Wishes a
Happy New Year
to all its Members...
IACDE OFFICE BEARERS 2018

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GUJARAT CONFERENCE

The 32nd IACDE and 25th IES National Conference was held from 23rd to 26th November 2017 in Ahmedabad, Gujarat. The Conference took place at the world-class venue Mahatma Mandir Convention Centre.

The Pre-conference events were held on 23rd November 2017 at Government Dental College and Hospital, Ahmedabad. A total of 9 Pre-conference courses were conducted by renowned international and national faculties on varied topics of interest, ranging from occlusion to instrument retrieval under the microscope.

To ensure maximum benefit to the participants, especially the postgraduate trainees, all scientific presentations were held on 23rd November itself. 500 scientific papers, 398 posters and 34 table clinics were presented by PG trainees from different parts of the country. Interestingly, the Conference also witnessed over 75 delegate presentations and for the first time in a National Conference, the best presentations by delegates also were suitably rewarded along with the best student presentations.

The Conference was inaugurated on 24th November in the august presence of our Chief Guest, The Honourable Governor of Karnataka, Shri Vajubhai Vala. Guests of Honour, DCI President, Dr. Dibyendu Mazumdar and Chairperson, Sarvodaya Seva Trust, Shri Somabhai Modi who is also the elder brother of Honourable Prime Minister of India, Shri Narendra Modi. The 2000 strong audience were welcomed by the Organizing Chairman, Dr. Girish Parmar.

Over the 3 days, there were numerous scientific sessions conducted by renowned guest speakers from India and abroad. The Star Speaker of the Conference was Dr. Nicola M. Grande, a renowned Endodontist and celebrated academician, the man behind MTgwand Reciproc file systems.

A first of its kind panel discussion was held on 24th November to discuss the burning issue of Mercury Free Dentistry.

This was accompanied by a grand trade exhibition featuring best brands from across the globe. A total of 51 different traders from across the globe presented the latest material and technology.

The banquet was organized on the evening of 25th Nov celebrating the different hues of the culture of Gujarat through song and dance, food and festivity.

The valedictory function was held on 26th Nov. to appreciate the efforts of the Organizers and the winners of the scientific presentations by the hands of DCI President, Dr. Dibyendu Mazumdar, IACDE President, Dr. Kidigoor, IACDE Past President Dr. Karunakan. On the occasion, IACDE Secretary Dr. B. Mohan applauding the efforts of the entire Organizing committee and especially the Organizing Chairman, Dr. Girish Parmar, the Captain of the Ship, who seamlessly sailed the ship through tumultuous storms.

Dr Shikha Kanodia
Organizing Secretary
**CASE REPORT OF THE MONTH – 2017**

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<td>Dr. Ayush Gejal, Dr. Veenaikh Nikhul, Dr. Ritika Sigh</td>
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<td>Dr. Ritu Rana, Dr. Udaya Kamar, Dr. Sumita Kaushik, Dr. Pankaj Soni Chowdhary</td>
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<td>June</td>
<td>Dr. Rameshwar Bajpai, Dr. Smirha Reddy, Dr. Shekhar K</td>
<td>Sri Sai College of Dental Surgery, Vikarabad, Telangana</td>
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<td>July</td>
<td>Dr. Girish K, Dr. M. Kavitha, Dr. C.S. Bhojana</td>
<td>Tamil Nadu Government Dental College &amp; Hospital, Chennai</td>
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<td>August</td>
<td>Dr. J. Swathi, Dr. B. Rameshwar, Dr. M. Kavitha, Dr. S. Ranjini</td>
<td>Tamil Nadu Government Dental College &amp; Hospital, Chennai</td>
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<td>Dr. Santosh S, Dr. Abhay Abraham</td>
<td>Saveetha College of Dental Sciences and Hospitals, Chennai</td>
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<td>Dr. V. P. Shetty, Dr. Balan Nair, Dr. Anil Pachpil, Dr. Maheshkumar V</td>
<td>Samy College of Dental Sciences, Chennai</td>
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<td>November</td>
<td>Dr. M. Rajasekaran</td>
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<td>December</td>
<td>Dr. Praneet M, Dr. P. Karikanvis, Dr. Umarela Fadadun, Dr. S. Ranganady</td>
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**RESEARCH GRANT FOR THE YEAR 2017**

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<tr>
<td>1</td>
<td>Dr. Shrinath V.B.</td>
<td>Faculty</td>
<td>St. Joseph Dental College, Elluru, Andhra Pradesh</td>
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<td>2</td>
<td>Dr. Pradip Shankunam</td>
<td>Student</td>
<td>JSS Dental College and Hospital, Mycra, Karnataka</td>
</tr>
<tr>
<td>3</td>
<td>Dr. Rajendra</td>
<td>Professor</td>
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Dr Kidlyoor K H

Dear Members,

“Season’s Greetings”

An Eventful year ahead.....

Visionaries are not born but futuristic visions are. It was a proud moment indeed for me to take over as the President of this esteemed association. It is a fact that our association IACDE is one of the biggest and most active in India. Our association has popular and powerful academicians as well as clinicians who hold prime posts in the field of dentistry. It is a proud moment for all to be associated with IACDE. It is imperative that we maintain the momentum we have gained as we confront the issues of the coming year and beyond.

Our association born in the year 1982 has now grown beyond imagination with the selfless contribution of many of them. At this juncture, I would like to thank each and everyone for bringing up the association to this level. I would like to thank our present President of Dental Council of India Dr. Dibyendu Mukherjee, our Past President Mr. S. B. Bhat and all the past Presidents and Secretaries who have dedicated their time, energy and effort to keep the association alive and growing. The entire executive team is now working with a VISION FOR THE FUTURE. On behalf of the team, I take this opportunity to request the support of all the members of our association that we all sail in the same boat towards future. You will be updated constantly with the actions of the executive team. A few of the activities would include the DCI - IACDE Teachers’ Meet at Goa, Zonal Conference and the Celebration of the 25th Endo Day.

Once again thank you all for giving me the wonderful opportunity to be with you......

JAI HIND

Dr. Mamta Kaushik
Editor

My Two Year Journey with PINS and POSTS

"Nothing ever becomes real till it is experienced".

John Keats

If I look at things from where I am sitting everything is the same, yet all is different. I enrolled as a member of FODI long back and have been a silent spectator to the happenings and non-happenings since then. Frankly, I never did realise its importance. That’s primarily because I was an ignorant person and didn’t really bother reading the annual report which was sent home to me.

So one fine day when I received a call from Dr Karunakar telling me that the association was coming up with a newsletter and they were happy to have me as Editor for the same, I was surprised, pleased and clueless as to what it was going to be like. Of course accepted it; and, Yes, it scared me as I had no clue how to handle such a huge thing. I was assured that there would be a lot of support from all fronts and I was given a few names and phone numbers who were going to help me with this history with me.

I am very fortunate that I am here at a time when the Association is growing leaps and bounds. There is so much that is being done and everybody is getting involved and excited with the prospects and development.

The milestones being establishment of a National Cons Endo Day; all branches have one except us, the IACDE rewards, Establishment of a Speaker Bank, more International linkages. And, of course, the individual achievements of all our members.

The first call I made was to the secretary IACDE, Dr Mohan; and understood that the association wanted to reach out to each and everyone in some form of printed matter.

We had the IDA news, ADA News, the Colleagues for Excellence and other newsletters to emulate from but we couldn’t be like those as our entire context was different from those. So, I called up my team members, Dr. Umrana, Dr. Prabhat, Dr. Sasirekha and Dr. Rohit Nagari. I introduced myself and we, a set of strangers set about giving this new idea a shape.

The idea of a newsletter was Dr. Sasirekha’s. She pointed out that reaching out to all the members through a print medium would bring all of us closer to each other.

I cannot forget the day that Umrana, Prabhat and I met in the Panini Dental College and Dr Karunakar added Dr. Jayadev to our team for all the technical support and we formulated a format for the pages, size and what the pages would include.

Dr. Karunakar Sir appreciated our format, gave us the help and information to take it from there. With constant support and guidance from Dr Karunakar, Dr. Mugul Mohan and Dr B Mohan, we became the architects for the format of this current newsletter.

Dr Rohit Nagari helped with attaining the ISSN number—a milestone, for our online version and will soon be mobilizing it for the print version too.

Dr Prabhat has independently done the crossword and jumble for the last two issues besides helping with the editing and information gathering. He is one person who works without any expectation from the sincerity rendered.

I will fail in my duties if I do not mention the amount of time and days Dr Umrana and I spent editing the first issue.

Dr Mohan need a special mention, not just for the first issue but for all the issues, he has been guiding us and steering the PINS and Posts throughout. His invaluable support for this project is remarkable.

I felt blessed when Dr Mohan suggested that I take on an Associate Editor and I selected Dr Neha Mehra to help me out since then. Neha has since then been there with all her enthusiasm and tireless dedication.

For the next year, as now there was a change in the Editorial Team and I had the good fortune of getting to know Dr Poonam, an exceptionally talented, sincere and pleasant person.

I thank all the team members of the two units have made this journey of mine so comfortable and successful.

As Plato said: “The beginning is the most important part of the work.”

To our new beginnings—Welcome to year 3 of ‘PINS and Posts’. I don’t know what magic we’ll create here but we couldn’t have been in a better place and time right now.
CONSERVATIVE DENTISTRY & ENDODONTICS – OPEN ESSAY
COMPETITION 2017.

Department of Conservative Dentistry and Endodontics at D Y Patil University, School of Dentistry, inaugurated the first of its kind Open Essay Competition on a National level in August 2014. The purpose of this venture was to provide a platform for scientific minds from around the world to hone their presentation and compete on a national level. On 3rd August, the birth anniversary of Dr. G. V. Black, the Father of Operative Dentistry

The winners are awarded cash rewards and a citation.

Category I: Undergraduate Dental Students (including Interns)

Topic: My choice for further studies after BDS.
1st place – Rituraj Kapur (Intern), Bharati Vidyapeeth Dental College and Hospital, Kharghar, Navi Mumbai.
2nd place – Anushree Shabu (4th BDS), Srinivas Institute of Dental Sciences, Surathkal, Mangalore.

Category II: Dental Surgeons (including postgraduates and students of specialties other than Conservative Dentistry)

Topic: Current challenges in private practice.
1st place – Dr. Vishal Karkarnik (BDS in private practice, Aluminais of DY College of Dentistry), Dombivli, Maharashtra.
2nd place – Dr. Pardhi Rawat (BDS), Kothrud, Pune.

Category III: Postgraduates of Conservative Dentistry & Endodontics (including postgraduate students)

Topic: Why root canals fail?
1st place – Dr. Vivek Sharma (2nd MDS), Maulana Azad Institute of Dental Sciences, Delhi.
2nd place – Dr. Mohit Gaurani (3rd MDS), Sri Guru Ram Dass Institute of Dental Sciences, Amritsar, Punjab.

Dr. Sumita Bhagwat
Convenor - CDE-OEC

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Article No. 59695 500

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PINS & POSTS

Panel Discussion

Layering Technique

Dr. Jaysheela HegdeAnil
Clinical Director
Ridgepeth Dental International Pvt. Ltd.

Veneers are the simplest and most reliable modality to obtain satisfactory long-term aesthetic outcome. When a patient desires aesthetic make over, conservation of enamel should be our primary goal. "No prep" veneers which conserve all the enamel and has many challenges like increased emergence profile and unsatisfactory bulk at the gingival third. Also, positioning of these veneers without definite margin was a difficult issue during cementation. Moreover, it is difficult to fabricate veneers that are less than 0.3 mm thickness in the laboratory. These veneers could crack due to cement polymerization especially when they wrap around the odd edge or proximal angles.

I believe minimum preparation should be done and "how much preparation" depends on the existing clinical presentation and the desired outcome. As a clinician, our main focus is to preserve enamel as it is well documented that porcelain bonded to enamel has shown to withstand tensile and shear stress.

Minimum preparation veneers are excellent choice when minor changes are required in alignment and shade, and additional steps are required in allowance. The underlying tooth structure should have good color. Light caries are placed at the gingival margin. On the labial aspect, the minimum thickness of veneer should be 0.5 mm. The amount of reduction depends on the shade change required which ideally should be 0.2-0.3 mm thickness for each shade change.

To conserve enamel, bleaching, and being performed prior to preparation. Proximal wrap should be placed labial to the contact areas except in cases of 클래스 lesions where it is placed lingual to the contact area to allow the ceramic to build proper proximal contours. Also, in these situations, the gingival framework is placed slightly below the gingival margin. Instead reduction should be around 1-1.5 mm which would allow the ceramic to create required incisal effects to match natural teeth. The incisal finish line can be either a nicked incisal or a defined stop which provides a specific stop which usually is a thin fragile veneer on the lingual aspect or an incised incisal which is stronger and more preferred.

Porcelain veneers with layering techniques are recommended as it allows the ceramist to recreate aesthetics closer to natural dentition.

Composite Veneering with layering concept

Dr. B. Mohan
Accredited Member of AAOCD

Designing a beautiful smile has been a challenge for many years and the invention of veneering has been a breakthrough in this aspect. Dr. Nishorg introduced this concept in 1987, and it gained lot of popularity in the mid-veneerers available. The different approaches included direct layering with composite, veneering with prefabricated composite and indirect custom made ceramic veneer. Each of these has their own advantage and disadvantage, and the clinical should choose the correct plan according to the needs of the patient.

Direct Aesthetic restorations require careful techniques with creative and artistic skills and considerable chair side time. In direct techniques using lab fabricated restorations outcome is superior to that of esthetic outcome. Nowadays, direct techniques have improved a lot with the generation of composites and the adhesion techniques. The concept in today's aesthetic practice is minimal intervention. When addressing minimal intervention composite is the material that comes to our mind. The clinic is created with the skills that are best demonstrated in clinical composite veneers.

On the contrary, the lab/crafter prefabricated composite veneers have entered the market. Unfortunately, they are not monolithic in the dental hand and there is no concept of customization. Moreover, they require a special adhesive to cement the restoration which obviously increases the interface the failure rates.

Most often the placement of direct composite veneering require all tooth preparation compared to the prefabricated composite veneers. In order to create a restoration that practically cannot be distinguished from the tooth substance, a composite system is needed which offers the shades in sufficient levels as well as multiple opacities and translucent shades. These composites help in creating a poly chromatic composition. There are composite systems that consists of over 30 different shades and translucentities. Of course, this procedure requires a short learning curve, but after mastering they deliver the best aesthetics. The learning curve includes also the knowledge on tooth anatomy, color and material optical and physical properties. The tooth structure is much different from individual to individual and also within the individual. There are numerous changes that have to be taken into account.

Overall, composite system can be classified according to the number of layers applied together with their specific optical parameters. Includes the following:

1. Mono layer - just using one body (dentin) shade of composite, the level of esthetics is at bare minimal.
2. Bilayer - this includes body and incisal shades.
3. Tri-layer - body shade, incisal shade, and incisal shade (excellent esthetic outcome is seen)
4. Multi Layer - Body shade, incisal shade, and incisal shade and effects (opal effect or colours) Just mimics nature
5. Penta layer (Hist - anatomic layering) - Deep dentin - Superficial dentin, DEJ Liner, deep and superficial enamel and effects of the ultimate system to mimic. (Materials in this system to be used as the future hand).

The layering concepts evolved from a primitive approach to emulate nature - anatomy and optical properties. It is very important for the clinician to understand and master the various layering concepts to have a predictable success in direct bonding. The effects that can be achieved with layering is unmatched to the prefabricated composite veneers as shown in the images. The prefabricated in addition to provide a quite a few clinical steps and also and extensive armamentarium. Simplicity and predictability is undoubtedly the new driving forces to continuously improve the quality of the direct composite restorations.

Minimal Prep Veneers

Dr. Deopak Mahta
BDS, MDS, PhD
Research Scholar
Tonkun General School of Dentistry,
Sindhi

Prefabricated Veneers

The beauty lies in its similarity with nature.

Direct resin veneers are more affordable for many patients, but they present their own set of challenges. They are very technique sensitive and time consuming to do correctly. When considering the restoration of anterior teeth, with an eye on minimizing both preparation, the use of prefabricated composite veneers offers a material alternative that can yield a highly aesthetic appearance. Other advantages of this method include single appointment restoration, no lab fees, and restorations that can be easily maintained. A prefabricated, or direct, composite veneer that has a highly polished and anatomically correct facial surface provides an ideal alternative to the more labor-intensive direct composite veneers.

For the first time in the history of dentistry, it is now possible to work with prefabricated veneers and occlusions made from homogeneous nano-hybrid composite using modern laser technology.

The prefabricated veneers present an enormous potential in the following indications:

1. Single-Facial Restorations
   - large restorations with loss of natural tooth buccal anatomy/tissue
   - nonvital, discolored teeth
   - traumatized, discolored teeth (without endodontic treatment)
   - severe extended tooth fracture
   - extended tooth dysplasia or hypoplasia

2. Full-Smile Rehabilitation
   - moderate to severe discolorations (i.e., tetracycline staining and fluorosis)
   - generalized enamel hypoplasia/dysplasia (i.e., amelogenesis imperfecta [AI])
   - large serial restorations with loss of natural tooth buccal anatomy/tissue
   - attrition of incisal edges (after proper occlusal and functional management)
   - financial limitations
   - young patients with immature gingival profile

This advancement can be regarded as a milestone in restorative dentistry as it will contribute tremendously to direct composite applications, helping a larger number of our patients receive esthetic restorations that are more conservative and affordable.

In my opinion, today’s patients desire a new generation of anterior composite restoration to simplify the hand technique and to improve the quality of anterior restorations. Their best advantage is the thickness of the shell: just 3.5 mm

So we can use them like contact lens concept, in addition, without preparing the teeth.

The prefabricated veneer systems do not aim to totally replace the well-established layering techniques, but offer an alternative to direct framework composite veneers, which is feasible and time-consuming techniques.

Dr. Nikhil Bajajwala
MDS
Professor and Head
Department of Conservative Dentistry and Endodontics
Kalka Dental College, Meerut, U.P.

Member - American Society for Dental Aesthetics

"Build a man a fire; he will be warm the whole night,
Set the man on fire; he will be cold till eternity"

Times have changed and so has the philosophy of restoring teeth. We have moved a long way from EXTENSION FOR PREVENTION to CUTTING FOR IMMUNITY. The focus currently is on preserving biology and at the same time providing best aesthetics and function. Minimum or no prep, prefabricated composite veneers are no longer just interim treatment option for the same.

Directly layered veneers are artistically challenging and lab fabricated indirect ceramic veneers require multiple steps and an adequate tooth preparation for fabrication. Combined with aesthetic improvements, shade matching and technical craftsmanship, the bonding protocol has to be error-free for clinical success.

Prefabricated composite veneers (e.g., EDELWEISS VENEERS) are a far simpler and an equally aesthetic option to create life-like aesthetics. They demonstrate a balanced combination of the minimal intervention requirements and ability to achieve enhanced aesthetics of direct composites, along with the convenience and predictability of indirect restorations.

Fabricated with a laser sintering process, such veneers are perfectly baked for maximum degree of conversion to make it stable. The heavily filled resin along with glass infused surface makes it stable inside and highly polished outside.

The best aspect is the conservative nature. Seldom a margin is required as the blend is perfect due to the thin ceramix dimension. Also they permit internal characterization, finishing, and shading along with external polishing for perfect aesthetics. All this coupled with minimum or no prep, makes available many types, an all-animal surface which gives the best to bond preventing minimal bonding failures since they require a heavily filled composite rather than a resin cement for bonding.

"PRESERVE NATURE…RESTORE FUNCTION AND AESTHETICS…ENSURE IMMUNITY"
From digital planning to the mock-up and final restoration

Presentation of a modern work concept on the basis of a veneer fabrication
A report by Cyril Gaillard and Jérome Bellamy, Bordeaux/France

"Never promise what you can’t deliver!" Particular is when undergoing esthetically motivated dental treatment, patients should be given a realistic visualization of the final outcome to avoid raising undue expectations.

The demand for cosmetic treatments is also increasing in dental practices. Today's communication media provide patients with virtually limitless access to a wealth of information on this topic. And with it comes an increase in expectations.

This can pose a quandary to the dentist: patients want to be promised the desired result but they should not be given undue expectations in the run-up to the treatment.

The challenge

One of the challenges in day-to-day dentistry is the fact that the mock-up presented to the patient is produced from a wax-up and is often not consistent with the final outcome of the treatment (e.g., ceramic veneers). Several research studies have been initiated to overcome this problem. The SKYN concept is a result of this research.

The solution

The SKYN concept is based on a unique approach: it uses natural tooth shapes to create a mock-up directly in the patient's mouth. A wax-up is created on the basis of tooth shapes that reflect the anatomy and morphology of natural teeth in terms of height, width, curvature, and surface texture. The predictability of the result is ensured by using CAD/CAM technology.

CAD/CAM technology has brought about a revolution in dentistry. It enables the efficient manufacture of custom-made ceramic veneers with high accuracy and in a short period of time.

Furthermore, the restorations present an accurate copy of the esthetic wax-up. The different working steps involved in the SKYN concept are demonstrated below on the basis of a clinical case.

Clinical case

Preoperative situation

The patient visited the practice with a request that mainly concerned aesthetic criteria. She felt that her anterior restorations looked too yellowish and their shape did not fit. The restorations had been in her mouth for several years. They should now be replaced.

First, a series of digital pictures was taken to examine the situation more closely. The patient had a high smile line. However, the fact that her gums were visible when she smiled and her upper lip was asymmetrical did not bother her (Figs. 1a and b). The periodontal apparatus was healthy. The teeth did not show any signs of abnormalities either.

Fabricating the wax-up

The aim of the ceramic veneers was to give more volume to the teeth. The teeth should appear stronger and longer. Adjusting the facial proportions was the key to creating a harmonious appearance between the teeth and the smile on the patient's face. To create the wax-up, we used the SKYN models ("Anterior Model Set") as reference (Fig. 2). This is a reproduction of natural teeth. Upon request by the patient, the tooth selection was performed with the help of both the DSD program (Digital Smile Design) and the Visage/Trial design and visualization software.

Transfer to the mock-up

We created a silicone key of the vestibular surfaces with the help of the wax-up and applied a thin layer of composite material into the key using a spade (IPS Empress Direct, Fig. 3). Once light-cured (Bluephase®), the resulting composite veneers for teeth 15 to 25 were placed on the model and stabilized with wax (Fig. 4). Once the wax-up was finalized, it was duplicated and cast in stone. We created a silicone key from this model to assist the dentist in the preparation of the teeth. The silicone key was created in two steps using two different silicone materials, one with a high hardness (Silicon Dur, CereX MetaX) and the other with a low hardness (Silicon Express). The silicone key served to create the mock-up and the temporaries.

Teeth preparation and data transfer to the lab

The mock-up was inserted with the help of the silicone key and the surface texture was reworked using a polishing system (Porcelain®) (Fig. 5). The esthetic effect was validated with photographs and videos. The patient could also inspect the pictures (Figs. 6 and 7). Then, the teeth were prepared using a ball-shaped bur whilst the mock-up was in place (Coltene/Cat) (Fig. 8). This procedure meets the requirements of minimal invasive dentistry. An impression of the prepared tooth (Fig. 9) was taken using an Intraoral scanner and the temporaries were fabricated with the help of the silicone key.

Treatment planning

We recommended the patient to have the anterior region restored with veneers stretching from teeth 15 to 25 and advised her to have the premolars included in the restoration to achieve a harmonious appearance. The patient agreed without proposal. We drew up the following treatment plan:

1. Wax-up using composite veneers to reproduce the natural shape and texture of the teeth
2. Mock-up according to the SKYN concept using a light-curing nano hybrid composite (IPS Empress® Direct)

- 6 -
At this point, the dentist is required to take two optical impressions: first, an impression of the prepared teeth and, second, an impression of the temporaries in the mouth. In addition, a conventional silicone impression of the prepared teeth is taken. The dental technician will use this impression to produce a physical model to check the fit and contact points of the milled ceramic veneers.

Creating the final restoration

For the CAD construction, the two data sets (temporaries, prepared teeth) were superimposed in the software (Fig. 10).

11 — Veneers ready for placement

Subsequently, the shade of the temporaries was matched to the preparation margins. Each component was examined (preparation margin, thickness, contact points, etc.) separately before the data was transmitted to the milling unit for machining (Fig. 11). For the fabrication of the veneers, we decided to use the IPS Empress CAD Multi Blocks, which feature a built-in shade transition from the incisal to the incisal. We selected a block in shade A1. Each veneer was positioned in the block in such a way that the translucency of the incisal area matched our requirement. Once the veneers were milled, we checked their fit on the prepared dies of the model and assessed their contact points with each other. The surface texture was lightly reworked (Fig. 12). To achieve a highly esthetic result, we additionally characterized the veneers with stains and Essent materials (IPS Incolor®) before wafer-fusing them (Fig. 11).

Seating the ceramic veneers

At the try-in, the shade and fit were checked. All ten veneers showed an excellent fit in the mouth. The next step was adhesive bonding. Prior to the bonding procedure, a rubber dam was placed to isolate the treatment field and keep it

13 — Adhesive cementation of the ceramic veneers with a rubber dam in place

dry. As the natural teeth were not discolored, we were able to use a translucent luting composite (Variolink® Esthetic) to insert the veneers (Fig. 13). The veneers were seated using the following protocol:

14 — Close-up of the veneers after seating

- The restorations were etched with hydrofluoric acid for 60 seconds, rinsed under running water and dried with compressed air.
- The veneers were then conditioned with silane. A universal primer (Monobond® Plus) was applied, allowed to react for 60 seconds and dried.
- The prepared teeth were etched with 37% phosphoric acid (Total Etch®) and rinsed.
- Fluoride-releasing Excite® DSC adhesive was applied (without light-curing).
- The veneers, which were coated with luting composite, were seated.
- The luting composite was tack-cured for 1 to 2 seconds (Bluephase with Polywave LED) to facilitate the clean-up of excess luting composite.
- Final light curing of all veneers for 40 seconds
- Removal of the rubber dam and occlusal check. At the last step, the restorations were polished.

15 — Texture and teeth shape look natural and harmonize with each other.

16 — Lip appearance and portrait picture (below) with the completed restorations. The expectations of the patient have been met.

The ceramometal restorations show an appealing esthetic appearance in the mouth and harmonize beautifully with the smile of the young patient. The planned situation was accurately transferred to the final restoration (Figs 14 to 16).

Conclusion

Modern materials in esthetic dentistry allow pleasing results to be achieved with considerably more ease than before. It may be considered a substantial progress that the resulting restorations meet not only high esthetic requirements but also essential functional criteria. State-of-the-art planning tools, digital auxiliaries, CAD/CAM-supported manufacturing and promising materials lead to excellent results and ensure high patient satisfaction. However, never mind the CAD/CAM technologies, the skills and experience of a seasoned dental technician will remain indispensable.

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By doing this modification students could learn two concepts, 1) to make out the difference while chiselling through the plaster with dental stone, which is harder and to leave the pulpal floor in the layer of plaster with food colour, which is comparatively less harder and mimics the dentin. 2) to understand the colour difference of enamel and dentin while cavity preparation in pre-clinical exercises.

I wish it is a very useful tip and I suggest every teacher to follow this for better knowledge of students in pre-clinical curriculum.

ASK THE EXPERTS

**Dr Vivek Aggarwal**  
Assistant Professor  
Faculty of Dentistry  
Jamia Millia Islamia, New Delhi

1. **What are the alternative techniques to be used to anaesthetize a “Hot Tooth”, if IANB is not effective?**
   - The term ‘hot’ tooth is used when the patient is having a symptomatic irreversible pulpitis with moderate-to-severe pain. Studies have shown that amount of preoperative pain adversely affects the anaesthetic success rates of inferior alveolar nerve block (IANB). Therefore it is advisable to use additional anesthesia in the beginning of the management of ‘hot’ tooth.
     a. The first strategy would be to change the injection site. Higher injections, such as Gow-Gates injections, provides better success rate than a traditional IANB.
     b. Increasing the dose of anaesthetic solution to 3.6 ml can also improve the anaesthetic efficacy.
     c. Another option is to give a supplemental buccal infiltration of 4% articaine. Articaine, when used as a primary IANB injection, is not superior to 2% Lidocaine. However when given as a buccal infiltration, Articaine improves the anaesthetic efficacy.
     d. Next strategy would be using intraligamental PDL injections. The PDL injections can be given via a standard dental anaesthetic syringe. The trick is to insert the needle between the crestal bone and the tooth and forcefully inject the solution in to the periodontal space. If the clinician does not get a back-pressure, the injection shall not help.
     e. Intracrestal injection also improves the anaesthetic success rates. However it requires special equipment such as X-Tip system or Stabildent system.
     f. The last option is to inject the solution directly in the pulp under back pressure. The effect is almost immediate and works like a charm. However it requires a small opening in the pulp chamber. The procedure is painful and the patient should be warned to expect pain during the initial stage of the injection.

2. **Should we or shouldn’t we use intraligamental technique for supplemental pulpal anaesthesia? Can intraligamental technique be used as a primary injection technique?**
   - Intraligamental injection is a type of intracrestal injection. It works well in patients with ‘hot’ tooth. Two things have to be kept in mind while using this injection.
     a. To achieve a strong back pressure while injecting between the alveolar bone and the tooth.
     b. To inject solution in each root.
   - For example mandibular molar requires two intraligamental injections, one for each root.
   - Intraligamental injections, as a primary injection, have been successfully evaluated in patient requiring dental restorations. However in patients with ‘hot’ tooth, Intraligamental injection should be used as supplemental/additional anesthesia.

3. I was doing a single visit root canal treatment for a mandibular first molar, after cleaning and shaping, during master cone selection, the gutta-percha points were short by 2 mm in all canals, but on instrumentation beyond that point, the patient experienced severe pain, even though there was profound pulpal anaesthesia in all the other teeth. What may be the cause and what will be its management?
   - The duration of anesthesia of 2% Lidocaine is almost 80 minutes. If the patient starts to experience pain during the end stage of the treatment, repeat anesthetic injection should be given.

4. **If patient gives a history of allergy to Local Anaesthetic agent, what can be the alternative agents to be used?**
   - True allergic reaction to local anesthetic agents is very rare. Majority of the patients may wrongly identify syncope as anaesthetic allergy. However it is always advisable to perform an intracutaneous test while injecting the local anesthetic agent for the first time. The solution can be diluted to 1:10 with normal saline and a small amount (0.02ml) should be injected on the exterior surface of the arm.
   - In patients with true allergy to lidocaine, diphenhydramine can be an alternative. However use of diphenhydramine still requires extensive clinical research.
   - The last option is to perform the dental treatment under general anesthesia.

5. **What may be the cause of incomplete pulpal anaesthesia for mandibular second premolars, even though there is profound anaesthesia on the other adjacent molars?**
   - This is not true! Using IANB along with a buccal infiltration can provide success rates as high as 80% in ‘hot’ mandibular premolars. Nevertheless the chances for failure of mandibular anesthesia are high especially in molars and incisors. The reasons for this can be attributed to the activation of peripheral receptors by the action of inflammatory mediators.
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