlled build up is being completed using a palatal silicone putty as a guide for tooth length and width, with the final porcelain veneers having 'mini wings' to close the black spaces between teeth.

As you can see there are excellent results after four years in function. Aesthetics and function have been fulfilled by proper treatment planning and execution.



Figure 9



Figure 10



Figure 11



Figure 12

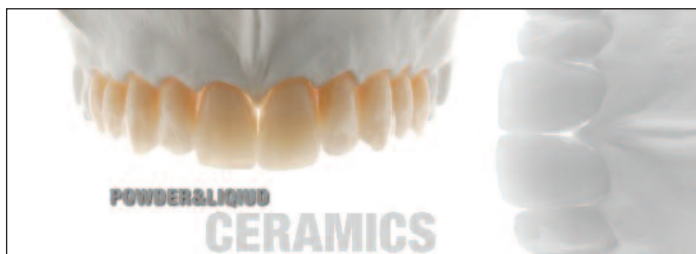


Figure 13



Figure 14



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Figure 15



Figure 16



Figure 17



Figure 18 - DIASTEMA + NCCL

Case 2 – no-prep porcelain veneers (Figures 18-28)

Often times no preparation is needed for porcelain veneers. There are strict criteria for using these restorations. These include closing diastemas, increasing length (class IV lesion), and adding bulk when tooth is lingually placed in the arch. A protocol that is scientifically proven to bond these restorations in place is described below.

The protocol is divided into the tooth part and the restoration part. To treat the restoration first start with hydrofluoric acid 9% on the fitting surface of the restoration, leaving it for a time that is determined by the material being used. If regular porcelain powder and liquid are used, then two minutes is adequate. If lithium disilicate then 20-30 seconds is enough. Rinse with water. Clean the surface of the restoration with phosphoric acid for 30 seconds rubbing the surface with a sharp instrument then again rinse with water. Place the restoration in distilled water in ultrasonic vibration unit for five minutes. Dry the surface then apply two coats of Silane coupling agent and dry with warm air. The restoration is now ready to receive the luting cement.

Once the tooth has been isolated, etch the enamel for 30-40 seconds and dentin for 15 seconds. Rinse and dry the surface



Figure 19

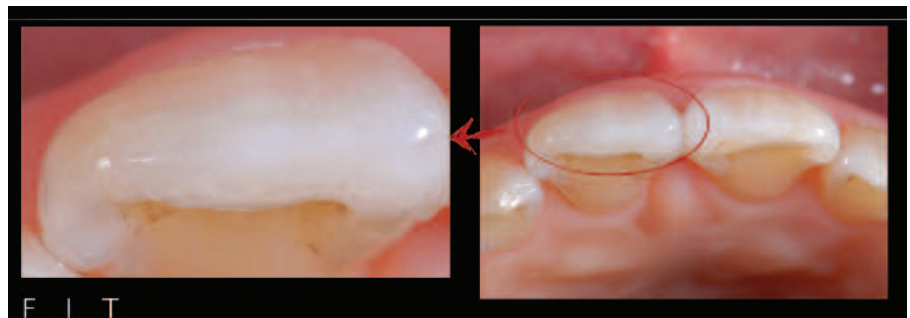


Figure 20

and apply the Primer to the exposed dentin. Apply the dentin adhesive to the dentin and do not cure, as that will create an added layer that will prevent the restoration from seating completely. Now apply the luting cement that has been selected, and cure. Polishing the margins with rubber points is needed to achieve a seamless end.

Functional Occlusion For The General Practitioner

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Dipl ABOP, Dipl ICOI, FAGD

Session 1: June 12-13, 2015

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Day 2: June 13

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Day 1: September 25

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Course Overview

Patients present themselves to the dental office for reasons related to appearance, function and discomfort. All three areas must be in harmony for overall patient satisfaction. Although occlusion has traditionally been thought to be an essential element for long-term clinical success and patient satisfaction, most practitioners do not employ basic occlusal principles in daily practice.

This evidence-based hands-on program will detail occlusion as related to basic restorative dentistry, oral rehabilitations, implant therapy, fixed and removable prosthodontics, parafunction, dental orthotics, and TMD. The program consists of 3 sessions. In Sessions 2 and 3, participants will treat their own patients. By the end of the program, basic occlusal therapy will become a routine part of the participant's treatment genre, providing their patients an incredible service that is cost effective, efficacious, and exciting to do.



Learning Objectives

- Evidence-based not evidence-biased dentistry: what it is and is not
- Occlusion: when, what, how
- Occlusion for everyday dentistry
- Occlusion for major restorative dentistry
- Occlusion and implant therapy
- Occlusion for fixed and removable prosthodontics
- Occlusion and TMD: is there a link?
- CR: where, when, who's?
- Myocentric as a treatment position
- Vertical dimension assessment
- Occlusion and practical dental anatomy
- Occlusion and facially generated treatment planning
- Smile design and occlusal stabilization
- Envelope of function evaluation and maintenance
- Articulator use: when, what, how
- Orthotics: predictable usage
- Occlusal equilibration: protocols and end points
- Restorative and prosthodontic material selection



Dr. Michael Racich

A 1982 graduate from University of British Columbia, has a general dental practice emphasizing comprehensive restorative dentistry, prosthodontics and TMD / orofacial pain. Dr. Racich is a member of many professional organizations and has lectured nationally and internationally on subjects relating to patient comfort, function and appearance. He is a Fellow of the Academy of General Dentistry and the American College of Dentists as well as a Diplomate of the American Board of Orofacial Pain and the International Congress of Oral Implantologists.

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Figure 21



Figure 22



Figure 23



Figure 24 - Etch hydrofluoric acid

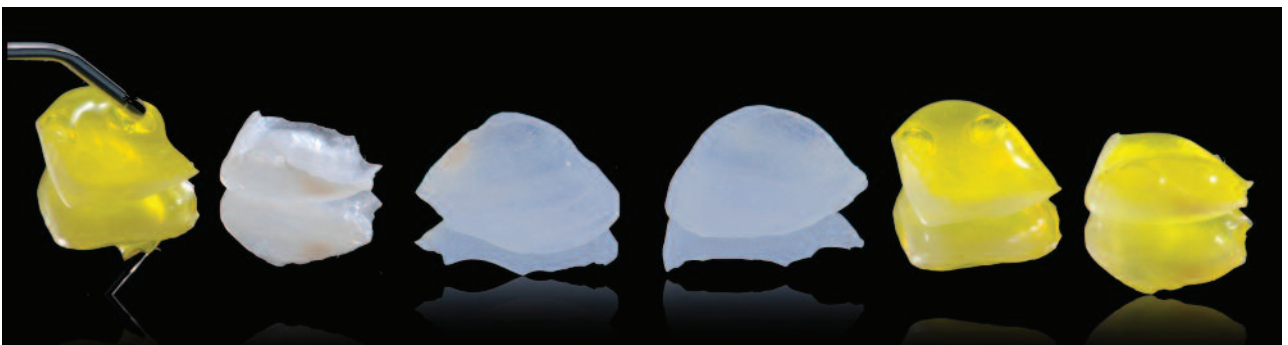


Figure 25 - Rinse and dry

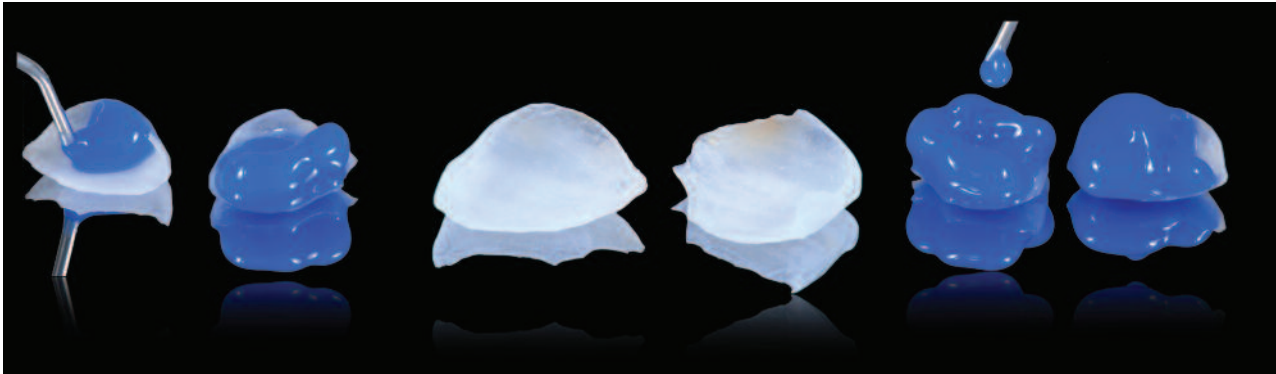


Figure 26 – Clean, phosphoric acid



Figure 27 – Silane and dry

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Dr. Michael Stimmelmayer

Systematic Implant-prosthetic Rehabilitation of a Patient with Generalized Aggressive Periodontitis

Réhabilitation implanto-prothétique systématique d'un patient atteint d'une parodontite agressive généralisée

Abstract

A special impression technique of the bar abutments is used to create highly tension free custom-milled bars.

This allows the patient to chew well and simplifies cleaning.



Implants Used

Tooth	18	17	16	15	14	13	12	11	21	22	23	24	25	26	27	28
Impl. type				SL	SL		SL			SL		SL	SL			
Impl. length				13.0	13.0		13.0			13.0		13.0	11.0			
Impl. Ø				3.8	3.8		3.8			3.8		3.8	3.8			
Impl. surface				PP	PP		PP			PP		PP	PP			

Tooth	48	47	46	45	44	43	42	41	31	32	33	34	35	36	37	38
Impl. type			SL	SL					SL			SL	SL	SL		
Impl. length			13.0	13.0					13.0			13.0	11.0	13.0		
Impl. Ø			4.3	3.8					3.3			3.8	3.8	4.3		
Impl. surface			PP	PP					PP			PP	PP	PP		

Impl. type: ROOT-LINE (RL) / SCREW-LINE (SL) Impl. surface: Promote (P) / Promote Plus (PP)

Information on Patient and Treatment

The 71-year-old male patient arrived at our clinic for the first time in April 2008 with acute dental pain in the left maxilla. After a comprehensive examination, only teeth 33, 32, 41, 42, 43 and 44 could be retained due to the

generalized chronic and localized aggressive periodontitis and the hardtissue defects.

After extracting the teeth not worth preserving, provisional maxillary and mandibular dentures were fitted, the insufficient crowns removed and the remaining teeth

Une technique spéciale de prise d'empreinte pour piliers de barre, est utilisée pour fabriquer des barres sur mesure, libres de toute tension.

Cela permet au patient de mastiquer en toute sécurité, et simplifie le nettoyage.

provided with new fillings and temporary solutions. After the initial periodontal treatment, the systematic PA therapy of the remaining teeth began under FMD (full mouth disinfection) and antibiotics. During the hygiene phase, implant planning was carried out using x-ray-opaque positioning templates and Med3D analysis (Hafner). We agreed with the patient about the following care: removable, palate-free bar restoration in the maxilla, fixed crown restoration in the mandible. The PA findings were reevaluated 3 months after the PA therapy. Because no periodontal pocket showed a depth of more than 3 mm, the implant therapy could begin.

First, six implants in regions 15, 14, 12, 22, 24 and 25 were inserted in the maxilla. Because of an additional minimal lateral augmentation of the tuber region with natural bone and an internal sinus lift of region 25, primary closure of the wound was carried out. Implantation of regions 36, 35, 34, 45, 46 and augmentation of region 31 were carried out 6 weeks after maxillary implant placement. Open healing of the posterior implants was selected.

The implant of region 31 was placed four months after augmentation at the time of implant exposure in the maxilla. Because of the previous dermatoplasty during wound closure, advancement flap technique with repositioning of the mucogingival line was required for the maxilla. A split flap was prepared while leaving the periosteum intact and the flap was positioned apically.

Six weeks after implant exposure and implant placement of region 31, prosthetic treatment began:

Bar abutments were mounted in the maxilla and a closed tray impression was taken with bar impression caps and traditional Impregum. On the mandible, teeth 33 and 44 were prepared and an impression was taken with snap impression posts using a closed tray technique and a second impression with screw-retained impression posts and open tray technique prepared. All impressions were sent to the laboratory and models created.

Because the impression taken with bar impression caps is very inexact (substantial

mobility in the impression material) and we are reluctant to bond the bar to the bonding basis, we make do with the following additional technique:

Using the burn-out bar abutment, we fabricate transocclusal screwretained impression posts out of economy alloy, which can be screwed into the bar abutment and lab analogs using long fixation screws. A self-curing polymer is used to bond the custom impression posts to the plaster cast and after the plastic has cured, the impression posts are thinly separated, again. These impression caps are then screwed onto the bar abutments in the correct position in the mouth, the gap between each plastic splinting checked for patency and then bonded again in the mouth using self-curing polymer. This is done in the following order:

1. Impression posts regions 15 with 14, 12 with 22 and 24 with 25
2. Plastic block region 15, 14 with 12, 22
3. Plastic block region 15, 14, 12, 22 with 24, 25

Impregum and an individual impression tray are then used to take the impression. In this manner, a stable impression is achieved with perfect transfer of the bar abutments.

After phonetic and esthetic shaping of the lip profile, a centric bite registration is made using registration posts, Kerr, Aluwachs and TempBond. The upper teeth are positioned in the dental laboratory according to phonetic and esthetic guidelines followed by the try-in on the patient. The Esthomic abutments can then be customized in the mandible and the metal-ceramic crowns fabricated. At the same time, the custom-milled bars are fabricated using castable high gold content bar bases. For the best fit, the solid bar is passivated in the laboratory. After bar and crown try-in, the work is finished by the dental technician. Insertion of the abutments and crowns in the mandible and insertion of the bars in the maxilla is followed by an occlusion check and another centric register with Kerr, Aluwachs and TempBond for reassembly of the palate-free bar restoration. This is done by the dental technician, the work is revised again and then inserted definitely on the next day.

Initial situation and implant planning



Fig. 1: Initial OPG with recognizable massive periodontitis and caries.



Fig. 2: Edentulous maxilla 3 months after extraction.

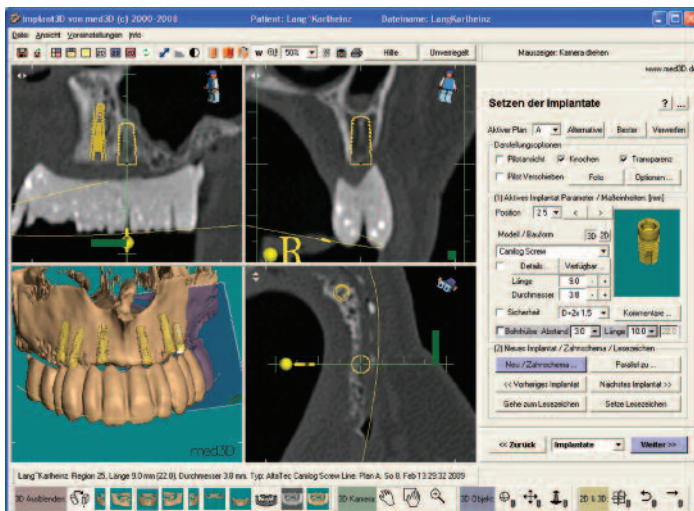


Fig. 3: med3D planning of the edentulous maxilla.

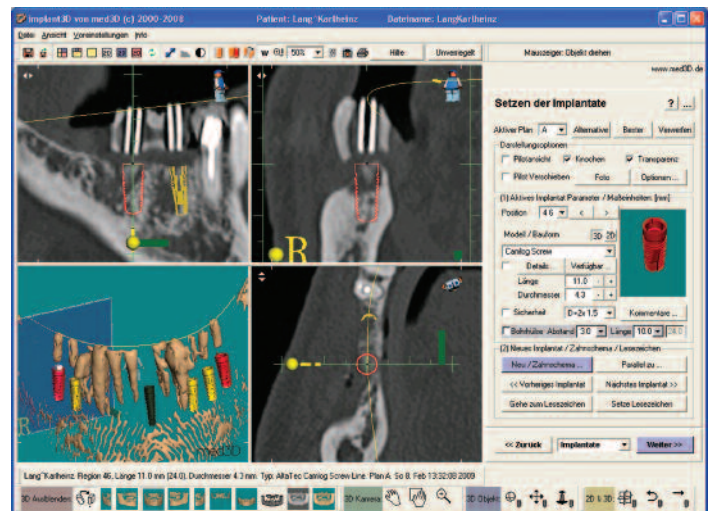


Fig. 4: Planning of the partially edentulous mandible.

Surgical procedure

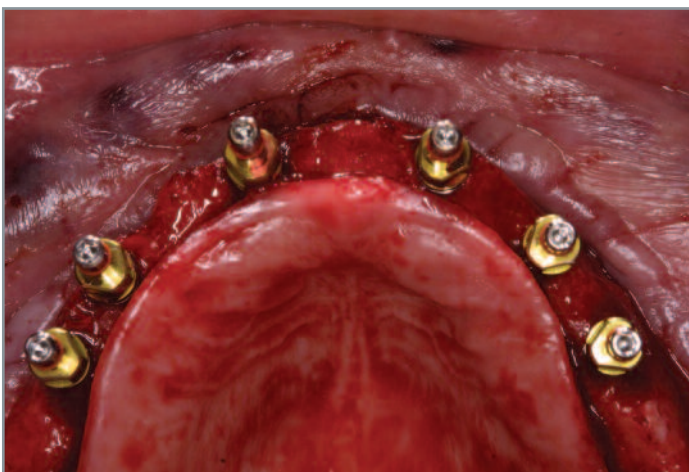


Fig. 5: Insertion of the six SCREW-LINE Promote® plus implants each with a diameter of 3.8 mm.

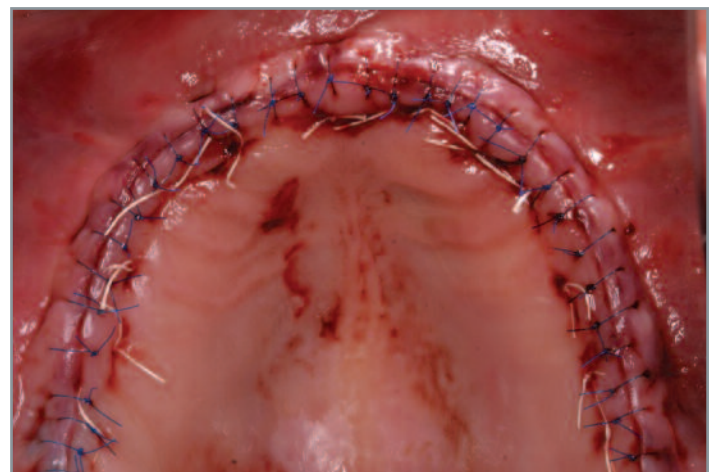


Fig. 6: Primary closure in the maxilla with a combination of horizontal mattress sutures (GoreTex 6-0) and simple interrupted sutures (Stoma Mersilene 6-0).



Fig. 7: Transversal bone deficit region 31.



Fig. 8: Augmentation with autogenous block graft and bone chips from region 38. A Trinon screw (Q-Bone System 1.0 x 7 mm) is used to fix the bone block.

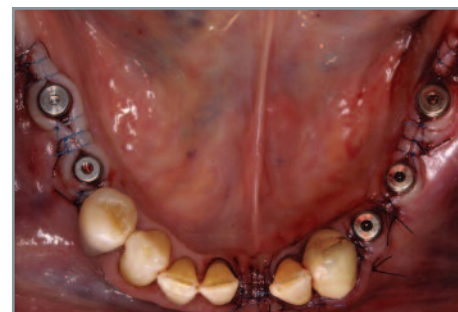


Fig. 9: Implant placement in the mandible regions 36, 35, 34, 45, 46 with transgingival healing and primary closure of the augmentation site region 31 with coronal advancement flap.



Fig. 10: Post-operative OPG.

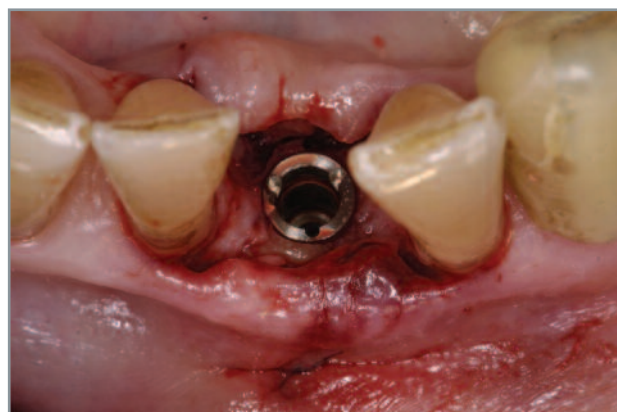


Fig. 11: Implant placement region 31 (SCREW-LINE Promote® plus 3.3 x 13 mm) in optimally regenerated bone bed.

Soft-tissue management

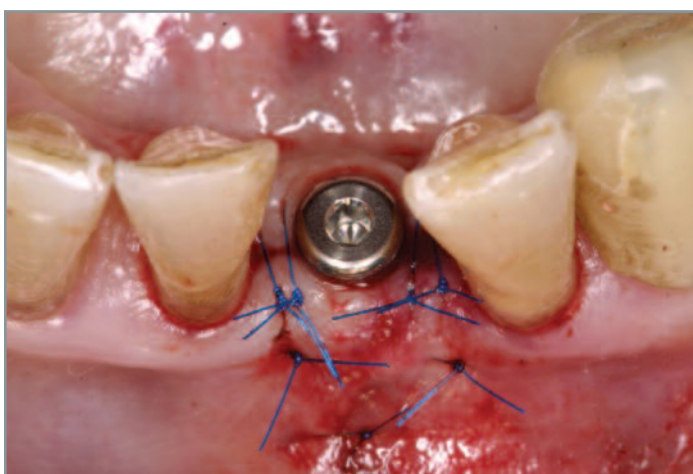


Fig. 12: Wound closure region 31 with transgingival implant healing and advancement flap technique.

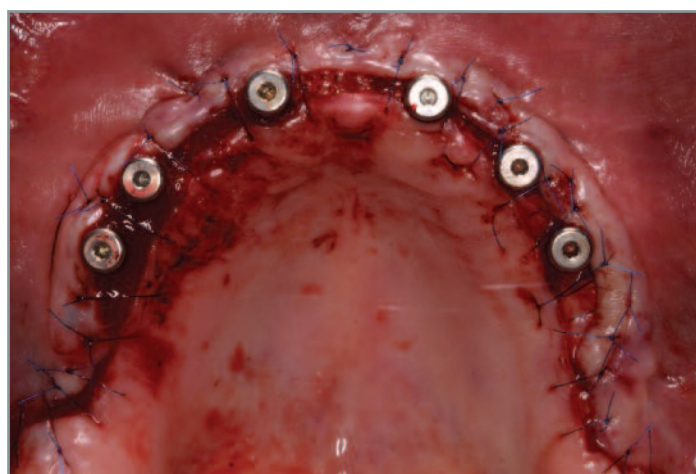


Fig. 13: Implant exposure in the maxilla using the split flap technique and advancement flap and vestibular extension for broadening the buccally attached gingiva.



Fig. 14: Secondary wound healing in the maxilla and assembly of the bar abutment, approx. 6 weeks after implant exposure.

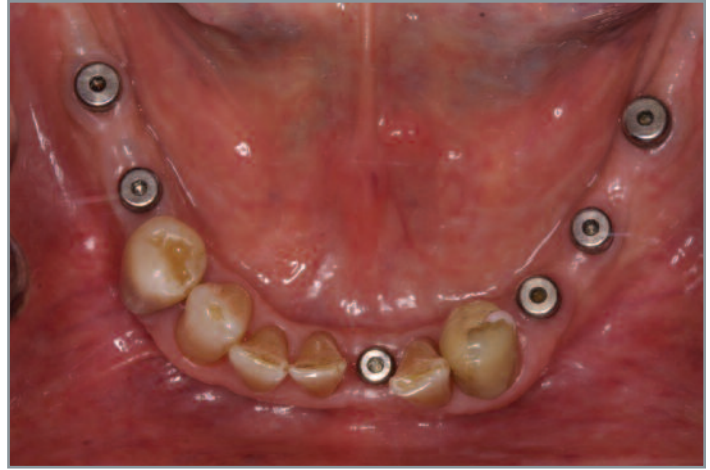


Fig. 15: Wound healing in the mandible before denture fabrication.

Impression taking



Fig. 16: Installation of the bar impression caps for Impregum impression with closed tray technique.



Fig. 17: Preparation of teeth 33, 44 and preparation of the implant impression with closed tray technique.



Fig. 18: Second impression with open tray technique; note the extension of the screw entry on the impression post region 31 with a silicone hose.



Fig. 19: Burn-out plastic base for bar abutments.

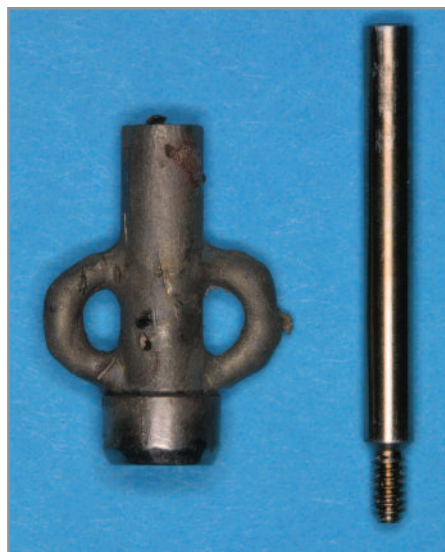


Fig. 20: Custom screw-retained impression posts with long fixing screw.



Fig. 21: The deployable impression posts made of economy alloy.



Fig. 22: First maxillary model with lab analogs after the impression is taken using prefabricated bar impression posts.



Fig. 23: Individual impression posts fixed in the model, splinted with self-curing polymer (GC Pattern Resin) and thinly separated between the impression posts.

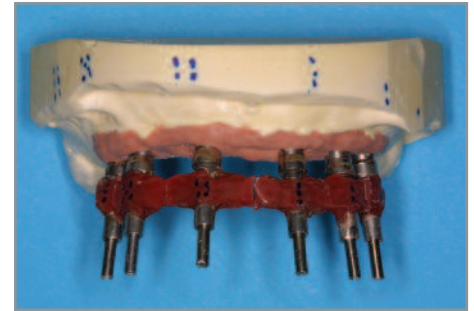


Fig. 24: Buccal view of the impression posts with respective marking.



Fig. 25: Intraorally fixed and already splinted impression posts for open impression technique.

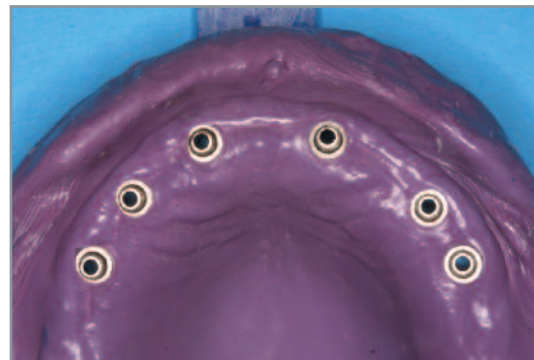


Fig. 26: Perfect impression of the bar abutments and stable transfer of the oral situation to the laboratory.



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Fig. 27: Buccal view of the individually milled bar; note the wide band on buccally keratinized gingiva by the vestibular extension.



Fig. 28: Occlusal view of the bar and its screwed connection.



Fig. 29: Esthetic abutments inserted using insertion keys; the insertion keys are used to tighten the abutments as well as for protection before force is applied to the implant.



Fig. 30: Palate-free maxillary bar restoration with individually integrated palatal rugae.



Fig. 31: Front view of the customized maxillary prosthesis.



Fig. 32: Occlusal view of the integrated metal-ceramic crowns on the implants and teeth.



Fig. 33: Centric registration with Kerr, Aluwachs and Temp-Bond for reassembly of the prosthesis.



Fig. 34: Front view of the final fitted maxilla and mandible work.



Fig. 35: Final OPG; check after 2 years.

Conclusions

With the treatment shown above, the patient was both esthetically and functionally rehabilitated to his great satisfaction. The palate-free bar restoration made nearly unrestricted chewing possible for the patient with only a minimal reduction in taste. In addition, the upper jaw front can be set up based on ideal phonetic and esthetic perspectives independent of the position of the implant. For pronounced alveolar ridge atrophy in the upper jaw front, this is a significant advantage over a fixed restoration.

Using our special impression technique of the bar abutments, we have the opportunity to create highly tension-free, custom-milled bars. The mandibular restoration with the respective single tooth restorations allows the patient to chew well and simplifies cleaning. As an alternative, the augmentation and implantation of region 31 could have been omitted and a single-leaf resin-bonded bridge used.

About the author

Dr Michael Stimmelmayer successfully completed his studies in dentistry in Regensburg, Germany and received his doctorate in 1992. After several years as a research associate in the Department of Dental Prosthetics at Ludwig-Maximilians University (LMU) Munich and as a surgery resident in a practice for oral and maxillofacial surgery and plastic surgery in Munich, he attained the specialist designation of an oral surgeon. After additional university-related activities in Munich and San Francisco, California, Dr Stimmelmayer founded his own practice in Cham, Germany in 2000 and furthered his education in the field of implant dentistry and periodontics. In 2001, he qualified as an "implantologist" with the European Association of Dental Implantologists (BdiZ) and was named an EDA Specialist in Periodontics. Since 2005, he has also been active as a certified consultant of the German Society of Implantology (DGI) and the Academy of Practice and Science (APW). Dr Michael Stimmelmayer can look back on many years of implant-prosthetic and implant-surgical experience. He is also a long-time user of the CAMLOG® Implant System, is one of the consulting experts to CAMLOG and for several more years, has been a speaker at home and abroad for CAMLOG.

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2015 Annual Scientific Meeting Program

October 1st – 3rd, 2015, Toronto, Ontario

Inspiring Excellence

Time	Thursday, October 1 st
9:00 am — 5:00 pm	Hands on Course — Dr. Basil Mizrahi Topic: Acrylic Temporary Crowns. Advanced techniques to allow you to get more out of your temporary crowns and let them aid you in the treatment of complex cases.
Time	Friday, October 2 nd
8:20 am	Dr. Ian Tester – CARDP President, Dr. Kim Parlett & Dr. Tony Mancuso – Scientific Program Chairs
8:30 am	Dr. Terry Donovan — Clinical Analysis of Contemporary Ceramic Systems
9:30 am	Dr. Kim Kutsch — Dental Caries: A Disease of Choice?
10:30 am — 11:00 am	Refreshment Break with Sponsors – Exhibit Hall
11:00 am	Dr. Glen Johnson — New Dental Adhesives and Crown Cements – What should you use and why?
12:00 Noon — 1:30 pm	Luncheon with Sponsors — Exhibit Hall
1:30 pm	Dr. Carlo Ercoli — Complex implant reconstructions: surgical and prosthetic perspectives
2:30 pm	Dr. Basil Mizrahi — Biomechanical and Aesthetic Precision in Complex Fixed Prosthodontics
3:30 pm — 4:00 pm	Refreshment Break with Sponsors — Exhibit Hall
4:00 pm — 5:00 pm	Dr. Van Haywood — Tooth Bleaching Techniques: The pre-bleaching exam and single dark teeth
Time	Saturday, October 3 rd
8:30 am — 8:50 am	Dr. Peter Fritz — Supportive Implant Therapy: A Step By Step Protocol To Maintaining Implants
8:50 am — 9:10 am	Dr. Kristina Perschbacher — Leukoplakia: Hyperkeratosis to Carcinoma
9:10 am — 9:30 am	Dr. Susanne Perschbacher — Panoramic radiography: shedding light on the shadows
9:30 am — 9:50 am	Dr. David Psutka — TMJ Surgery. State of the Art and Science
9:50 am — 10:10 am	Dr. Michelle Lee — Surgical Strategies to Manage the Labially Positioned Dental Implant
10:10 am — 11:00 am	Refreshment Break with Sponsors – Exhibit Hall
11:00 am — 12:00 Noon	Dr. Keith Phillips — Expedited Implant Strategies for the Terminal Dentition
12:00 pm — 12:30 pm	Pre Lunch Reception with Sponsors
12:30 pm — 2:00 pm	CARDP Members & Guest Luncheon
2:00 pm — 2:20 pm	Dr. Oliver Pin Harry — Short Implants: Scientific Rationale and Clinical Applications
2:20 pm — 2:40 pm	Dr. Izchak Barzilay — Wide body implants: what are they good for?
2:40 pm — 3:00 pm	Dr. Jim Soltys — The 1 — wing inlay/Maryland bridge; an implant alternative
3:00 pm — 3:20 pm	Dr. Nancy Dubois — Prosthodontic Treatment Planning for Obstructive Sleep Apnea (OSA) Patients
3:20 pm — 3:40 pm	Dr. Brent Winnett — Screw vs. Cement-retained Implant Prosthodontics: the Practical Reality
3:40 pm — 4:00 pm	Dr. Uche Odiatu — Exercise is Medicine: The right Rx for the Dental Professional
4:00 pm — 4:10 pm	Dr. Ian Tester — Meeting Conclusion Dr. Terry Koltek — Halifax 2016 Annual Meeting Announcement & Video



Programme scientifique du Congrès annuel 2015

Toronto, Ontario — 1^{er} au 3 octobre

« Inspirer l'excellence »

Heure	Jeudi 1 ^{er} octobre
9 h — 17 h	Cours pratique — Dr Basil Mizrahi Sujet : Couronnes provisoires en acrylique. Technique avancée visant à rehausser et à maximiser la fonction des couronnes provisoires dans le traitement de cas complexes
Heure	Friday, October 2 nd
8 h 20	Dr Ian Tester – président de l'ACDRP, Dr Kim Parlett et Dr Tony Mancuso, coprésidents du programme scientifique
8 h 30	Dr Terry Donovan — Analyse clinique des systèmes céramiques contemporains
9 h 30	Dr Kim Kutsch — La carie dentaire : à qui la faute?
10 h 30 — 11 h	Pause avec les commanditaires – Salle des exposants
11 h	Dr Glen Johnson — Nouveaux ciments et agents de scellement dentaires — Lesquels devrait-on utiliser et pour quelles raisons?
12 h — 13 h 30	Dîner avec les commanditaires — Salle des exposants
13 h 30	Dr Carlo Ercoli — Reconstruction implantologique complexe : perspectives chirurgicales et prosthétiques
14 h 30	Dr Basil Mizrahi — Précision biomécanique et esthétique des prothèses fixes complexes
15 h 30 — 16 h	Pause avec les commanditaires — Salle des exposants
16 h — 17 h	Dr Van Haywood — Techniques de blanchiment dentaire : l'examen préliminaire et la dent noircie
Heure	Samedi 3 octobre
8 h 30 — 8 h 50	Dr Peter Fritz — Soins de maintien des implants : Protocole étape par étape du maintien des implants
8 h 50 — 9 h 10	Dre Kristina Perschbacher — Leucoplasie : hyperkératose, signe avant-coureur du carcinome de la cavité buccale
9 h 10 — 9 h 30	Dre Susanne Perschbacher — Radiographie panoramique : toute la lumière sur les ombres
9 h 30 — 9 h 50	Dr David Psutka — Chirurgie de l'ATM : à la fine pointe de l'art et de la science
9 h 50 — 10 h 10	Dre Michelle Lee — Stratégies chirurgicales de gestion de l'implant dentaire en position labiale
10 h 10 — 11 h	Pause avec les commanditaires – Salle des exposants
11 h — 12 h	Dr Keith Phillips — Stratégies d'implantologie accélérées pour les cas de dentition terminale
12 h — 12 h 30	Réception avec les commanditaires précédant le dîner
12 h 30 — 14 h	Dîner des membres de l'ACDRP et des invités
14 h — 14 h 20	Dr Oliver Pin Harry — Implants courts : justifications scientifiques et applications cliniques
14 h 20 — 14 h 40	Dr Izchak Barzilay — Implants à corps large : quelles sont leurs applications?
14 h 40 — 15 h	Dr Jim Soltys — Le pont Maryland à une aile : une solution de rechange à l'implant
15 h — 15 h 20	Dre Nancy Dubois — Élaboration du plan de traitement prosthodontique pour les patients souffrant d'apnée obstructive du sommeil (AOS)
15 h 20 — 15 h 40	Dr Brent Winnett — Prothèses implantaires vissées ou scellées : la réalité pratique
15 h 40 — 16 h	Dr Uche Odiatu — L'exercice est la meilleure des médecines : le remède des praticiens dentaires
16 h — 16 h 10	Dr Ian Tester — Conclusion de la réunion Dr Terry Koltek — Annonce du Congrès annuel de 2016 à Halifax et vidéo



2015 Annual Scientific Meeting Program

October 1st – 3rd, 2015, Toronto, Ontario

2015 CONFERENCE PROGRAM

Time	WEDNESDAY, SEPTEMBER 30TH, 2015	LOCATION / SET UP
24 HRS	Office	Simcoe Room
4:00 PM — 5:30 PM	Journal Meeting	President's Suite
6:00 PM — 11:00 PM	CARDP Executive Dinner Meeting	Sapphire Room- Upper Level – Boardroom 20

Time	THURSDAY, OCTOBER 1ST, 2015	LOCATION / SET UP
24 HRS	Office	Simcoe Room
8:00 AM — 5:00 PM	Full Day — Hands On Course	Off Site U of T Sci Can — Kingsway Room Meet in Lobby InterContinental Hotel at 8:00 am
7:30 AM — 4:00 PM	Golf at Hamilton Golf and Country Club	Meet in Lobby InterContinental Hotel 7:30 am
10:45 AM — 3:30 PM	Sailing on Lake Ontario	Meet in Lobby InterContinental Hotel 10:45 am
8:00 AM — 11:59 PM	Scientific Set-up	Ballroom “B”
8:00 AM — 6:00 PM	Trade Show Set-up	Ontario/Niagara & Lower Lobby
11:00 AM — 8:00 PM	Registration	Lower Lobby Foyer
6:00 PM — 10:00 PM	Eat, Meet & Greet, Welcome Buffet with Sponsors	Ontario/Niagara & Lower Lobby
7:00 PM — Finish	APC Executive Meeting	High Park Room
5:00 PM — 7:00 PM	APO Annual General Meeting – Reception	Ballroom “A”
7:00 PM — 9:00 PM	APO Annual General Meeting - Dinner	Ballroom “A”

Time	FRIDAY, OCTOBER 2ND, 2015	LOCATION / SET UP
24 HRS	Office	Simcoe Room
7:00 AM — 5:00 PM	Registration	Lower Lobby Foyer
7:00 AM — 8:15 AM	Breakfast with Sponsors	Ontario/Niagara & Lower Lobby
8:15 AM — 5:00 PM	Scientific Sessions	Ballroom “B”
12:00 AM — 4:00 PM	Wine tasting paired with tapas at The St. Lawrence Market (Partners Program)	Meet in Lobby InterContinental Hotel 12:00 pm
10:30 AM — 11:00 AM	Break with Sponsors	Ontario/Niagara & Lower Lobby
12:00 PM — 1:30 PM	Lunch with Sponsors	Ontario/Niagara & Lower Lobby
3:30 PM — 4:00 PM	Break with Sponsors	Ontario/Niagara & Lower Lobby
5:00 PM — 6:00 PM	Wine and Cheese Reception with Sponsors	Ontario/Niagara & Lower Lobby
7:00 PM	Delegate, Speaker & Guest Dinner - CN Tower	Meet in Lobby InterContinental Hotel 7:00 pm

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2015 Annual Scientific Meeting Program

October 1st – 3rd, 2015, Toronto, Ontario

2015 CONFERENCE PROGRAM

Time	SATURDAY, OCTOBER 3RD, 2015	LOCATION / SET UP
24 HRS	Office	Simcoe Room
7:00 AM — 4:00 PM	Registration	Lower Lobby Foyer
7:00 AM — 7:45 AM	CARDP AGM Member Breakfast	Ballroom "A"
7:30 AM — 8:30 AM	Breakfast with Sponsors	Ontario/Niagara & Lower Lobby
8:30 AM — 4:10 PM	Scientific Sessions	Ballroom "B"
10:10 AM — 11:00 AM	Break with Sponsors	Ontario/Niagara & Lower Lobby
12:00 PM — 12:30 PM	Pre Lunch reception with Sponsors	Ontario/Niagara & Lower Lobby
12:15 PM — 3:30 PM	High Tea at the Windsor Arms Hotel	Meet in Lobby Le Westin 12:15 PM
12:30 PM — 2:00 PM	CARDP Member & Guest Lunch	Ballroom "A"
4:30 PM — 6:30 PM	APC – Annual General Meeting	Kingsway & Wentworth Rooms
6:30 PM — 7:30 PM	President's Reception	Lower Lobby Foyer
7:30 PM — 12:00 AM	President's Party — Dinner Dance	Ballroom "A"

Time	SUNDAY, OCTOBER 4TH, 2015	LOCATION / SET UP
24 HRS	Office	Simcoe Room
9:00 AM — 12:00 PM	Clinic and Essay Meeting & Breakfast	Grenadier – Boardroom 15

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Programme scientifique du Congrès annuel 2015

Toronto, Ontario — 1er au 3 octobre

Programme du Congrès 2015

Heures	Mercredi 30 Septembre	Lieu / Salle
24 heures	Bureau	Salle Simcoe
16 h — 17 h 30	Réunion du journal	Suite du président
18 h — 23 h	Souper-réunion de la direction de l'ACDRP	Salle Sapphire – Niveau supérieur

Heures	JEUDI 1er OCTOBRE	Lieu / Salle
24 heures	Bureau	Salle Simcoe
8 h — 17 h	Cours pratique – toute la journée	Hors-site — University of Toronto Sci Can — Salle Kingsway Point de rencontre dans le hall de l'hôtel InterContinental à 8 h
7 h 30 — 16 h	Golf au Hamilton Golf and Country Club	Point de rencontre dans le hall de l'hôtel InterContinental à 7 h 30
10 h 45 — 15 h 30	Voile sur le lac Ontario	Point de rencontre dans le hall de l'hôtel InterContinental à 10 h 45
8 h — 23 h 59	Montage des présentations scientifiques	Salle de bal « B »
8 h — 18 h	Montage de l'exposition	Ontario/Niagara et hall inférieur
11 h — 20 h	Inscription	Foyer du hall inférieur
18 h — 22 h	Réception de bienvenue incluant les commanditaires — Buffet	Ontario/Niagara et hall inférieur
19h	Souper-réunion de la direction de l'APC	Salle High Park
17 h — 19 h	Cocktail du APO AGM	Salle de bal « A »
19 h — 21 h	Souper-réunion de la direction de l'APO	Salle de bal « A »

Heures	VENDREDI 2 OCTOBRE	Lieu / Salle
24 heures	Bureau	Salle Simcoe
7 h — 17 h	Inscription	Foyer du hall inférieur
7 h — 8 h 30	Déjeuner avec les commanditaires	Ontario/Niagara et hall inférieur
8 h 15 — 17 h	Sessions scientifiques	Salle de bal « B »
12 h — 16 h	Programme pour conjoints/invités	Point de rencontre dans le hall de l'hôtel InterContinental à 12 h
10 h 30 — 11h	Pause avec les commanditaires	Ontario/Niagara et hall inférieur
12 h — 13 h 30	Dîner avec les commanditaires	Ontario/Niagara et hall inférieur
15 h 30 — 16 h	Pause avec les commanditaires	Ontario/Niagara et hall inférieur
17 h — 18 h	Dégustation de vins et fromages avec les commanditaires	Ontario/Niagara et hall inférieur
19 h	Souper à la tour du CN – Délégués, conférenciers et invités	Point de rencontre dans le hall de l'hôtel InterContinental à 19 h



Programme scientifique du Congrès annuel 2015

Toronto, Ontario — 1er au 3 octobre

Programme du Congrès 2015

Heures	SAMEDI 3 OCTOBRE	Lieu / Salle
24 heures 17 h	Bureau	Salle Simcoe
7 h — 16 h	Inscription	Foyer du hall inférieur
7 h — 7 h 45	Déjeuner des membres de l'ACDRP AGM	Salle de bal « A »
7 h 30 — 8 h 30	Déjeuner avec les commanditaires	Ontario/Niagara et hall inférieur
8 h 30 — 16 h 10	Sessions scientifiques	Salle de bal « B »
12 h 30 — 16 h	Thé d'honneur « High Tea » au Windsor Arms Hotel	Point de rencontre dans le hall de l'hôtel InterContinental à 12 h 15
10 h 10 — 11 h	Pause avec les commanditaires	Ontario/Niagara et hall inférieur
12 h — 12 h 30	Réception avec les commanditaires précédant le dîner	Ontario/Niagara et hall inférieur
12 h 30 — 14 h	Dîner – Membres de l'ACDRP et invités	Salle de bal « A »
16 h 30 — 18 h 30	APC – Assemblée générale annuelle et dîner	Salle Kingsway Wentworth
18 h 30 — 19 h 30	Cocktail du président	Foyer du hall inférieur
9 h 30 — Minuit	Gala du président — Souper et danse	Salle de bal « A »

Heures	DIMANCHE 4 OCTOBRE	Lieu / Salle
24 heures	Bureau	Salle Simcoe
9 h — 12 h	Déjeuner-réunion sur les cliniques et les conférences	Grenadier – Salle de réunion 15 (Boardroom)

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Call for Papers



CARDP's Executive Board has concluded a publishing agreement with Palmeri Publishing Inc. The Academy's Journal (CJRDP/JCDRPP) is published four times a year since 2008 with a circulation of 7,000 up to 13,000. The 2015 Journal Production Schedule is accessible at <http://www.cardp.ca/sitedocs/2015%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-in-chief: 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 and Allan Coopersmith

Academic Liaison: Dr. Peter Taylor

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-2015-email.pdf>

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

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/JCDRPP) est publié depuis 2008 et a une circulation de 7 000 à 13 000 exemplaires. Il y a quatre parutions par année. La cédule de production 2015 du Journal est accessible à <http://www.cardp.ca/sitedocs/2015%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 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 et Allan Coopersmith

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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-2015-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:

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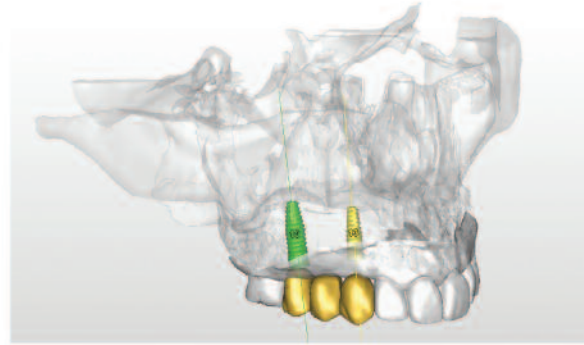
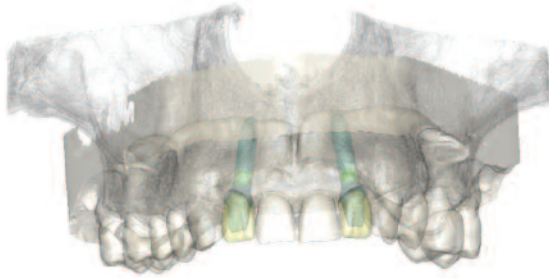
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