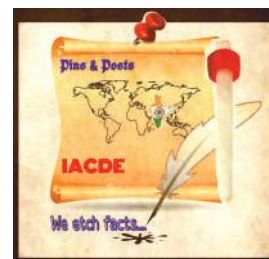




PINS & POSTS

AN OFFICIAL NEWS LETTER OF IACDE

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VOLUME - IV

September - December 2019 (12 Pages)

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NATIONAL CONFERENCE, NAVI MUMBAI

29th Nov 2019 to 1st Dec 2019

Navi Mumbai witnessed an eventful four days of two major events of the IACDE, the **2nd West Zonal Conference 2019 (Zone 1)** and **34th IACDE 2019 National Conference** after 14 years in the state of Maharashtra. The conference was held from 29th November to 1st December 2019 at **CIDCO Convention and Exhibition Centre**, Navi Mumbai.

The event saw a huge participation of all the post graduate students of the western zone as well as the delegates from all across the country, to successfully deliver their paper and poster presentations. A large number of traders and exhibitors also participated in the conference trade fair.

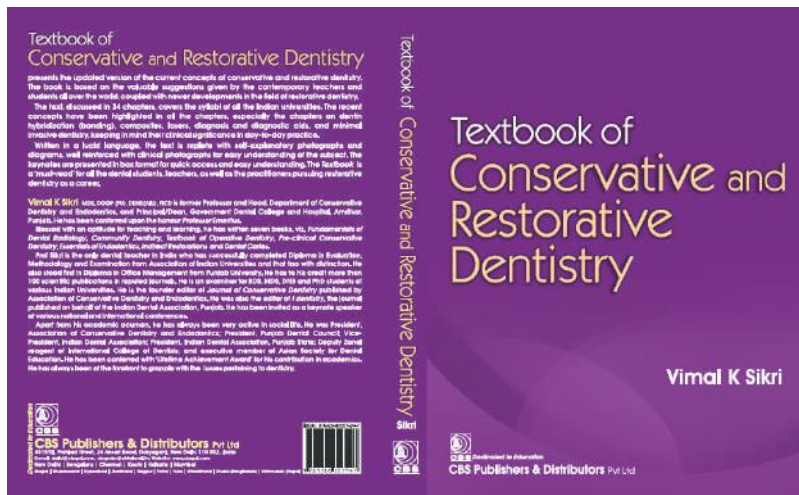
With the theme of the conference, **To ACE is to excel**, Aesthetics, Conservative and Endodontics- the most important triad of Dentistry; the scientific event proved to be an extravaganza of the most recent technological advances in the field of **micro restorative dentistry**, **micro surgical endodontics** and **digital smile designing** with emphasis on workshops, **live lectures** and meticulously curated pre conference courses by an array of international and national speakers.

The conference was graced by the presence of Dr. Dibyendu Mazumdar, DCI President, Dr. Bharat Shetty, DCI Vice President, Miss Ameesha Patel, Guest of honour and IACDE office bearers Dr Girish Parmar, Dr B Mohan and Dr P. Karunakar.

The occasion was also graced by the dignitaries of our speciality, the Dental Council of India and MUHS.

This benchmark conference under the leadership of the Organising Secretary, Dr. Vibha Hegde and her efficient team raised the standard of excellence.





Dr Vimal Sikri The text book of Conservative and Restorative Dentistry by Dr.VimalSikri is an updated version of the present concepts of Conservative and Restorative Dentistry. The book is conceived based on valuable suggestions by fellow teachers and students all over the world, coupled with newer developments in the field of Restorative Dentistry.

The book is expanded in 34 chapters covering syllabi of all the universities. The recent concepts are highlighted in all the chapters, especially chapters on Dentin hybridization (Bonding), Composites, Lasers, Diagnosis and Diagnostic aids and Minimal invasive dentistry, keeping in mind their clinical significance in day-to-day practice.



Congratulations to **Dr.Balagopal** on being appointed as the President of Indian Association of Forensic Odontology and Secretary of Indian Board of Forensic Odontology.



Dr.IdaDe Noronha de Ataide, Professor and Head of Department Government Dental College Goa, has been awarded with Fellowship of Academy of Dentistry International at the ADI Global Conclave, held from 10th-12th December 2019 at Chennai, India.



Dr.Neelam Mittal, Professor, Faculty of Dental Sciences BHU, Varanasi, has been awarded with Fellowship of Academy of Dentistry International at the ADI Global Conclave, held from 10th- 12th December 2019 at Chennai, India.



Dr Vineeta Nikhil, Head of Department and Director PG Studies, Subharti Dental College, Meerut was appointed as President for "Global Outreach Society of Endodontics" for Meerut 2019-20 by Global Outreach Medical and Health Association.



Dr.MahimaTilakchand, Professor at SDM Dental College, Dharwad has won the award for the most proactive academician in Endodontics at the 6th Guident Dental Academic Excellence

Award 2019 on 29th December 2019 at New Delhi.



Annual Conference from 15th-17th Nov, 2019 at Ahmedabad, India.

The Department of Conservative Dentistry and Endodontics under her leadership was awarded as the Most Proactive Department of Endodontics in India at 6th Guident Dental Academic Excellence Award 2019 on 29th December 2019 at New Delhi.

The chairman and members of credential committee of Indian Society of Dental Research presented **Mr V. V. S. Vamsi Krishna** student of Vishnu Dental College Bhimavaram A.P with "**Prof . C. V. SUBBA RAO AWARD**" of Indian Society of Dental Research for scoring highest mark in CONSERVATIVE DENTISTRY in final BDS at 32nd ISDR

CASE REPORT WINNER LIST 2019

Sl.No.	Winner Name	Title	College Name
1.	Dr.Arya AS Shashikala K	Post Endodontic management of a critically traumatized Central Incisor :An extreme save	D.A.P.M R.V Dental College. Bangalore
2	MahalakshmiNandakumar MalliSureshbabuNivedhitha	Concentrated Growth Factor as an Ingenious Biomaterial in Regeneration of Bony Defects after Periapical Surgery: A Case Report	Saveetha Dental College
3	Dr.MeetkumarDedania Dr.Nimisha Shah	3D Printing: A Revealing Pathway To An Unpredictable	K. M. Shah Dental College & Hospital,
4	Dr.SiddharthNautiyal Dr.Vineeta Nikhil	Case Report on unpredictable anatomy of Mandibular third molar	Subharti Dental College
5	Dr.Neelam Mittal Dr. Prasad Patel	Spiral CT aided endodontic management of maxillary molar with four roots and four canal: a case report	Faculty of Dental Sciences, Banaras Hindu University
6	Dr.Swathi.A.M Dr.Kavitha.M,	Concentrated Growth Factor (CGF), Platelet Rich Fibrin (PRF), Mineral Trioxide Aggregate (MTA) As Direct Pulp Capping Agents - Case Reports	Tamilnadu Government Dental College And Hospital, Chennai
7	Dr Meghna Kothari Dr AnkitArora	Diagnosis of Enigmatic Non-odontogenic Bony Pathology- Do Endodontist Have Any Role?	K. M. Shah Dental College & Hospital
8	Dr. Aisha Habeeb	Clinical Management of Fractured Maxillary Central Incisors with Reverse Overjet Malocclusion - A Case Report	Sri Sai College of Dental Surgery, Vikarabad
	Dr.Kathiravan.S Dr.ShakthiPriya.R	Management of Immature Non Vital Tooth Using Concentrated Growth Factor (CGF) – A Case Report	Tamilnadu Government Dental College & Hospital
	Dr.NidhiPisal Dr.Nimisha Shah	Custom Shield to the Rescue: A Case Report	K. M. Shah Dental College & Hospital

Composite Finishing Kit

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MESSAGES EDITORIAL



Dr. Mamta Kaushik
Editor

A sunset is nothing more and nothing less than the backside of a sunrise."

-Craig D. Lounsborough

In the long, upcoming journey of the newsletter; my 04 years as editor may be of little significance; but I shall always take pride in being the first editor and be thankful for the enriching experience.

In the last edition of my sojourn, I desire firstly, to thank all my readers and critics, whose appreciation has, with unexpected celerity, has made me complete 04 years editing this newsletter for IACDE; secondly, to apologize for certain errors and misprints; and, thirdly, to explain one or two misconceptions. There has been no intentional overlooking or any promoting of anyone or any event in the four years of our publishing. We have strived hard to maintain a neutral and unbiased reporting of events reported to us and filtered the genuineness as well as uniqueness/relevance to the newsletter.

We have an intellectual as well as moral responsibility, which we have tried to uphold.

My name for the editor was suggested by Dr Karunakar and Dr Murli Mohan during their Presidentship. It was not easy to establish a newsletter from scratch. However, I was blessed to have the guidance of senior fraternity throughout my tenure. Dr Mohan B, our Secretary has been a friend and supporter. He is matchless in his enthusiasm and energy. I have depended on him regularly for inputs and backend support.

An editor is only as good and bad as his/her team. I was extremely fortunate to have fantastic seniors to guide us and a team of enthusiastic youngsters.

We have tried to include a lot of parameters in the newsletter - from informal academic columns to entertainment and covering life events as well as academic programmes in our field.

We got out ISSN No. for the online version and the numbering for the print version is under progress.

I would like to put on record, that I could not have achieved even half of the responsibility of the newsletter without the steady support of Dr Neha Mehra, our Associate Editor. She is incessant, incomparable and astonishing with her efficiency. My family and friends are my constant and I am blessed to have them standing silently, invisibly behind me - always.

I do not know if we were able to meet the expectations of our readers, but I have satisfaction in stating that we have tried our best.

I pay respect to all members of our association who are responsible for bringing it up to this height of glory.

I am sure under the aegis of Dr Mahima, the newsletter will touch newer milestones. I am certain she shall carry on the legacy beautifully. I wish her and her team the best and all the joy this newsletter offers.

This is not the end. It is not even the beginning of the end. But it is, perhaps, the end of the beginning.

Sir Winston Churchill

PROLOGUE



Dr. Mahima Tilakchand.
Editor.
Pins and Posts.
Prologue:

With great pride and privilege, I feel humbled, taking over as the Editor of PINS AND POSTS, the esteemed newsletter of IACDE. I sincerely thank the members of IACDE for bestowing their constant faith and support in me. It is a very challenging task, especially when the baton is passed on from a dynamic and meticulous past editor Dr. Mamta Kaushik.

PINS and POSTS is the voice of IACDE members. We not only have excellent clinicians and academicians but also multi talented and young achievers in our society, as we have seen through the years. My team and me will strive to ensure that this newsletter acts as a strong brand ambassador of IACDE, as well as of its each and every multi talented member.

In a nut shell, with support from all teachers, colleagues, friends and IACDE family, will aim at achieving:

A Newsletter that is not only for newsmakers.

A News letter which will inform and inspire at the same time.

A News letter which will be a memoir for posterity.

ENDODONTIST AND BEYOND



Dr. Ashwini Santosh
Reader
VS Dental College and Hospital
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Bengaluru

1. From an endodontist to wildlife photographer, that's a huge transition... how did it happen?

My stint with professional photography started during my internship in R.V. Dental College, Bangalore. Dr Dinesh HOD, Department of Orthodontics insisted that I attend a dental photography workshop and also lent me his DSLR. The workshop was conducted by, the late Dr Myla Vahan an Orthodontist and excellent wildlife photographer.

During the first year of my post graduation we were instructed to get cameras for documentation. I took the advice of Dr Dinesh and bought my first DSLR camera Nikon D 70 and my first lens Sigma for Nikon 105mm Macro. That was the only equipment I owned and my world from then on for the next three years was only macro world!

I Started macro photography with all varieties of insects caterpillars and flowers, that's when I also realised that the best portraits could be captured by a macro lens!!

2. Have you taught yourself or have you received any formal training?

Initially I tried to explore the nuances of photography by myself in vain. I did manage my post graduate documentation with just auto mode!

Later on I subscribed to the online video classes conducted by another extraordinary wildlife photographer Mr Sudhir Shivaram.

I was thoroughly trained in the intricacies of photography in South Africa by Dr Myrishva Vyas yet again an orthodontist, who is the Official mentor for Nikon India and Africa geographic.

This was an ultimate motivation for me which encourage me to go further.

3. Are your equipment/lens used in wildlife photography any different from dental photography?

My equipment for dental photography comprises of Nikon D 500 body (earlier I used Nikon D90), lens 105mm macro sigma for Nikon, Nikon R1C1 twin flash kit, reflectors and contrasters from smile Line by Stylo Italiano Italy.

Essentials of wildlife photography equipment is more elaborate compared to dental photography, I have a minimum of two camera bodies Nikon D500 body with Nikon 200 to 500mm lens attached to it, Nikon D90 body with 70-300 mm lens attached to it.

Apart from these you need Extra batteries, memory cards, XQD card, hard drives, MacBook Pro, rain cover for lenses and cameras teleconverter which are devices that fit between the camera body and lens and gives a more focused and close up images.

One solution for my comfort and my camera support is the beanbag which cradles the camera with ease.

4. Who is/are the photographers that inspired you the most and why?

To name a few of my favourite photographers

Nick Nicolas, who is a national geography photographer who features a lot of his work in black-and-white, most of his images are shot in African wild.

Nick Brandt, who explores various mediums with photography and posts a strong conservation message.

Joel Sartori, who is known for his photo ark project, a 25 year project to create awareness about threatened species of earth.

Sudhir Shivaram, from Bangalore is another inspiring photographer who is the founding member of India Nature Watch who also conducts online classes on photography.

Amogha Varsha, another Bangalore-based photographer and filmmaker who works with BBC and National Geographic, his recent film wild Karnataka is based on the biodiversity of Karnataka,

narrated by Sir David Attenborough is truly inspiring and motivating for all wildlife enthusiasts.

5. From your point of view, what makes a good picture?

A good image comprises of simple, not distracting background to highlight the subject to be captured, use of dramatic natural light during sunset or sunrise or patterns of nature which works in favour of bringing out an emotionally charged photograph.

Which strives to capture the essence of the moment be it behaviour, interaction or dramatic skies. This brings out an image with a deeper meaning, with a strong visual impact for the observer.

Most importantly respect the subject you're shooting.

8. Your pictures are very colourful, is there any particular software that you use for post processing your pictures?

There are specific softwares like Adobe Photo shop, Light room and Aperture.

I am yet to master the art of Post processing the images.

What I post online are JPEG images which have undergone minor editing on my MacBook Pro.

9. What kind of planning goes into photographing wildlife? How much time do you spend in wildlife to get the kind of pictures you get?

Planning for wildlife photography with respect to equipment starts with two camera bodies, wide angle lens, telephoto lens, macro lens and teleconverters

The need for a minimum of two camera bodies one having a wide angle lens to capture the animals with their habitat, landscapes and another body with a telephoto lens to capture the intricate details/portraits of the subject in interest.

Memory card specially XQD format which has blazing fast read/write speed and high storage capacity, two 4TB hard drives for storing all the images shot after each safari, MacBook Pro with maximum memory and Retina display!

Apart from this you need extra batteries and memory cards rain cover for the lens camera and yourself and insect repellents.

10. Do you have any suggestions for aspiring photographers who want to enter into this specialty of photography?

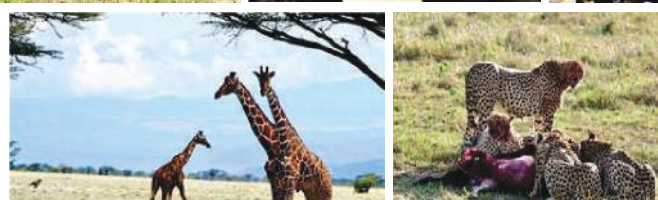
Chance favours the prepared mind.

Golden rule to follow in wildlife photography whether you want to capture a herd of spotted deer or a tiger or pride of lions is patience. Apart from that, you need to do a bit of research about the location, the wildlife, their habit and habitat, their character/behaviour, their movement that is likely to be present at the moment.

Stop focusing only on megafauna!

12. Would you ever want to leave dentistry and do photography full time?

It's a big bold capital YES!!





RESTOLASE

A TWO-DAY SYMPOSIUM ON ESTHETIC AND LASER DENTISTRY

21ST AND 22ND OCTOBER 2019



"RestoLase" a two-day symposium on Esthetics and Laser dentistry was conducted on the 21st and 22nd of October at Coorg Institute of Dental Sciences, Virajpet, Coorg. The resource persons were Dr.Chandrashekhara Yavagal from Hubli and Dr.Shibu Sreedhar from Cochin.

The symposium was a huge success with 120 delegates from both Karnataka and Kerala. The attendees included

academicians, private practitioners, house surgeons and postgraduates.

Dr.Chandrashekhara Yavagal lectured on "Contemporary Applications of Lasers in dentistry" covering the basics of laser physics and the numerous clinical application. Dr.Shibu Sreedhar's lecture was on "Tips, Tricks, Techniques" in Composite resin restorations which was followed by clinical demonstrations.

On the second day clinical management and application of various treatment modalities were discussed, followed by "Hands on Course", both on Lasers and Esthetic dentistry.



BASIC AND ADVANCED GEPEC COURSE VISHNU DENTAL COLLEGE BHIMAVARAM A.P

Dr.Girija S Sajjan, Professor & Head, Dept of Conservative Dentistry & Endodontics, and team from Vishnu Dental College, Bhimavaram, A.P were trained in Basic as well as Advanced GEPEC Course (Global Engineering, Promotion & Education Collaborative Programme) certified by Global Engineering, Promotion & Education Collaborative

Dr Jacques Verre and Dr Wolf from Germany were the course moderators. The highlights of the course were Basic series of High Clinical Skill and Awareness of the basis for- Precise operating control, absence of stress during treatment of patients, judgments based on human-centered conditions in the field of Health Care

The course is run by ADCERRA – Auroville Dental Centre education Research Rural Action trains Dentists and health workers on (0) ZERO Concepts in Dentistry. (0)ZERO Concepts is an idea of well being for both the patient and the practitioner.

The set up consists of pd patient support and pd instruments. Basic training was on models and oral simulators. Advanced course was on patients in balanced posture.



THE CURVE"

WORKSHOP ON MANAGEMENT OF EXTREMELY CURVED CANALS

The Department of Conservative dentistry and endodontics at Oxford Dental College, Bengaluru conducted a CDE programme and one day workshop for post-graduate students by Dr.Jaydev, on the management of extremely curved canals on 06th December 2019.



INAUGURAL CEREMONY OF YEAR LONG CENTENARY CELEBRATIONS OF COUNTRY'S PREMIER INSTITUTE DR. R. AHMED DENTAL COLLEGE AND HOSPITAL

100 YEARS OF DENTISTRY IN INDIA

Dr. R. Ahmed Dental College & Hospital is the First dental institute, not only of our country, but also of the entire South East Asia. It was established in 1920 by the selfless sacrifice and untiring effort of the visionary and legendary Padma Bhushan Dr. Rafiuddin Ahmed (24th Dec. 1890 – 18th Jan. 1965).

To commemorate 100 years of its existence and 100 years of Dentistry in India, various yearlong programs have been organized within the State of WB as well as in different parts of the country.

A Centenary Celebration committee was formed with Prof. Dr. T.K. Giri as Organizing Chairman and Prof. Dr. H.D. Adhikari, HOD, Dept of Conservative Dentistry & Endodontics as its Organizing Secretary.

The celebrations began by paying Homage to Dr.R. Ahmed followed by lecture by Prof. Dr. Mahesh Verma, VC, Guru Gobind Singh Indraprastha University and Ex-Principal, Maulana Azad Institute of Dental Sciences and a few scientific deliberations by renowned speakers in the Auditoriums of the College.

The centenary program was inaugurated by Smt. Chandrima Bhattacharya, Hon'ble, MOS, Dept of Health and FW, Govt of WB.

The occasion was graced by a number of VIPs such as Sri Biman Bandopadhyay, Hon'ble Speaker of WB Legislative Assembly; Sri Sudip Bandopadhyay, Hon'ble MP, Ex MOS, Dept of Health, Govt. of India and Chairman Rogi Kalyan Samity, Dr. Santanu Sen, Hon'ble MP Rajyasabha and President of IMA and other Cabinet Ministers and MLAs of State of WB. Among other dignitaries were President, President-Elect & Secretary IDA Head Office and Secretaries of All India Associations of the eight specialities of Dentistry, including Dr. B. Mohan).

Sri Sudip Bandopadhyay inaugurated the newly constructed college guest house, unveiled the foundation stone for Foot-over bridge connecting the two campuses of the college

and a proposed unit under Dept. of Oral and Maxillofacial Surgery comprising of forty indoor beds and Post-Anesthetic Care

In the Inaugural Ceremony, Dr. Arun Nayyar, an ex student of the college & an US based practitioner was honoured with the prestigious "R Ahmed Ratna Award" and few other distinguished Alumni including Prof. (Dr.) U.K. Das, Ex-HOD & PG Teacher, Dept. of Conservative Dentistry and Endodontics of Dr.R.A.D.C&H. and GNIDSR, Kolkata, were also felicitated for their contribution in dentistry.

Students' programs in the name of "FESTUM" were organized on 11th & 12th Dec'19 and the 55th Annual Conference of IDA WB State on 14th & 15th Dec'19 along with its two

Pre-Conference courses on 13th Dec'19, were organized successfully in the same venue.

Prof Dr. Prashant Bhasin of our specialty is one of them who conducted it on "Endodontic Retreatment. Undergraduate students, Junior doctors, Postgraduate students also showcased their talents through poster & paper presentations and scientific exhibits.

The programs for all the days ended with Cultural Programs by the students of all five Dental Colleges of the state and also by invited artists along with a colorful Banquet. The entire program was unique of its kind in the annals of Dentistry in India.





PANEL DISCUSSION REATTACHMENT PROCEDURE



Dr. Sonali Taneja

Professor & HOD
Conservative Dentistry and Endodontics
ITS Centre for Dental Studies and Research
Muradnagar Ghaziabad

Reattachment : Biological Quick Fix For Fractured Teeth

In the era of aesthetics and time management, re-attachment of a preserved coronal fragment is a practical alternative to placement of conventional composite resin restorations in the management of fractured anterior teeth.

Advantages

- Immediate esthetics
- More reliable outline form
- Possibility of maintaining the occlusal function
- Absence of differential wear
- Lowered economic burden
- Excellent time resource management

Disadvantages:

- Change in color due to inadequate rehydration of the fragment
- Possibility of detachment of the fragment.

The important considerations for the operative procedure are -

- ✓ the technique of restoration
- ✓ the adhesive mechanism and material used
- ✓ hydration of the tooth fragment.

In various studies different preparation techniques of the remaining tooth or fragment has been shown like bevel, circumferential chamfer, buccal chamfer, overcontour, internal dentin groove or no preparation.

If the fracture line is supragingival, the procedure for reattachment will be straight forward.

In case of subgingival fracture line, invasion of the biologic width has to be taken into consideration.

As to the materials used for bonding, different studies use different types of adhesive systems (multimode, total-etch or self-etch) and different intermediate materials (conventional composite resin, flowable composite resin, resin cement or glass ionomer cement).

The bond strength has shown to be affected by maintaining adequate hydration or even rehydration of a dehydrated tooth fragment before the restorative procedure.

Dentists still seek consensus over which preparation method and which materials are best to achieve the best results using the fragment reattachment technique.

Systematic reviews by de Sousa AP et al (2018) and Garcia FC et al (2018) concluded that simple tooth fragment reattachment technique without additional preparation, using an adhesive system associated with an intermediate composite with good mechanical properties can be considered the currently preferred technique.

Bearing in mind that the success rates of reattached fragments has been seen to be upto 90 % and it is a simple, fast, affordable, and esthetically predictable technique, tooth fragment reattachment should always be the treatment method of choice when the fragment is present and is in good condition.

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Dr. Kantheti Sirisha,

Professor,
Department of Conservative Dentistry and Endodontics,
GITAM Dental College & Hospital

Reattachment – In Favour

Crown fractures constitute one of the most common type of dental trauma. Reattachment of fractured fragment is considered as most preferable alternative than other restorative options. Dental tissue affected, amount of tooth structure lost, type of fracture, need for

endodontic therapy, availability of tooth fragment and adaptability of fragment affects the treatment plan.

Crown and crown-root fractures can be managed either by reattachment of the fractured fragment or restoration of the tooth. Advantages of reattachment include conservation of tooth structure, preservation of color, translucency, texture and shape of the original tooth, less chair time and economical because of smaller number of visits.

Reattachment can be done by using a range of techniques like simple (no preparation), bevel, enamel chamfer, v- shaped double chamfer, internal groove, over contouring etc. Variations of these techniques were studied combinations like no preparation associated with chamfer after reattachment, fragment dentin removal associated with chamfer after reattachment, bevel associated with over contour and groove associated with shoulder. Various materials used for reattaching comprise conventional composites, flowable composites, glass ionomer cements, resin cements and dentin bonding agents. The adhesives can be of total-etch, self-etch or multimode categories. The prognosis of reattachment seems to be guarded in case of crown-root fractures.

As per earlier studies, a simple reattachment without preparation regained 50% of the fracture resistance whereas additional preparations at the fracture line resulted 60% in its strength. Internal groove preparation in the teeth prior to reattachment was able to regain 89.2% of their resistance whereas over contour technique promoted a 91.4% recovery of its fracture resistance. Based on existing literature the tooth fragment reattachment using an adhesive system is considered as a preferred treatment of option due to its high success rate even after three years.

Suggested Reading

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Dr. Paromita Mazumdar

Prof and Head of Department
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Kolkata

Dental trauma is a public health problem because of its frequency, impact on economic productivity and quality of life which affects mainly youngsters and schoolchildren, and its prevalence has been reported to be ranging from 7.4% to 58% with boys being affected more than girls. The most commonly involved teeth are the maxillary incisors. The success rates vary as much as the circumstances causing the trauma varies e.g. falls, sports injury, road traffic accident, foreign body striking teeth with a propensity for repeat trauma.

Conventionally, composite restorations and/or post-and-core supported prostheses are the most commonly used treatment modalities. Fragment reattachment has become popular owing to apparent simplicity of the procedure but on the contrary adhesive techniques are transitional, skill dependent and technique sensitive. Fractured fragment reattachment is not a final treatment and may require new clinical intervention for esthetic, biological and functional adjustments over time. Limited data are available regarding the strength of reattached bonded fragments. Protrusive occlusal movements of the mandible are extremely destructive to reattached fragments. Reattachment is frequently followed by potential sensitivity of the tooth and need for endodontic treatment, pulp calcification, recurrent decay, gingival recession, change in color of natural tooth and detachment of fragment. The treatment and prognosis differs according to patient's age, level of fracture, amount of enamel available for bonding, wetness and diameter of dentinal tubules, possibility of bacterial contamination of dentin and pulp, availability of fragments for proper apposition and stability of the same. The failure of the procedure arises on account of the media used to store tooth after fracture, type and technique of material used for adhesion, flow of the materials and protection of pulp dentin complex.

Reattachment is contra indicated in cases where fracture fragments are not intact, if margins are not preserved, if there is soft tissue injury or swelling, bleeding, difficulty in isolation, traumatic occlusion, difficulty in achieving occlusion or sub gingival extension, which are the conditions commonly associated with fracture. Reattachment of fracture fragment is a quick response and serves to take care of immediate esthetic, biological, functional and emotional needs in young patients but requires continuous monitoring, additional clinical procedure to reinforce the reattached fragments and evidence on long term follow up is required to promote reattachment as a proven and predictable clinical method.



Dr. Neha Mehra

Reader
Army College of Dental Sciences
Secunderabad

Dental fractures are classified by the World Health Organization as uncomplicated (cracks and/ or enamel and dentin fractures) or complicated (with pulp exposure and/or periodontal involvement).

Coronal fractures are the most commonly occurring dental injuries that result in the loss of a fragment or complete tooth structure and may require less complex treatment.

One of the most acceptable treatment protocols is reattachment of the fractured tooth segment. Reattachment provides perfect reproduction of the natural dental colour, optical properties (such as translucency, opalescence, and fluorescence), shape, and surface texture. Adhesive reattachment involves minimal tooth reduction, and triggers a strong emotional effect since the patient retains his/ her tooth.

However, there are certain disadvantages of this clinical technique. During reattachment procedure, there may be a misfit of the fractured segment that may reduce the fracture resistance of the tooth and it may not be able to serve the functional demands of the patient.

Simple reattachment recovers approximately 37–50% of the tooth fracture resistance. This procedure is feasible because retention relies on hybridization. Similar bonding results are achieved with the use of adhesives. Therefore, composite restorations may provide a more permanent treatment option.

In a few clinical situations the reattached fragment may exhibit a lighter shade (appear white) than the remaining tooth. This occurs when the fragment undergoes dehydration and collagen breakdown due to improper storage medium.

Dentin hydration is also a necessity for optimal bonding. If a tooth fragment is maintained in a dry state for more than one hour, it will achieve lower bond strength and must be rehydrated for at least 30 minutes before bonding.

The probability if the patient storing the fractured fragment in suitable medium to avoid dehydration is remote; hampering the esthetic and functional success of the procedure.

Complete rehydration and colour match usually occurs after one week but could be delayed by several months or may never occur. It is therefore important to clinically evaluate the fragment before proceeding with reattachment procedure.

Another limitation of the procedure is that the reattached fragment may de-bond from the fracture site. This occurs due to repeated trauma, non-physiological use of tooth, inadequate isolation or contamination with gingival fluids or blood during reattachment procedure.

The prognosis of the reattachment procedure is very dependent on the location of the fracture. In conditions when the fracture line is supragingival or equigingival the treatment would have a good prognosis if the fragment was preserved well. However, when the fracture line extends subgingivally the treatment may have a questionable prognosis since achieving complete isolation is difficult.

Although the reattachment is an inexpensive, conservative, faster treatment option providing predictable esthetics, its disadvantages of improper shade match, fragment misfit and debonding should be assessed clinically before formulating the treatment plan.



ERRATUM

PINS AND POSTS VOL 4, ISSUE 2

Under the panel discussion section,

Dr. Rubi Katakai

Professor,
Department of Conservative Dentistry and Endodontics,
Regional Dental College, Guwahati.



A skilful combination of CAD/CAM and manual work

Modern materials and manual skills skilfully combined to achieve long-lasting esthetic restorations

A report by Aiham Farah, Dubai and Anas Aloum, Abu Dhabi/both United Arab Emirates

The aim of a restorative treatment is to re-establish the esthetic properties of the tooth structure to ensure that it blends in with the shade and vitality of the natural surroundings whilst using the least invasive methods possible. Severe discolourations often aggravate the initial preoperative situation in addition to misalignments, damaged teeth and/or existing restorations. Extensive reconstructions require the combination of modern materials and technologies with manual skills. Outstanding results can be achieved by carefully selecting suitable materials, masking discoloured preparations and implementing an optimum preparation design. The success can be seen in restorations that remain stable and intact over many years.

This report describes the restorative treatment with a lithium disilicate glass-ceramic – a material that features excellent long-term clinical properties. A CAD/CAM manufacturing process was chosen to enhance the efficiency of the treatment. After a try-in in the blue (non-crystallized) state, the restoration was finalized and customized by hand in the laboratory to provide a final result with excellent esthetic properties.

Questions to explore

1. How can CAD/CAM technologies be combined with manual skills to achieve outstanding restorative results?
2. How to select suitable materials to mask discoloured substrates and take advantage of an intelligent app (SNA) to select an appropriate shade and translucency?
3. How can severely discoloured tooth preparations be masked and their shade matched to the shade of the neighbouring teeth?

Preoperative situation

A 29-year-old female patient consulted the practice with the wish to have a natural beautiful smile. She was dissatisfied with her upper anterior restorations and the appearance of the surrounding soft tissue. She wished for a functional and esthetic solution (Fig. 1). Photographs of the oral situation were taken during medical history-taking and the patient's expectations

were discussed. The intraoral examination revealed severe discolouration, devitalized teeth and poor esthetics. In addition to an inappropriate shade, the upper anterior crowns and veneers were out of proportion, causing an inharmonious smile line (Fig. 2). An X-ray confirmed the suspicion that the endodontic fillings on the two central incisors were defective. The lateral incisors had been repaired with large composite restorations. Due to the inadequate contouring of the underlying composite, the patient showed clear signs of periodontitis in the area of all four anterior teeth.

An impression of the situation was taken. The study model provided a physical reference that was used to mark the relevant lines and planes, align the longitudinal axes, adjust the lengths and implement cosmetic optimizations in line with the digital design concept (Fig. 3). A diagnostic wax-up was created. Then, a silicone key was produced from the wax-up for the fabrication of the temporaries. The silicone key also served as a guide in the preparation of the teeth.

Preliminary treatment

The existing restorations on the upper anterior teeth were removed. Teeth UR2 to UL2 were prepared with a rounded shoulder of 1 to 1.2 mm and equigingival margins, according



01 - Initial appearance of the smile



02 - Preoperative oral situation with periodontitis, discoloured restorations and devitalized teeth. Inadequate esthetic characteristics of the individual teeth and inharmonious smile line



03 - Smile design with newly proportioned length and width of the incisors in line with the digital smile design concept

to the preparation guidelines for all-ceramic crowns. The depth varied slightly due to the shade of the preparation and degree of discolouration. The dark discolouration on the dentin of the right central incisor required a deeper preparation in order to be able to mask the shade of the remaining tooth structure (Fig. 4). Teeth UL3 and UR3 were prepared for veneer placement with an equigingival chamfer, 0.5-mm buccal reduction and 1-mm incisal reduction (Fig. 5). An impression of the resulting situation was taken using A-silicone and then direct temporaries were created with the help of the silicone key (Fig. 6). The periodontal situation was monitored over the following two weeks. Gingival healing was uneventful. The temporary restorations allowed the final result to be visualized. At this stage, intraoral adjustments could be made to achieve a harmonious symbiosis between the lips, smile and face.



04 - Crown preparations of central and lateral incisors and veneer preparation of both canines



05 - A deeper preparation was required in the buccal area of the upper central incisor on the right because of the pronounced dark discolouration present in that area compared with the neighbouring tooth



06 - Direct temporaries created on the basis of the smile design wax-up

Shade selection

The desired tooth shade and the existing shade of the tooth preparations were determined under daylight conditions. When photos of the teeth were taken, darker and lighter shade tabs were held against the natural teeth, the flash was turned off and all photos were taken from a similar angle. These photos were also very helpful in the fabrication of the restorations in the laboratory (Figs 7a and b).

Material selection in favour of clinically proven properties

The decision fell on a tried-and-tested glass-ceramic that offers long-term clinical stability along with high strength and impressive esthetics: IPS e.max® lithium disilicate. This material is suitable for both conventional press methods and CAD/CAM applications. It can be processed to provide fully anatomical restorations or restorations that can be customized with veneering ceramics. As this case had already taken us onto a digital route with the 2D smile design software, we decided to continue with the digital option. The situation was digitalized with a D2000 scanner (3Shape). The restorations were designed in the software in line with the proportions previously established and then ground from IPS e.max CAD blocks using a Zenotec select hybrid CAD/CAM machine (Fig. 8). The IPS e.max blocks were processed in their crystalline inter-



07a - Determining the shade of the lower teeth



07b - Selecting the shade of the tooth preparations using the IPS Natural Die Material shade guide



08 - Lithium disilicate block (IPS e.max CAD) in the blue intermediate crystalline stage on the e.matrix holder (for the Zenotec select milling machine) ready for wet machining

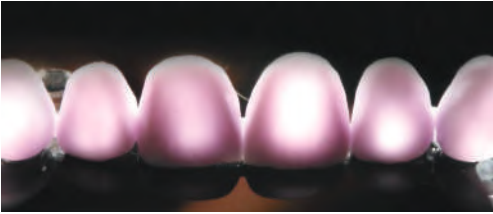
mediate stage ("blue" phase), which is optimally coordinated with the grinding process, providing highly accurate results. Subsequently, the restorations were crystallized in a conventional ceramic furnace, in the course of which they acquired their final material properties (e.g. shade). Once crystallized, the strength of the material increases up to 530 MPa (mean biaxial strength). IPS e.max CAD blocks are available in different translucency levels, ranging from medium opaque to highly translucent (MO, LT, MT, HT), and in two opalescent shades. The material can be used to create frameworks for veneering or to fabricate monolithic



restorations (e.g. veneers, inlays, crowns and three-unit bridges). It is also indicated for hybrid abutment restorations. IPS e.max CAD is suitable for an unrivalled wide range of indications for CAD/CAM glass-ceramics. It is even suited for minimally invasive restorations such as thin veneers (0.4 mm) and adhesive crowns (1 mm).

Block selection with an app

In terms of colour saturation, shade 1M2 (Vita 3D-Master) was ideal and would have come closest to the A1 shade (A-D shade guide). However, the brightness in the central third was higher than that of the IPS e.max CAD LT block in shade A1. And yet, the colour saturation of a brighter block (e.g. LT BL4) would have been too high for the veneer. The IPS e.max CAD HT (High Translucency) blocks in the Bleach shades might have been a suitable choice. However, using



09 - Restorations in transmitted light prior to crystallization (blue stage): note the differences in material thickness



10 - Try-in of the restorations in the blue intermediate crystalline stage

highly translucent materials in restorations with slightly increased wall thicknesses always entails the risk that the restoration may be less bright and the chroma could be higher than the actual shade. For these reasons, the HT block was not seen as ideal for the crowns on teeth UL2 and UR2.

The IPS e.max Shade Navigation App (SNA) was used to find the most suitable material. This app takes all the factors affecting the shade of a restoration into account to identify the block that is best suited to achieve the given shade. The app is fast and easy to use. You only have to enter the data pertaining to the case at hand. The app delivers an excellent result.

Initial input for the crowns:

- Desired tooth shade: 1M2 (=A1)
- Indication: crowns for UL1, UL2, UR1, UR2
- Preparation shade: ND2
- Material thickness: 1.2 mm
- Material: IPS e.max CAD

Based on the data entered, the app recommended an IPS e.max CAD block in shade MT BL4. This block was required to mask the small area of discolouration (ND4) on the UL1 and to offset the slight drop in hue and value caused by the buccal reduction and the ceramic veneering.

To identify a suitable block for the veneers on teeth UL3 and UR3, "Add new restoration" was activated on the app and the following data was entered:

- Desired tooth shade: 1M2 (=A1)
- Indication: veneers for UL3 and UR3
- Preparation shade: ND1
- Material thickness: 0.5 mm
- Material: IPS e.max CAD

The "Free selection" option was used to see if the shade was also suitable for the crowns. It was possible to assess if the MT BL4 was appropriate for all restorations, which it was. So, the MT BL4 shade was employed for both the crowns and the veneers.

Try-in and insertion

After the grinding process, a clinical try-in was performed while the restorations were still in their blue intermediate crystalline stage (Figs 9 and 10). The evaluation was carried out with the dentist's specifications and the patient's expectations in mind. In this context, photos of the lips and face of the patient play an essential role for the quality of the technician's work. Adjustments can be applied as required and the photos can be viewed from various angles.

Layering OR staining?

A straightforward and uniform result could have been achieved by simply glazing/staining and crystallizing the "blue" restoration in a single firing process. In this case, however, we are talking about an esthetically demanding situation. The crowns and veneers were therefore completed with the IPS e.max Ceram layering ceramic after they had been crystallized to attain a natural looking result, increase the translucency and achieve an optimum match in terms of depth, chroma, value and hue. Initial characterizations were already applied to the cervical and interdental areas during the crystallization process (e.g. with IPS e.max CAD Crystall./Shades).

Transferring the preparation shade to the model

The dentin shade of the tooth preparations had to be transferred to the model before the layering scheme and ceramic veneering materials could be selected. This is essential to keep a consistent shade match throughout the manufacturing process up to the insertion of the restoration. Model dies were created using IPS Natural Die Material. Even some of the existing orange spots on the dentin (e.g. cervical area of right central incisor) were reproduced on the model dies (using light-curing characterization materials from the SR Nexco® range).



11 - Restorations on the working model: restorations in the blue stage on one side and the result on the other, i.e. tooth-coloured restorations after crystallization and veneering with IPS e.max Ceram



12 - Verifying the contours and microtexture with gold powder



13 - Examination on unsegmented model: closed interdental spaces after Glaze firing and manual polishing

Finalizing the restorations

Following a simple cut-back in the incisal third, a natural-looking transition was created between the layers using the IPS e.max Ceram Mamelon and Opal materials as well as a variety of brighter shades (Fig. 11). After firing, a great deal of care was invested in perfecting the texture, contours and surface characteristics (Fig. 12). At the end, the shade match was checked on the model dies. A variety of (try-in) materials can be used to adjust the brightness between veneers and crowns at the try-in and subsequent seating of the restorations. In addition, a natural-looking lustre blends in harmoniously with the natural surroundings in the patient's mouth. Glaze firing is therefore an important and critical firing process. It should be the result of the interplay between manual polishing, quality of gloss and the firing parameters (Fig. 13).



14 - Result after four weeks. Note the soft feminine alignment of the teeth



15 - Restorations after six months. The restorations harmonize with the teeth in the lower jaw – the slightly lighter shade was requested by the patient



16 - Restorations after 4.5 years: The four crowns and two veneers are durable, their shade has remained stable and the soft tissues surrounding them looks healthy.

Cementation and recall

The crowns and veneers were placed adhesively using Variolink® Esthetic luting composite. This material is ideally suited for the permanent cementation of demanding ceramic restorations. Excess composite was removed with the help of fine diamond burs, rubber finishers and polishers. Occlusal interferences were eliminated. At the first recall, the restorations were inspected and some last modifications implemented (Fig. 14).

Conclusion

Ceramic restorations have been used in cosmetic dentistry for over thirty years. Past experience has shown that the quality and longevity of these restorations depend to a considerable extent on the experience of the treatment team. Modern materials, however, are offering ever more reliability and flexibility. The restorations described in this report were re-inspected after approx. 4.5 years (Figs 15 and 16). They continued to be in very good condition, reflecting the effectiveness of the material and the manufacturing process.



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Questions on Veneer Cementation

1. Which type of resin cement is ideal for veneer cementation? Self-cure, light cure or dual cure.

Conservative restorations such as inlays, onlays, and veneers tend to be less retentive than full crowns and as a result are typically adhesively bonded. Veneers in particular must be adhesively bonded due to the non-retentive nature of the preparation.

Porcelain Veneers can be cemented by either light cure, dual cure or self-cure cements.

The most favourable option is the light-cured resin cements as they have the clinical advantages of longer working time and better colour stability. This makes it easier to remove the excess, thus reducing cementation time. They are also the most aesthetic option as they are very colour stable.

However, in some cases there may be a doubt about the complete polymerisation of the cement. For example in cases where the light may not penetrate through the entire thickness of the restoration. This could be if the veneer is greater than 2 mm thick or very opaque and hinder the permeability of the light. In such cases a dual cure or self-cure cement could be considered.

2. Can flowable composite be used for cementation procedure?

Flowable composites have been suggested for use as an alternative in cementing ceramic inlays and veneers. They have good flow properties and are colour stable, while being economical. One disadvantage to using flowable composites is that they do not have corresponding try in pastes so the value and shade of the restoration cannot be assessed before bonding.

3. How many layers of silane should be applied on veneers and for how long?

Silane is a cross linking agent and has been proved to enhance the bond strength between the ceramic and the resin. However, the layer of silane should not be too thick as that creates an intrinsically weak layer, which could be prone to cohesive failure. Excessive application of silane could create too thick a coating by consecutive silane layers bonding to each other. One should apply the minimum amount of silane required. Clinically we would recommend no more than one to two coats be placed.

Clinically, the surface of the porcelain should NOT look shiny after silane application and drying. A shiny surface on the porcelain after silane application and drying could be an indication of excessive silane deposition and, if seen, the surface should be sandblasted under low pressure, re-etched with HF, cleaned with ethanol in an ultrasonic, and the silane re-applied. A properly silane-treated porcelain veneer visually appears essentially the same as it did prior to placing the silane (ie, matt/dull finish).

4. Is application of bonding agent on tooth mandatory when using self-adhesive resin cement?

Self-adhesive resin cements are generally not recommended for the cementation of porcelain veneers. The bond strengths demonstrated make them unsuitable in cases where there is insufficient retention in the tooth preparation. They are also very viscous and a greater amount of pressure is required to ensure a thin film thickness. This could result in fracturing of a delicate porcelain veneer.

However, if used, manufacturers of self-adhesive resin cements advocate that these cements require neither conditioning of the tooth nor surface treatment of the restoration.

5. Should bonding be cured before cementing the veneers?

There is still no consensus in the literature as to whether the bonding agents should be pre-cured or should be cured along with the resin cement.

The general recommendations are that in cases where the restoration is entirely in enamel, the bonding resin need not be cured before the veneers are cemented. The curing is done after the veneers are seated in place with the cement, and the entire assembly cured at one time.

In cases where a large amount of dentin is present in the tooth preparation, the protocol would change. Here the priority would be to ensure sealing of the dentin, and so the bonding agent is cured once placed on the tooth. The veneer, loaded with the cement, is cured as a separate step.

6. How do we carry the veneer to the patient during the cementation procedure?

A ceramic veneer is a very thin and delicate restoration and so must be handled with extreme care. During the cementation process, you could carry the loaded to the tooth with your fingers. However you must take extreme care to use very gentle pressure and minimise the amount of force that would be placed on the veneer.

You can also use commercially available carrying devices such as Pic-n-Stic by Pulpdent, OptraStick by Ivoclar. These are 2" long sticks with an adhesive tip on one end. Using light pressure the adhesive is pressed against the restoration and it adheres to the tip of the stick. The adhesive does not transfer to the ceramic. These tools make handling and placement easier.

7. For how long the resin cement is cured after cementation?

The veneer should be properly cured as sub optimal curing can lead to microleakage, discolorations of the margins and possible secondary caries. After the cementation process is completed, you should light-cure each surface of the veneer for an additional 30-40 seconds. The curing time would be increased for thicker, more opaque veneers or darker shades.

8. What should be the shade of the cement selected?

Veneers have a high degree of translucency and allow the passage of light; therefore, the colour characteristics of the underlying tooth on which they are cemented as well as the materials used for cementation influence the overall colour.

Most veneer cement systems offer different colours and levels of translucency. These cements have a range of shades which can increase or decrease the value of the final restorations. That means that it can make your final veneer appear brighter or darker, depending on the clinical situation. In cases where the underlying tooth is discoloured and needs to be masked, the cement selected would be brighter cement with a higher value to compensate for the darkness of the tooth. In cases where the veneer is too bright or of a higher value than the adjacent teeth, you would select a cement shade which could darken or take down the value of the final restoration.

9. Will there be any colour change in the cement after cement setting reaction?

Porcelain is a very colour stable material and its colour does not change with time. If a change in colour is seen it is usually attributed to the cement that was used. Light cured resin cements are very colour stable and veneers cemented with these materials do not exhibit any change in their colour over time. However, veneers cemented with dual-cure materials, which contain tertiary aromatic amines activators tend to darken as they age. This has been attributed to the tertiary amine which degrades over time, resulting in the formation of a byproduct which is dark and yellow and could potentially alter the shade of the veneers.

10. How does the cementation protocol differ if the veneer preparation is in dentin?

Enamel bonding is tried, tested and predictable and results in the strongest bond between the veneer and the tooth. In cases where dentin is present however, the bond is less reliable and is found to be weaker and the failure rates higher. Thus, dentin areas must be treated somewhat more carefully to maximise the bond strength and minimise the potential failures. These precautions are to be taken during the entire process and not merely at the time of cementation.

In cases where the preparations are in dentin, the dentin should first be immediately sealed after the tooth preparation is completed and before the impression is made. This step has been found to decrease post-operative sensitivity and increase subsequent clinical success considerably. During the cementation process, the dentin areas should be etched very carefully, and a selective etching protocol followed. This is then followed by the application of the bonding agent which is agitated, thinned and then cured separately. This enables the formation of a good hybrid layer which creates a stronger bond. The veneer is then cemented with the material of choice as per regular protocols.

11. What precautions should be taken to minimize porosity during veneer cementation?

Incorporation of air bubbles in the cement can result in porosities within the cement layer. This will make the cement layer weaker and will also form the appearance of an artefact within the veneer which would compromise the aesthetics. Thus application of the cement in the veneer should be very carefully done. The cement should ideally be expressed directly into the veneer using a dispensing tip on the cement syringe. As the material is expressed, the tip is drawn down the veneer, and only once the veneer is loaded should the tip be removed from the cement. If the tip is repeatedly removed and replaced within the cement there is a greater risk for incorporation of air and creation of porosities. In case of dual cure cements this is even more important as they involve the mixing of a base and catalyst. In such cases it is best to select a cement system which has a self-mixing nozzle so that the cement is mixed as it is dispensed. If the two pastes are mixed on a pad, ensure no air bubbles are incorporated in the cement as it is loaded in the veneer.

12. What are the different try in pastes available for veneer try-in? How to clean the surface of the prosthesis after try in procedure?

A try in paste is a water soluble glycerine based paste which compliments the veneer cements in terms of colour. Each shade of the cement has its own corresponding try in paste. This is also company specific and cannot be used interchangeably. The try in pastes permit you to evaluate the shade and value of your final restoration before it is cemented and help in selecting the ideal cement shade for the case.

Once the try in pastes have been used, and the final colour selected, it is imperative to ensure a clean, fresh, high-energy veneer surface for optimal bonding.

Try-in pastes are water soluble and so easily washed off from the veneer. Once the veneer has been washed, it should then be treated so to optimise the veneer surface for the subsequent bonding procedure. This can be achieved by placing the veneer in an ultrasonic bath for five minutes in ethanol. An alternative to using an ultrasonic is to treat the veneer with regular ortho-phosphoric acid and then wash and dry. You could also use Ivoclean which is a universal cleaning agent from Ivoclar. It is applied to the pre-treated surface of the restoration and then washed off.

13. How to temporize a veneer preparation?

The use of provisional restorations as an interim step when providing adhesively retained porcelain veneers serves numerous purposes. In situations where the tooth surfaces have been altered, provisional restorations protect the prepared surfaces from assault by the oral environment and minimize sensitivity. Prior to cementation, provisional restorations can be used as a tool to evaluate that uniform clearance has been allowed for the final restorative material. The provisional restorations also provide a template for directing treatment outcomes—esthetically, phonetically, and functionally. Lastly, segmental removal of the provisional restorations can provide a final confirmation that the definitive restorations indeed mirror the incisal edge position established during the transitional phase.

Different techniques are used to fabricate provisional veneers. We recommend using a strong but pliable silicone putty matrix developed from the diagnostic mock-up to fabricate the temporaries, since it reproduces the wax up or study models very accurately. A bis-acrylic temporary material with the required shade is used. The silicone matrix is filled with a self-curing bisacryl material and seated intraorally over the prepared teeth. Once the material reaches an initial set, the matrix can be removed.

In some instances the provisional restorations may be removed along with the silicone matrix. If this is the case, the restorations can be allowed to fully cure within the matrix extraorally. Bisacryl materials offer the advantage of limited exothermic reaction and minimal shrinkage upon curing. Once the restorations are fully cured, they can be gently teased from the matrix can be trimmed, shaped, and polished prior to cementation. They can be inspected to ensure that uniform, adequate thickness has been achieved and then cemented with a flowable cement.

Some practitioners prefer to allow the restorations to cure directly on the teeth. The provisional is not removed but is rather "locked in" as a result of shrinkage. Additional cementation protocols are avoided with this approach. The provisionals are then finished and polished in place. Evaluation of tooth reduction is confirmed by examining the provisionals for thin areas.

Fine diamonds, diamond-impregnated discs and acrylic burs specifically designed for trimming bisacryl materials are helpful in contouring the restorations and the occlusion is easily evaluated and adjusted on the thin provisional veneers.

The bisacryl materials are available in several different shades and can be custom stained for additional characterization. In addition, slight voids can be filled with coordinating light-cured materials or composite resin.

14. Is incisal reduction mandatory in all cases? If not, on what criteria does it depend?

The need for incisal reduction depends on the clinical situation and the final design of the restorations. The general consensus is to have 1 – 1.5 mm of incisal porcelain for ideal aesthetics and strength of the ceramic material. In cases where the design is additive, and length has been added to the existing teeth, the incisal edges of the teeth may not need any adjustment or reduction. Merely rounding of sharp angles and transitions is enough. In cases where the teeth length is not being altered, the incisal edge may need to be reduced to provide space for the ceramic for aesthetics and strength.

15. In what sequence should we proceed with veneer cementation, anterior to posterior or vice versa?

When cementing multiple veneers, you must always start closest to the midline and work distally. I start by placing the two central veneers first, This ensures I have symmetry and the midline is ideally situated. I then move posteriorly 2 teeth at a time. The laterals and canine on one side are then completed following the same steps, followed by the lateral and canines of the other side. The same sequence is followed as you go further back in the arch.

16. What is the preferred system for isolation to be followed for ceramic veneer cementation?

Adhesive cementation requires excellent isolation as any contamination can lead to failure. This may lead some to suggest that a rubber dam is essential to prevent failures. This is not supported by the literature or through clinical experience. Experience and the literature shows equal results with or without a rubber dam. It is however imperative to minimise contamination of the surfaces that are being bonded and to ensure that the soft tissue and fluid contamination is at the minimum. A number of simple devices are available to aid in the isolation process such as cotton roll isolation, Cheek Retractors, Optragate (Ivoclar) for isolation of the soft tissues, Mouthprops, Tongue Shields such as DryShield isolation system, Optradam (Ivoclar). It is also essential to ensure the isolation of the adjacent teeth during the cementation process and that is most effectible done with the use of Teflon tape or mylar strips.

17. What are the post cementation instructions to be given to the patient?

The porcelain veneer restoration is delicate but strong and the patients must be advised certain precautions so as to ensure the longevity of the restoration. They must be advised about precautions to tooth decay and the importance of good oral hygiene, brushing flossing and diet control. They must be cautioned against eating excessively hard foods and about using the teeth as tools. They may also be prescribed a nightguard to prevent any parafunctional forces from creating stress to the veneers.



ASSOCIATION UPDATE

PRESIDENT MESSAGE



Dr. V. Chandrasekhar
President, IACDE.

Dear Members,
Warm greetings!

I am pleased to reach out to all members of IACDE in my first direct communication and take this opportunity to thank all the members for having elected me to the post of President for the year 2020. I feel humbled and blessed to be representing IACDE, as PRESIDENT and truly appreciate the faith the past presidents, have placed in me and will do my best to make IACDE even more empowered for the future extraordinary sessions and make it sustainable.

As I begin my term as President of IACDE, I would like to congratulate the past Presidents and the Secretaries for their humongous effort in leading and meticulously molding IACDE in its formative years and making this association as one of the most sought after in India and also in some parts of the world. Thanks to all the sacrifices, time spent and the tireless effort that each and every past president, their teams and their families made to make IACDE what it is today, largest of its kind in INDIA.

Our association has grown leaps and bounds under my immediate predecessor and I wish to take that legacy forward. We are looking forward to a productive year and all members of IACDE have been given my go ahead to perform their duties toward the association in best possible manner. The turn

over from Zonal Convention to PG convention has been implemented from this year to improve academic content of our conference and to promote innovative work in the field of Endodontics.

As per my presidential theme, I am committed to bring excellence and perfectionism in all facets of education and patient care. In this quest, full cooperation and participation of all members will be sought and welcome. IACDE is greater than one person or a team, it belongs to all members and all of your heartfelt participation is much appreciated.

I am excited and hopeful to be able to identify, involve, build and mentor the future leaders of IACDE to carry the torch forward and feel rest assured that the future of IACDE will be in great hands. As a profession, we are undergoing changes and challenges faster than at any other time in history. For our association to remain relevant and grow we need to attract the next generation of dentists. In this regard I would request the younger generation for their active participation.

My Vision is to Provide services, benefits, and recognition to assist and support the members for meeting the needs and challenges inherent in pursuing our missions.

Yours truly,
Dr. V. Chandrasekhar,
President, IACDE.

IACDE EXCELLENCE AWARD 2019

ACADEMIC EXCELLENCE AWARD

DR. KUNDABALA M
DR. ROOPA R NADIG

LIFETIME ACHIEVEMENT AWARD

DR. KIDIYOOR K H
DR. GOHIL K S

CLINICAL EXCELLENCE AWARD

DR. JAYADEV M
DR. PRAVEEN RAJESH

HUMANITARIAN AWARD

DR. SHRUTHI NAGARAJA
DR. SONAM YANGCHEN BHUTIA

OUTSTANDING AWARD

DR. YOGESH SAHU

POST GRADUATE

FIRST PRIZE

DR. TANVI P DUGGE
SDM COLLEGE OF DENTAL COLLEGE AND HOSPITAL

SECOND PRIZE

DR. AALISHA KANODIA
REGIONAL DENTAL COLLEGE, GUWAHATI

THIRD PRIZE

DR. MEENAKSHI V
KING GEORGE MEDICAL UNIVERSITY, LUCKNOW

THIRD PRIZE

DR. ISHWARYA G
SRM DENTAL COLLEGE, CHENNAI

YOUNG ACHIVER AWARD 2019 UNDER GRADUATE

FIRST PRIZE

DR. DIVYA JAHANGIRDAR
GOVERNMENT DENTAL COLLEGE AND HOSPITAL, HYDERABAD

SECOND PRIZE

DR. PADMAPRIYA RAMANUJAM
SRI VENKATESHWARA DENTAL COLLEGE AND HOSPITAL, CHENNAI

THIRD PRIZE GOES TO

DR. YACHNA GOYAL
I T S DENTAL COLLEGE, GHAZIABAD

GANDHIJI ESSAY COMPETITION

DELEGATE CATEGORY

FIRST PRIZE

DR. KAVITHA DUBE M – JABALPUR

SECOND PRIZE

DR. MAHIMA TILAKCHAND – DHARWAD

THIRD PRIZE

DR. MAMTA KAUSHIK – HYDERABAD

STUDENT CATEGORY

FIRST PRIZE

DR. SODVADIYA URVASHI BHIMJIBHAI
A.B.SHETTY MEMORIAL INSTITUTE OF
DENTAL SCIENCES, MANGALORE

SECOND PRIZE

DR. MERLIN ANN JOSEPH
KRISHNADEVARAYA COLLEGE OF
DENTAL SCIENCE, BANGALORE

THIRD PRIZE

DR. BHAGYASHRI MAGAR
MGV'S KBH DENTAL COLLEGE, MAHARASHTRA

RESEARCH GRANT AWARD 2019

THE FACULTY AWARD

DR. SHRUTHI NAGARAJA
M.S. RAMAIAH UNIVERSITY OF
APPLIED SCIENCES, BANGALORE

THE STUDENT AWARD

DR. ANU VASHISHT
SCHOOL OF DENTAL SCIENCES,
SHARDA UNIVERSITY

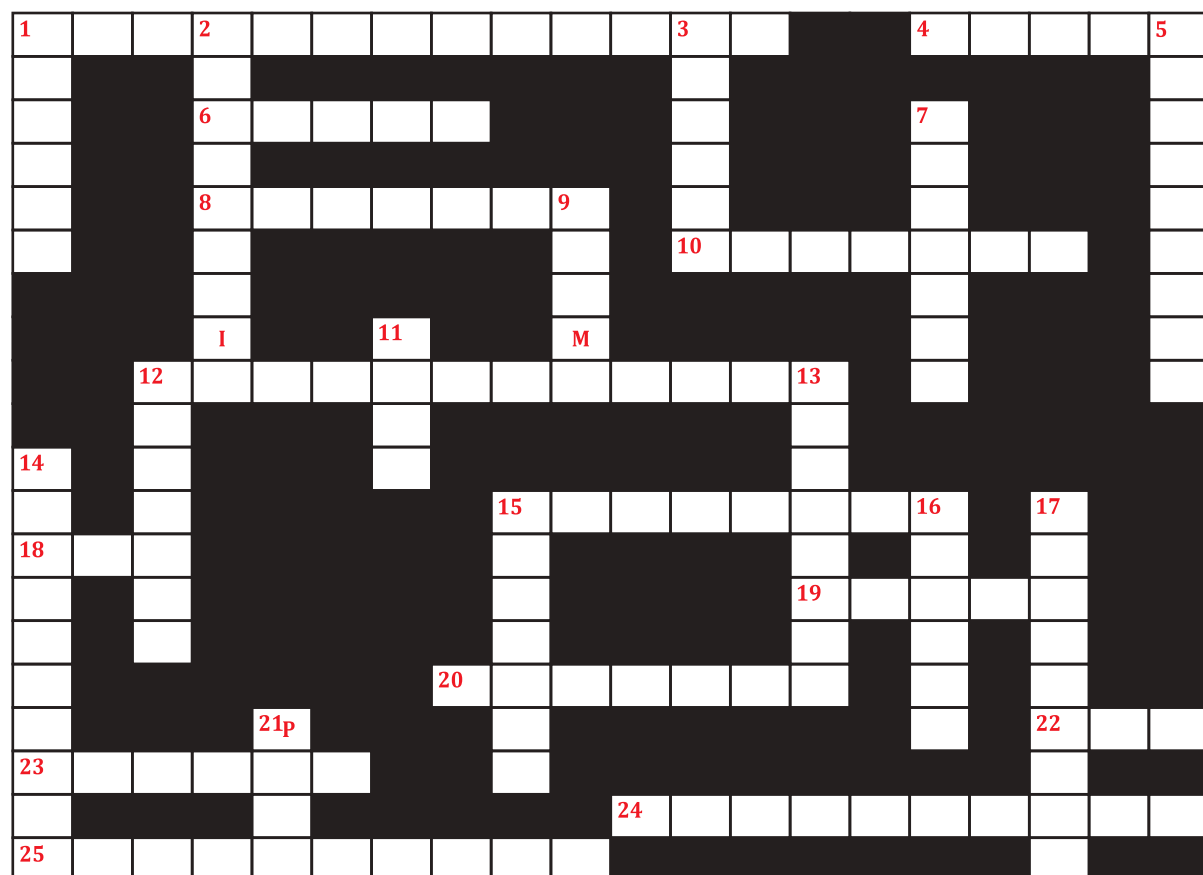
DR. PALMOOR SANTOSH KUMAR
SRM DENTAL COLLEGE, RAMAPURAM



REST-ORE-TAINMENT

CROSSWORD

IACDE - 10



ACROSS		DOWN	
1	Procedure to create provisional restoration	1	Physical injury to tooth
4	Instruments used for cleaning and shaping the root canal system	2	White vitrified translucent ceramic
6	Material used for restoration	3	Obturator system
8	Procedure to increase the retention of resin	5	Burs made of polymer based material
10	Accumulation of pus	7	Layer of material placed over the tooth
12	Local response to cellular injury	9	A Brand name for desensitizer
15	A single instrument used to prepare the root canal	11	A Positive replica for oral structure
18	Root repair material developed at Loma Linda University	12	Replacement of biological structure
19	Alloy used most extensively in dentistry	13	Death of cells in diseased condition
20	Procedural accidents	14	Control of bleeding
22	Type of pins used for complex amalgam restorations	15	Type of motion for cleaning and shaping
23	A small, thin piece of something cut or split off a larger piece	16	Protein present in milk
24	Dryness of mouth	17	Procedure to remove coronal pulp
25	layer of material composed of dentin remnants of pulp and bacterial on canal walls	21	A shape of dental bur and also a fruit

IACDE JUMBLE WORDS

1. LOSERCOFORM

[illegible]

2. IONCOLORSIDAT

[illegible]

3. GINLEBACH

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4. TESESPARIAH

[illegible]

5. DIXENIRECOHLH

[illegible]

Dr LeenaJobanputra

Professor and Head
Dept of Conservative Dentistry and Endodontics
Govt Dental College and Hospital, Jamnagar



PAINTING



Dr.SushmitaShivanna, currently working as a Reader, in the Department of Conservative Dentistry and Endodontics in Sathyabhama Dental College in Chennai. She is passionate about art work.

She does oil painting on canvas and waste wooden planks. She also loves to do miniature work. including - a miniature tea shop, miniature garden view in a tea cup, miniature serene BUDDHA.





CALENDAR OF EVENTS- 2020

Sl. No.	Date	Name of Conference	National / International	Venue
1.	8th -9th Jan 2020	4th Academy of Cosmetic Dentistry	International	Bhubaneswar, Odhisha
2.	31st Jan – 1st Feb 2020	2nd International Summit Of Saliva Symposium India - SALSI 2020	International	Bengaluru, Karnataka
3.	22nd March 2020	2nd ISPRP Mid year convention 2020	National	Nellore, Andhra Pradesh
4.	26th- 28th March 2020	National PG convention	National	Belgaum, Karnataka
5.	17th- 20th June 2020	World Congress of Denta; Traumatology	International	Lisbon, Portugal
6.	23rd- 26th September 2020	The IFEA 12th World Endodontic Congress	International	Chennai, India



CONSASIA 2021 & XXXVI IACDE NATIONAL CONFERENCE

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The Grand Hyatt, Kochi, Kerala-INDIA
November - 2021

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- No.2**
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- No.3**
For removal of dental overhang on Internal Wall / Caries Removal
- No.4**
For finishing pulp chamber & Cavity Walls
- No.5**
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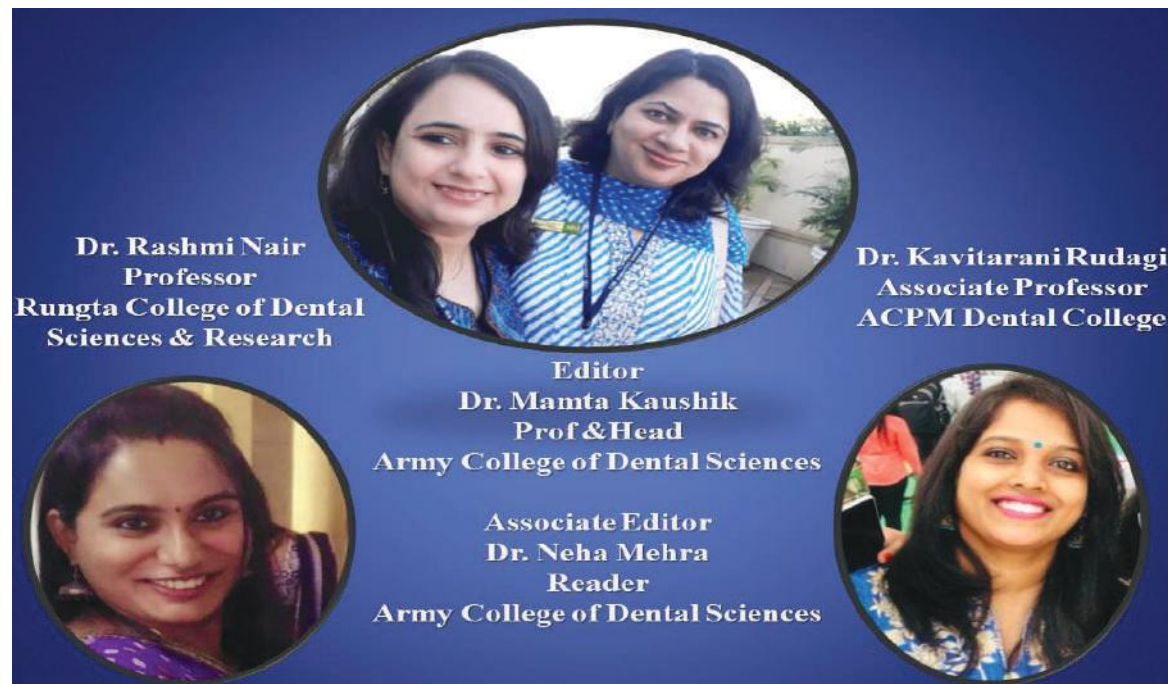


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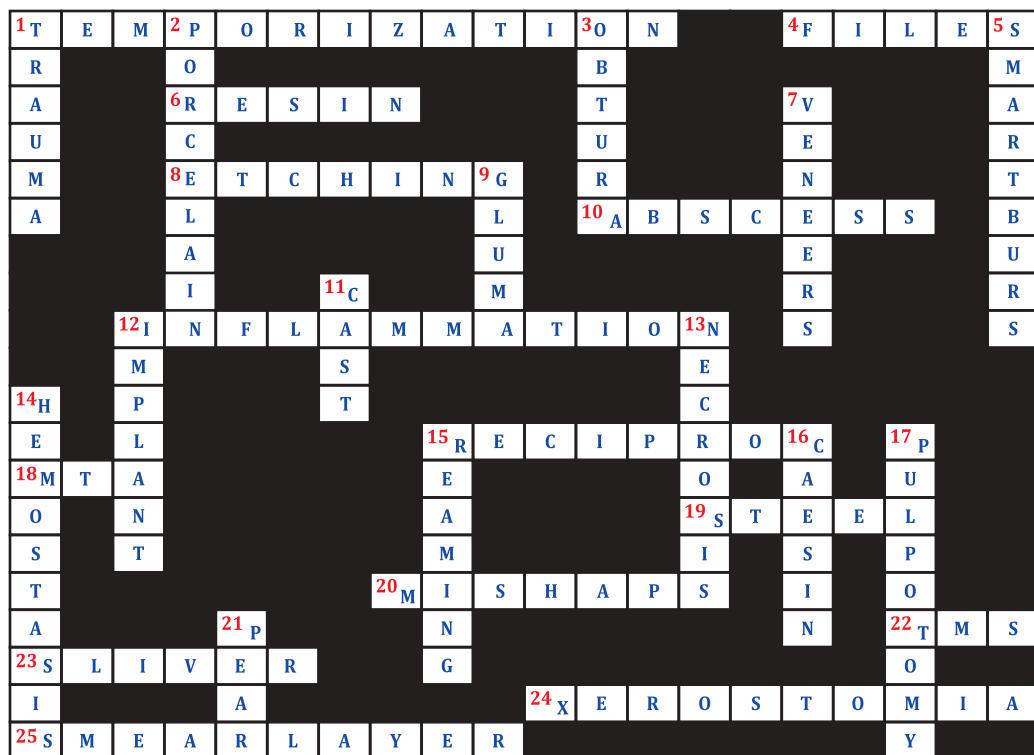
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IACDE CROSSWORD ANSWERS

I	A	C	D	E		
		R				
W		O	R	D	-	7
		S				
A	N	S	W	E	R	S



ANSWERS TO JUMBLE WORDS - 9

1. LOSERCOFORM

F O R M O C R E S O L

2. IONCOLORSIDAT

D I S C O L O U R A T I O N

3. GINLEBACH

B L E A C H I N G

4. TESESPARIAH

P A R A S T H E S I A

5. DIXENIRECOHLH

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