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Pins & Posts

An Official Newsletter Of IACDE

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Contents

<i>Editor's Desk</i>	<i>3</i>
<i>IACDE@40</i>	<i>5</i>
<i>Ask the Expert</i>	<i>11</i>
<i>Panel Discussion</i>	<i>12</i>
<i>Scientific Update</i>	<i>22</i>
<i>In the Spotlight</i>	<i>25</i>
<i>Entertainment</i>	<i>26</i>

From editor's desk



Pink... White... What's it to us?

Pink – the color of hope, White – the color of protection

The moment I talk to a person, my trained eyes fall on teeth and the surrounding structures. *Gross!* I know, but what can I say Occupational Hazard. While we think and see only white we forget that it is the pink gums that gives hope to the survival of teeth and restorations alike.

A few many times, I have come across dental specialists who comment “Gingiva ko bur se cut karlena, kyahipharakpadtai? [Translate: cut the gingiva with the bur, what difference does it make?] To say that I was shocked to the core was an understatement.

This editorial is dedicated to the health of the gums in the case of subgingival caries. No, I am not going to talk about the pink esthetics, what I am trying to do is to focus the same importance we give to the anterior teeth to that of posterior

This complete disregard to a healthy tissue simply at the expense of trying to save the teeth may turn out in the near future to be the primary cause of loss of teeth. The technical-operative parameter such as the use of rubberdam and other such aids are well followed due to a number of courses that are available. It is however the biological parameter i.e. the biological width that is violated due to the ignorant behavior of the dental specialist.

Then comes the next question –How?

Let's read and find out.....

Dr Rashmi Nair



Our Team

EDITOR



Dr Rashmi Nair

Professor, HOD
CDCRI
Rajnandgaon

ASSOCIATE EDITORS



Dr Chitra Gohil

Reader
CDCRI
CG



Dr Mohan T Nainan

Dean, Professor, HOD
Vydehi Institute of Dental Sciences
Karnataka



Dr Neetu Maurya

Senior Lecturer
CDCRI
CG



23RD IACDE NATIONAL PG CONVENTION 2023

Hosted by
**Vasantdada Patil Dental College and Hospital
Sangli**

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IACDE @ 40

Activities & Celebrations

This year we celebrated the Ruby Anniversary (40years) of IACDE. Inaugurated on 27th Feb 2022 at Radisson Blue, Hyderabad, the event will conclude at the 37th IACDE National Conference, Bhopal where the valedictory function would be held.

A variety of programs ranging from the Cons-Endo Day celebrations, CDE's under IACDE SPARK Initiative, National PG Convention at Rajamundry, Camps all were held under the banner of IACDE@40.

With the help of all Heads of the Conservative Dept of various colleges pan India, this year's Ruby Anniversary was a grand success.

A huge applause to IACDE and its members!







*The Head Office appreciates the efforts of all the colleges
for the activities conducted under the **IACDE@40** banner*

SL.No	NameoftheColleges
1	SMBTDentalCollegeandHospital,Dist. Ahmednagar
2	SRMDentalCollege,Ramapuram,Chennai,TamilNadu
3	Al-BadarRuralDentalCollegeand Hospital,Kalaburagi
4	HKESSNDentalCollege,Kalaburagi
5	MamatADentalCollege,Khammam
6	DAPMRVDentalcollege,Bangalore.
7	SriRamachandra InstituteofHigherEducationandResearch, Chennai
8	SriVenkateswaraDentalcollegeand Hospitals,Chennnai
9	IndiraGandhiGovt.Dentalcollege&Hospital,Jammu
10	Sibar InstituteofDentalSciences,Takkellapadu,Guntur,AP
11	I.T.S.CentreforDentalStudies &Research, GhaziabadUttarPradesh
12	Krishnadevaraya collegeofdentalSciences,Bangalore
13	GovtDentalCollegeandHospital,Jamnagar
14	SriRamakrishnaDentalCollegeandHospital,Coimbatore
15	CollegeofDentalSciences, Amargadh,Gujarat
16	Vaidikdentalcollege,Daman.
17	RajasthanDentalCollege&Hospital,Jaipur
18	ManipalcollegeofdentalSciences,Mangalore
19	NimsDentalCollege,Jaipu
20	Dr HarvanshSingh judgeinstituteofdentalSciences,Punjab university,Chandigarh.
21	UIDS,Punjabuniversity,Chandigarh
22	KamineniInstituteofDentalSciences,Narketpally
23	RajasDentalCollegeandHospital,Tirunelveli
24	MMCollegeofdentalScience&Research,Mullanna
25	VSPMDentalCollegeand ResearchCentre,Nagpur
26	BhabhacollegeofdentalSciences,M.P
27	SJMDentalCollege andHospitalChitradurga
28	G.D.CandHospital,HYD.Telangana.
29	NorthBengalDentalCollege&Hosp.SushrutanagarDarjeeling
30	SubhartiDentalCollege,Meerut
31	PanditDeendayalUpadhyDentalCollege,Kegaon, Solapur
32	A.B.ShettyMemorialInstituteofDentalSciences,Nitte
33	SathyabamaDentalCollege&Hospital,Chennai
34	SriSaiDentalCollegeandHospitalVikarabadTelangana
35	MeghanainstituteofDentalScience,Nizamabad
36	PannineeyaInstituteofDentalSciences
37	Dr.G.D.PolFoundation'sYMTDentalCollege& Hospital
38	KMShahDentalCollegeand Hospitals,SumandeepVidhyapeeth,Vadodara
39	KLEVKInstituteofDentalSciences,Belgaum
40	NarsinhbhaiPatelDentalCollegeandHospital,Sankalchand PatelUniversity,Visnagar
41	SchoolofDentalSciences,ShardaUniversity
42	ChhattisgarhDentalCollegeandResearchInstitute,Rjn
43	HaldiaInstituteofDentalSciencesandResearch
44	Guru NanakInstituteofDentalSciencesandResearch,Kolkata
45	RamaiahUniversityofApplied Sciences,Bengaluru
46	Govt College ofDentistry,Indore

- 47 Goenka Research Institute of Dental Science, Gujarat
48 Buddha Institute of Dental Sciences & Hospital,
49 MNR Dental College and Hospital, Sangareddy,
50 The Oxford Dental College, Bangalore
51 G.D. Cand Hospital, Ahmedabad, Gujarat
52 Hitkarini Dental College, Jabalpur. MP
53 Mallareddy Dental College for Women, Hyderabad
54 Madha Dental College, Chennai
55 MGMDental College & Hospital, Kamothe, Navi Mumbai
56 MIDS RDental College, Latur
57 JSS Dental College And Hospital Mysuru
58 KCDS, Bengaluru
59 KLE Society's Institute of Dental Sciences, Bangalore
60 Mansarovar Dental College, Bhopal, Madhya Pradesh
61 S.B. Patil Institute for Dental Sciences & Research, Naubad, Bidar
62 KJ Mehta TB Hospital Trust, Amargadh, Shishir, District Bhavnagar, Gujarat
63 Index Institute of Dental Sciences, MP
64 Bapuji Dental College & Hospital. Davangere
65 KIMS Dental College and Hospital, Amalapuram, Andhra Pradesh
66 Subharti Dental College & Hospital, Meerut.
67 Dr. D. Y. Patil Dental College & Hospital. Pimpri, Pune
68 Lenora Institute of Dental Sciences, Rajanagaram Andhra Pradesh
69 T. N Govt Dental College & Hospital, Chennai
70 Saraswati-Dhanwantari Dental College & Hospital, Parbhani MH
71 Nanded Rural Dental College & Research Center, Nanded
72 Sri Balaji Dental College, Moinabad, Hyderabad
73 All India Institute of Medical Sciences Nagpur
74 Malla Reddy Institute of Dental Sciences, Hyderabad
75 Navodaya Dental College and Hospital, Raichur
76 Surendra Dental College & Research Institute
77 Saveetha Dental College
78 RKDF Dental College
79 Maitri Dental College, Durg
80 TRIVENI DENTAL COLLEGE, BILASPUR
81 Chattisgarh Dental College and Research Institute, Rajnandgaon
82 I.T.S Dental College, Ghaziabad
83 KSR Institute of Dental Science and Research, Tamil Nadu
84 Mahatma Gandhi PG Institute of Dental Sciences (Govt. of Puducherry Instn.)
84 Panineeya Dental College
85 Ideas Dental College and Hospital Gwalior M.P.
86 Army College of Dental Sciences
87 SCB Dental College, Cuttack
87 Government Dental College, Hyderabad
88 P.M.N.M Dental College & Hospital, Bagalkote, Karnataka

Ask the expert

Importance of PhD in the dental education system in the present scenario

What? Why? Is it needed?

I myself had a number of questions before I registered for PhD program, which I answered way back in 2005 through the guidance of my teacher Dr Suchetha Kumari who told me the importance of doing greater depth of research and knowledge in a particular field leading to Doctor of Philosophy as a recognition.

I would like to put up those questions and answer it for the benefit of all who wish to pursue PhD.

What is PhD?

PhD stands for Doctor of Philosophy, the most common degree at the highest academic level awarded following a course of study.

Higher education and research have risen to the center of worldwide economic growth discussions. PhD education is gaining more importance as PhD graduates reflect cumulative human capital to contribute significantly to a country's growth. PhD is a universally recognized degree globally.

What is the value of doing PhD?

To begin with, PhDs are an essential part of the knowledge economy. Completing a PhD is all about creating fresh knowledge, discovering new things, and developing new skills. It is a degree meant for those who seek a greater depth of knowledge in a specific area. Having a PhD and holding the titles of Doctor or Professor are sources of great pride and respectability. It is considered the pinnacle of academic achievements.

What is the duration for PhD in Dentistry?

PhD usually takes three to four years full-time or five to six years part-time. However, it depends on the type of study.

What are the advantages of doing PhD?

PhD holders in India usually aim for academic careers at public universities and research organizations since they offer outstanding salaries, job security, research opportunities, and respectability.

All government and private universities recruit candidates with PhD degrees as a requirement for administrative posts.

Organizations of repute call for team heads and leaders with PhD qualifications regardless of the speciality.

All the above defines the recognition of academic achievements.

Which are the institutions which have recognized guides for PhD?

Most of the government and private universities do have a list of recognized departments and faculty guides on their official website. A Google search would definitely help you to reach to the university closest to you.

Prof. Dr. Mithra N Hegde

MDS, PhD, MAMS, MFDS RCPS (Glasg)

Vice Principal, AB Shetty Memorial Institute of Dental Sciences, Nitte DU

Email ID: drhegdedentist@gmail.com/ drmithra.hegde@nitte.edu.in

Orchid ID Link: <http://orcid.org/0000-0002-5618-6778>

Mobile No. /Contact No: +91 984528441



PANEL DISCUSSION

Do you consider the use of any tissue treatment in case of deep Class II and Class V. If so, what do you prefer?

The purpose of restorative dentistry is to restore and maintain health and functional comfort of the natural dentition combined with satisfactory aesthetic appearance. The current trend in periodontal care is to place the margins of a well-contoured restoration supragingivally. The placement and recording of subgingival margins have been a difficult problem. To create adequate space various techniques have been employed. Non-surgical techniques include gingival retraction using rubber dam clamps, retraction cords, interproximal wedges, retraction rings and copper bands. Surgical techniques include cold steel gingivectomy and gingivoplasty, periodontal flap procedures, electrosurgery, rotary gingival curettage and curettage with laser.

Rotary gingival curettage is a technique which using a high-speed diamond instrument facilitates the placement and recording of the subgingival margins. It is also called as gingittage, denttage and gingival curettage. It was originally developed by Dr. Fred Hanzing of Van Nuys, California, Ingraham. In this technique a trough is prepared with a diamond bur in the gingival sulcus adjacent to the finishing line area. The height of the marginal gingiva is approximately preserved but the sulcus gets deeper.

This method can be used only if adequate keratinized gingiva is available. This method of gingival retraction is fast, has the ability to reduce excessive tissue and recontour gingival outline. This technique causes considerable hemorrhage and has a high risk of traumatizing the epithelial attachment. The absence of keratinized gingiva at the base of the sulcus may result in gross recession and deepening of the sulcus due to exaggerated response to tissues. Trauma to the epithelia attachment may cause gingival recession due to exacerbated inflammatory response.



Dr. Ashish Jain
Professor and Head
BVDPU Dental College,
Navi Mumbai



Newer burs like PreciCut by DFS, Im3 Gingivectomy Bur, NTI Soft Tissue Trimmer by Kerr have been designed for soft tissue trimming instead of diamond burs. These specialized burs have ceramic tips that help reduce bleeding. It is used in the high-speed handpiece at full RPM without water coolant spray to excise and contour soft gingival tissue with minimal bleeding. Unlike electrosurgery there is a little risk of over-heating the surgical site.

Electrosurgery is also a method of troughing in which following local anaesthesia, passing the electric current through a thin wire can prepare a trough in the gingival sulcus adjacent to the finishing line, also hemostasis is achieved. Moving a small J shaped electrode parallel to the long axis of tooth can increase the sulcus width. It is contraindicated in patients with pacemakers, cannot be concomitantly used with nitrous oxide oxygen sedation as it is a flammable agent. Adequate band of healthy attached tissue is necessary for performing this procedure.

Lasers can be used for gingival retraction in either direct or indirect restorative treatments. It is a high-powered focused beam which causes tissue vaporization in 100-150°C. Laser induced retraction provides great hemostasis, has minimum postoperative pain and discomfort.

WORD JUMBLE WORDS

1. CACAFONICILITS

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2. LARALIMYX

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3. RAATIONVIIZELT

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4. SIRROGYERCM

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5. TTHEECISS

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Do you consider the use of any tissue treatment in case of deep Class II and Class V. If so, what do you prefer?

Be true to your teeth or they will be false to you

During restorative treatment of a deep Class II or Class V one often encounters gingival interference with isolation of the cervical margin of the cavity. The level of interference can be mild to moderate depending upon the duration of existence of the lesion as well as the level of irritation to the gingiva. In extreme cases we see a frank gingival overgrowth into the cavity obscuring the entire floor of the cavity. In my practice the level of interference decides the method of treatment.

In mild cases I first explore placement of either a retraction cord or teflon tape to deflect the gingiva during the duration of treatment.

In moderate to extreme cases I prefer to employ the use of electrocautery to remove the excess gingiva. I prefer electrocautery as it is fast and leaves behind a bloodless field. In case the bleeding doesn't stop I also use astringents in conjunction with electrocautery (Viscostat from Ultradent).

While isolation of a class V is relatively easier due to accessibility, deep class II's can still pose a challenge. If I cannot control the bleeding then I choose to restore the cavity with a temporary cement (Zinc Polycarboxylate) which acts as a barrier to gingival growth while also allowing the cut tissues to heal. After a gap of a week I remove the temporary and go ahead with the permanent restoration.



Dr Yohan Chacko MDS
HOD, Dept of Conservative
Dentistry and Endodontics
Assan Memorial Dental College
and Hospital
Chengelpet

Do you consider the use of any tissue treatment in case of deep Class II and Class V. If so, what do you prefer?

1) Abfraction lesions

- Fissurotomy burs (SS White burs) to place auxiliary retention.
- Coarse tapered diamond burs (SS White) used to place long bevel from occlusal margin of abfracted area to junction of middle and occlusal third of facial surface.
- Self etching adhesive (BEAUTIBOND (Shofu dental)) applied to enamel dentin and cured for 20 seconds.
- Flowable composite (BEAUTIFIL F00 Shofu dental) placed in the cavity as a thin layer.
- A layer of nanomicrohybrid composite (BEAUTIFIL II (Shofu Dental)) placed over the cured flowable increment. to restore the convex profile of the cervical portion of the tooth.
- A composite placing instrument is used to shape the convexity of the cervical third of the restoration and refine the marginal areas.
- A sable brush (Keystone No. 2 Flat) is used to further refine the shape of the composite material and blend the composite over the bevel at the tooth-composite interface.
- Abrasive discs (Super-Snap Polishers (Shofu Dental)) are used to begin contouring the composite after final light curing.



Dr. Mukat Seal
Reader GDC, Silchar

2) Subgingival caries

- Electrocautery (COLTENE) /Scalpel can be used to do a gingivoplasty procedure on a Class V Cavity preparation, making the gingival margin “supragingival” and easier to fill and finish.
- Enamel in the carious area is penetrated using a 330-carbide (SS White Burs)& a Smart Bur II (SS White Burs) is used to excavate carious dentin during the preparation phase.
- Self etching adhesive (BEAUTIBOND (Shofu dental)) applied to enamel dentin and cured for 20 seconds.
- Restorative material and technique for application same as above
- A carbide flame-shaped composite finishing bur (SS White Burs) is used to refine the surface of the composite resin.
- After use of the abrasive polishing discs (Super-Snap (Shofu Dental)), is used to bring the final luster to the restorative surface.

3) Replacement of defective composite restorations

- After removal of defective restoration, the fissurotomy bur (SS White Burs) is used to place mechanical retention (a trough) into the internal line angle of the preparation at the gingival margin.
- Enamel bevel extends laterally to the facial proximal line angles of the tooth and follows the contour of the line angle (anatomic form) as the bevel extends occlusally to the middle third of the tooth.
- After the adhesive procedure is completed and the flowable composite layer is placed while making sure that the retentive groove at the gingivo-pulpal line angle is completely filled.
- Not only will the extended bevel increase the resistance form of a restoration, but it will also serve to make the transition of composite to tooth less visible.
- As previously discussed, a nanomicrohybrid layer (BEAUTIFIL) is placed as the final increment to restore the natural cervical contour to the tooth.

Do you consider the use of any tissue treatment in case of deep Class II and Class V. If so, what do you prefer ?

Periodontal health is the most important in any proximal and cervical caries management. For composite restoration, isolation is the key of success. But during caries removal and matrix placement, we often find difficulties in isolation. In clinical practice, regularly we find radiographic gap in the gingival floor of class II restoration or clinically discolored margin in cervical restoration. Thus, in deep proximal caries management, indirect restorations are becoming choice to decrease polymerization shrinkages. In recent popularity of Biomimetic dentistry and Deep margin elevation concept, gingival tissue management is playing an ultimate role in success of composite resin restoration.

For gingival tissue management, concept of biological width is the main key. Clinicians often do soft tissue management without having knowledge of height of alveolar bone crest which relapses over the time. However subgingival margin remains a challenge as they are challenging to handle due to limited access, visualization in blood filled field, rubber dam slippage over the margin and subsequent present saliva, crevicular fluid and blood leakage.

The conventional approach includes surgical exposure, orthodontic extrusion or combination to get a supragingival margin. But these leads to sometimes compromised aesthetics, crown root ratio, dentinal hypersensitivities and over all delay to final treatment.

So in day to day practice quick procedures of tissue management are getting more popular. Diode LASERS are on of the most popular tool to get bloodless and fluid less field. Diode LASERS in 810-980 nm offers quick gingivoplasty with maintaining good hemostasis. Electrosurgery and radio frequency tissue cutting systems are also cheaper alternative of LASER. Thermacut burs are also can be used to trim minimal overlying tissue to get the supragingival margins.



Dr. Abhishek Laha
Professor, Buddha Institute
of Dental Sciences &
Hospital

Clinically so many quick and simple alternatives can be followed for tissue treatment. Hemostatic gels and astringents are also helpful to get some bloodless fields. Meticulous retraction cord placement and rubber dam floss ligature helps clinicians to get clean fields in class V restorations. Even very thin composite filling instruments can help to invert the dam sheet within the sulcus to isolate subgingival margins.

Teflon (PTFE tape) is a very good material for gingival retraction and isolation. It's a very thin tape which can glide easily into sulcus to give excellent isolation of the working field. It's the supplement to the gold standard rubber dam for the adhesive dentistry. For daily workflow like class V, class II deep proximal isolation or deep core build ups, clinicians can use it with a thin flexible plastic filling instrument to pack in the sulcus for getting clean working fields.

Some specially designed matrix bands for subgingival adaptation are also helpful for getting dry fields. However, for subgingival retraction for class V restorations, tissue retracting clamp like B4, B5 and B6clamps are very helpful in daily clinical practice.

In adhesive dentistry practice isolation is the key in success. Clinicians can follow any of the protocol as per the conditions and choice of availability to get their perfect outcome.



Dr, Kiran Kumar, Prof & Head, GDC, Bengaluru has received his Phd from RGUHS. The title was Innovative Surface Treatment for Zirconia Based Materials to Alter the Surface Dynamics So As To Enhance the Adhesion with Venering Ceramics. We congratulate sir and wish him all the luck

Do you consider the use of any tissue treatment in case of deep Class II and Class V. If so, what do you prefer ?

One of the significant challenges the dentist faces when doing a Class II restoration is managing the proximal box interdental gingiva. The Col is a non-keratinized epithelium that bleeds easily, and if there is superadded gingivitis or gingival hyperplasia, restoring the tooth can get more challenging.

Such a situation interferes with tooth isolation, matrix band placement, restorative material manipulation and setting, proper interproximal contact/contour, and with the finishing and polishing of the restoration. Before placing the final restoration, the operator might need to remove this gingiva to achieve good results.

Following are the techniques to tackle the Interdental Gingiva :

1. Mechanical- Pack a temporary cement like zinc oxide with pressure and wait for the gingiva to resorb. This technique is the most conservative, and being non-invasive is practiced commonly. This procedure might take a week to two weeks to yield the desired results.
2. Using a bur – A high-speed bur takes off the interdental gingiva. This technique traumatizes the gingival tissue a lot, resulting in delayed healing.
3. Surgical – Use a No 11 scalpel to slice the interfering gingiva under local anesthesia. This technique requires the operator to place a gingival pack for a minimum of a week before placing the restoration.
4. Electrocautery- Using a cautery effectively eliminates the gingiva with minimal bleeding and sound healing.
5. Lasers- A soft tissue laser works well to clear the interfering gingival quickly and efficiently.

While the electrocautery or laser causes minimal post-operative bleeding, isolation with an immediate restoration is possible, saving patients and operators time.

It is best to treat the problem associated with the interdental gingiva before giving the final restoration to ensure long-term success.



Dr. Shishir Singh MDS, Ph.D.

**Dean, Professor and Head,
Dept. of Conservative Dentistry and Endodontics,
Terna Dental College, Nerul, Navi Mumbai, India
ex. Clinical Teaching Fellow, UCI Eastman Dental Institute, London UK.
Diplomate, Indian Board of Microrestorative and Endodontics.
Editor in Chief, Journal of Conservative Dentistry**

ORCID ID. <http://orcid.org/0000-0002-8114-1539>

Research Gate ID https://www.researchgate.net/profile/Shishir_Singh11

Do you consider the use of any tissue treatment in case of deep Class II and Class V. If so, what do you prefer ?

Caries demineralisation of the proximal area is the second most common occurrence site. Prevalence of proximal caries increases with age, the elderly being most affected due to compromised integrity of periodontal tissue. Studies have shown that maxillary posteriors are more prone and disto-occlusal caries is most common among them.

These lesions are often missed during routine dental examination. Early detection using bitewing radiographs can prevent progression of these lesions both. As long as these caries defects are accessible, their restoration is predictable. The access to these defects is most often through the occlusal surface even when it is directly not involved. Only in cases where the gingival embrasure is open and the access is good, approach through occlusal surface can be avoided. As the location of these lesions move posteriorly in the oral cavity their restoration becomes more complex. This is more so when these lesions are aggressive and extend in the vertical dimension.



Dr Jayshree Hedge
Private Practitioner, Ridgetop
Dental International Pvt Ltd

Common challenge in clinical management of sub gingival lesion is obtaining good seal not only due to lack of enamel, but also due to challenges in isolation. Due to constant food lodgement, there is inflammation leading to difficulty in obtaining homeostasis and constant seepage of sulcular fluid. In extreme situations, we should opt for periodontal intervention and/or look at indirect restorative options. Making the right decision based on its location is crucial for the success of these restorations.

Based on the vertical extension of the caries lesion, it can be managed as follows:

1. When the lesion is equi-gingival, with ideal or deep sulcular depth, proximal preparation can be restored with resin using sectional matrix secured with a wedge, under rubber dam isolation.
2. When the lesion is sub gingival, but within the sulcus, the tooth loss is not only in the vertical dimension, it could also involve extensive loss of tooth structure involving the pulp. If there is cuspal involvement, indirect restoration should be considered with deep margin elevation. A sectional matrix with gingival extension (6.5mm) should be used to seal the gingival margin and prevent any fluid seepage. The bleeding can be controlled using laser or by injecting local anaesthetic containing adrenaline using a 30 gauge needle, or, viscostat clear. Rubber dam will provide good isolation as it inverts into the sulcus. The proximal preparation can be restored by backfilling 2-3mm with heavily filled flowable resin which can easily adapt to all the line angles and the remaining preparation filled with packable resin to restore occlusion. Alternatively dual cure bulk filling materials can also be used which will ensure complete curing even in the deeper aspects of the preparation.

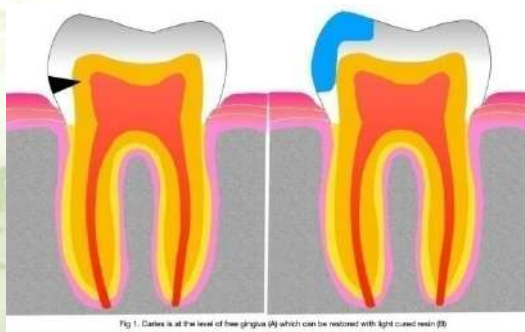


Fig 1. Caries is at the level of free gingiva (A) which can be restored with light-cured resin (B)

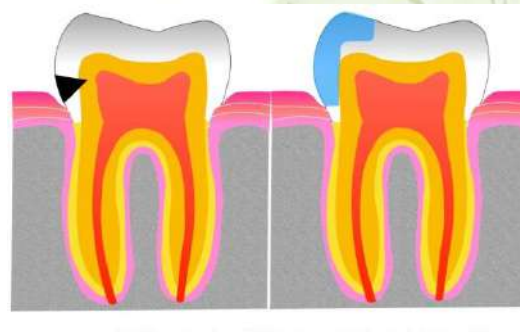
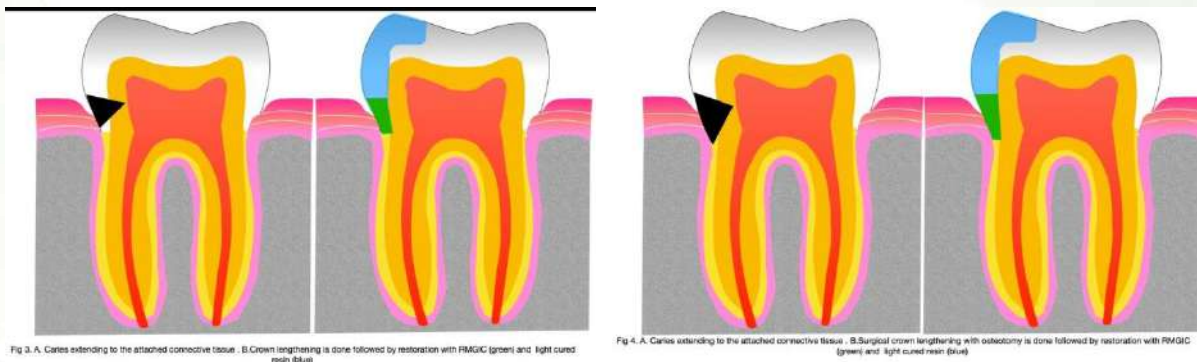


Fig 2. Caries extending to the sulcus (A) which can be restored with light-cured resin or dual-cured resin (B)

- When the caries extension is into the connective tissue, it requires periodontal intervention. Rubber dam isolation becomes more challenging. Crown lengthening is done with an intention of getting the matrix beyond the gingival margin. A non eugenol based temporary restoration can be placed if homeostasis is not obtained. Patient is recalled after a week. The restoration is completed using 2-3mm of RMGIC at the gingival floor and topped with resin restoration. However if homeostasis can be obtained, the restoration can be completed in the same sitting. Alternatively if there is extensive tooth loss or challenges in isolation, indirect restoration is the best choice.
- When caries is very aggressive and it has extended apical to the alveolar crest, surgical crown lengthening with osteotomy is done and the area is rested for 10 -14 days. The lesion is then restored with RMGIC and resin, if good isolation and gingival marginal seal can be obtained. If we cannot obtain good isolation and seal, orthodontic extrusion should be considered to relocate the gingival margin to a restorable position or opt for indirect restoration.

Obtaining good isolation and choosing the right restoration based on the amount of enamel available, plays an important role in longevity of the restoration.



Do you consider the use of any tissue treatment in case of deep Class II and Class V. If so, what do you prefer ?

The cutting of gums or gingivectomy becomes essential in cases where a subgingival decay needs to be restored. The gingivectomy involves removal of soft tissue to expose the tooth decay to such an extent where healthy hard tissue would be visible and used, all the while maintaining the harmonious relationship with underlying periodontal structures. The violation of this relationship, better known as “biologic width” can result in bone loss, food impaction, swollen or irritated soft tissues paving way for periodontal diseases. The gingivectomy (surgical) procedure, what we need is hence a combination of removal of soft tissue and/or along with hard tissue recountouring. Now, there are various ways to perform this gingivectomy, which includes scalpel, electrocautery, laser or bur. Although chemical methods (eg. Paraformaldehyde, potassium hydroxide) is also accounted in literature but it is no longer used since the depth and penetration of these chemicals cannot be controlled.



Dr. Shruti Bhatnagar
Reader, Periodontist

Gingivectomy using scalpel dates back to 1800s (Zentler and Robicksek). It has undergone many modifications to emerge into what is been practiced today. The procedure is as simple as it sounds that a scalpel is removing the unwanted tissue. One has to take care about how and where to remove. It does require certain experience to obtain the exact contour of a beautifully scalloped gingiva. Once the tissue is removed the healing can be primary (in case of suturing after flap reflection for osseous recontouring) or secondary (involve only gingivectomy). The basic mechanism of angiogenesis and neopitheliazation is followed by connecting gingival vessels with underlying tissue. If properly managed, the gingiva being very dynamic tissue, starts healing within 24-36 hours and completes by 14-21 days. However, it is technique sensitive and might not be the best if the gingiva is inflamed. The hemostasis will be of concern in such cases, not to forget a painful procedure in lack of adequate anaesthesia. Scalpel can give you wonderful results if performed properly.

The gingivectomy procedure using a rotary has been quite prevalent amongst the clan who believes that gingiva will bounce back to its original, desired shape and size. It is basically creating a trough around root surface in order to eliminate the gingiva where a high speed bur is used without a coolant to expose the required dental hard tissue structure. Although the procedure can be used if a negligible dental tissue exposure is required but still frowned upon by the periodontal community. There are very high chances of damaging the attachment apparatus as bleeding will obscure the vision and even if irrigation is used the gingiva become so friable a thin nice margin goes out of question. Regardless to say, healing is secondary and any accidental bone handling can result into necrosis and thus, bone loss.

The electrocautery and LASER is one of the most commonly used technique in the current times. Both can be used for festooning and contouring even in case of inflamed gingiva. Diode is a preferred soft tissue LASER as the receptors are present in the gingiva and thus the avoiding absorption of Laser light into the surrounding tissues. Both the techniques are nearly painless; one might need only topical anaesthesia for it. The benefit of hemostasis is the cherry on top. While electrocautery uses current to coagulate the vessels and lymphatic supply, the carbonization or charring of tissue is less because of lower heat generation than that of LASER. The carbonization of tissue in case of LASER results in formation of a protective barrier in form of fibrinous membrane thus protecting the underlying tissues. The effect of photobiomodulation also helps in healing. Both the devices are very easy to use and contour. The healing occurs through cell disruption and promotion of cell migration at the wounded site. Electrocautery should only be used in case of superficial cutting of gingiva as its bone contact may result in bone necrosis and is to be avoided in patients with cardiac pacemakers. Certain lasers are available which do not have harmful effect on bone but essential bone recontouring should be done only with specified hard tissue laser otherwise bone loss is inevitable.

Bonus for endodontist: Recontouring of ginigva in aesthetic region is another crucial aspect in esthetic dentistry. One must be absolutely sure of the biologic width and its maintenance as any violation may result in to failure. The biologic width is the key factor to avoid any periodontal problem or patient dissatisfaction. Gingivectomy is not as simple as mere cutting of gingiva. A proper case selection and procedure will go a long way for both the patient and restorative dentist. As the periodontists' say, pink and white makes a perfect duo; endodontists and periodontist will make a perfect couple.

LASER IS NOT JUST LIMITED TO DISINFECTION IN CONSERVATIVE DENTISTRY AND ENDODONTICS

BY – Dr. ShaninFarista, Clinical Director, Laser Dentistry multispeciality
Dental Laser Lounge, Mumbai



Ever thought of doing a cavity preparation in non-contact manner, ooh yes without even touching the enamel or dentin? Ever imagined of removing the caries and repairing the pulp at the same time with the same tool? Ever had a notion of managing the gingiva alongside a Class V cavity preparation with a single & same operating unit? Yes, Laser Dentistry in this high-tech era is more than just a fancy and a trending tool. It's the best example of how technology can improve the quality of care we provide. It's high time to recondition our mind as specialty practitioners.

Presenting range of clinical applications using the commonest laser wavelengths used in dentistry – Near Infrared laser/ Diode Laser (940nm & 980nm) and Mid Infrared laser/Erbium Laser (2780nm & 2940nm).

Here is a case of Minimally Invasive Endodontics with lower left first premolar (34) performed using Erbium Laser – Er,Cr:YSGG (2780nm)

Laser Cavity Preparation –Erbium family lasers often referred to as hard tissue laser (2780nm & 2940nm) are the torch bearer of minimallyinvasiveapproachof preparing a cavity. They work on “Selective Ablation” meaning selectively removing the carious enamel and dentin and preserving the sound enamel and dentin. Moreover, since the laser handpiece is used in non-contact manner, it minimizes the discomfort, pain and vibration that patient experiences.

Laser Endodontics–The finest exemplar of Minimally Invasive Endodontics is the Laser Root Canal Treatment with erbium laser, its FDA (2002) approved procedure. The steps for complete laser root canal treatment are as follows –

Access Cavity Preparation– the most conservative access cavity can be prepared and pulp can be removed from the pulp chamber using Erbium Laser. First there is selective ablation of carious enamel and dentin followed by providing a desired shape as per the accessibility criteria.

Right from canal orifice location, patency checking, apical gauging, working length determination and preparing the canals, laser tip can go inside the canals as done in the traditional manner using hand or rotary files.

Cleaning & Enlarging –Erbium Laser tips are introduced into root canals with the intent to clean and enlarge the canals along with primal action of smear layer removal by stripping away the hydroxyapatite and providing open dental tubules for complete sealing of canals during the obturation.

Irrigation & Disinfection–This step is of paramount importance and can be done by both types of lasers, either by using diode lasers while performing conventional root canal treatment or by using erbium lasers while doing complete laser root canal treatment. The various methods include -

Laser Activated Disinfection with Diode Laser - The laser tip is introduced into the root canal compulsorily filled with an irrigant (Sodium hypochlorite/EDTA/Critic acid/Normal Saline) to a certain depth 2-3 times at a particular laser setting.

Photo Activated Disinfection with Diode Laser - The laser tip is introduced into the root canal compulsorily filled with photoactive substance/dyes to a certain depth 3-4 times at a particular laser setting. The selection of photoactive substance depends on the corresponding laser wavelength.

Laser Activated Disinfection with Erbium Laser - The laser tip with continuous water is introduced into the root canal and there is no need for any additional irrigating agent or any photoactive substance/dye.

Photon Induced Photoacoustic Streaming (PIPS) – It's a disinfection protocol patented by Erbium Laser – Er:YAG (2940nm) Light Walker Dental Laser by Fotona. Here the irrigant is activated by hovering the specialised laser tip in the pulp chamber filled with irrigant (sodium hypochlorite or EDTA). The process works by using extremely short bursts of peak power laser energy directed down into the canal and performing active pumping action, The action actively pumps the tissue debris out of the canals while cleaning, disinfecting and sterilizing each main canal, lateral canals, dentinal tubules and canal anastomoses to the apex.

Shock Wave Enhanced Emission Photoacoustic Streaming (SWEEPS) - It's even more advanced disinfection protocol than the PIPS, patented by Erbium Laser – Er:YAG (2940nm) Light Walker Dental Laser by Fotona. The purpose is to improve the disinfecting and activating efficacy of PIPS by permitting the generation of primary and secondary shock waves throughout the complicated root canal system.

Obturation – thermoplastic and warm vertical condensation is preferred to get the proper sealing of the open dentinal tubules, open and clean lateral canals and apical ramifications.

Other uses:

Sinus Tract Management with Laser - There are two school of thoughts, first is to reduce the bacterial load inside the sinus tract which can be done using diode laser or second is to ablate the epithelium of patented sinus to initiate the healing process to close the sinus tract using erbium laser or diode laser.

Management of Post-Endodontic Pain – Using low power laser at a very low power setting immediately after the completion of root canal treatment, helps to minimize the pain and discomfort post-operatively along with facilitated periapical healing in cases of long-standing periapical infection.

Soft Tissue Management while doing Cavity Preparation – Both Near Infrared Laser (810nm,940nm,980nm) and Mid Infrared Laser (2780nm,2940nm) are used for management of gingival tissue.

It serves best for gingivoplasty while preparing a Class V and Class II cavity and for removing gingival polyp in deep Class II cases. Here, it provides a bloodless field due to supreme hemostasis so that it can be immediately followed by a composite restoration. It minimizes the need of injectable anesthesia as topical anesthesia suffices in most of the cases

Management of Post-operative Sensitivity after Cavity Preparation – Using low power laser at a very low power setting helps to minimize the immediate post-operative sensitivity when done after cavity preparation and before the restoration especially in Class V cases.

Caries Prevention with Laser -Laser Induced Prevention of Demineralization is using erbium laser at sub ablative energies and lower fluences to get the structural/morphological changes in the enamel and dentin leading to resistance against the acid attack. Erbium laser exhibits chemical alterations along with physical alterations (long term effect) which leads to more potent caries resistance action than the diode lasers or the chemical reagents alone as both of which have more pronounced chemical alterations (short term effect) on enamel and dentin than physical.

Laser Assisted Vital Pulp Therapy–The trending way to preserve the pulp vitality is through pulp capping procedures using various biomimetic approaches. Laser is beneficial for both form of pulp capping i.e., Direct pulp Capping and Indirect Pulp Capping. The major function of Laser in cases of Direct Pulp Capping is hemostasis along with potent bactericidal action at the exposed site and better acceptance due to pulpal analgesia. Both Near Infrared (810nm,940nm,980nm) and Mid Infrared (2780nm,2940nm) laser wavelengths can be effectively used in direct pulp capping cases. While in cases of Indirect Pulp Capping, Mid Infrared Laser (2780nm,2940nm) are effective as they provide surface disinfection of the remaining dentin along with inherent pulpal repair action owing to increase release of regenerative factors responsible for repair.

Conclusion - Lasers now hold a common place in specialty practice as well and should no longer be considered a show piece or a trophy. It poses as the best choice for minimally invasive dental procedures as it provides the patient with comfort, silence, lack of vibration, faster healing and better acceptance whereas it provides dentist with precision, disinfection, bloodless field and reduced pulpal temperature compared with high-speed drills.

Access Cavity Preparation Settings

- ✓ Gold Handpiece
- ✓ MZ8 Tip
- ✓ 6W
- ✓ 20Hz
- ✓ H mode
- ✓ Air 90
- ✓ Water 70

Conventional Step **Measuring Length with Laser Tip** **Minimally Invasive Opening** **Cleaning & Enlarging**

Root Canal Disinfection with Laser

Laser Disinfection Settings

- ✓ Gold Handpiece
- ✓ RFT2 Tip
- ✓ 0.75W
- ✓ 20Hz
- ✓ H mode
- ✓ Air 10
- ✓ Water 10

Radial Firing Tip (RFT) of 2780nm Laser

Cleaning & Enlargement Settings

- ✓ Gold Handpiece
- ✓ RFT2 Tip
- ✓ 1.25W
- ✓ 50Hz
- ✓ H mode
- ✓ Air 35
- ✓ Water 25

SPOTLIGHT

Ist ACE National Conference - 2022

The first conference of the Association of Conservative Dentistry and Endodontics of Karnataka was organized by A B Shetty Memorial Institute of Dental Sciences, NITTE (Deemed to be University), Mangaluru from the 07th to 09th of July 2022 under the able guidance of Prof Dr Mithra N Hegde, Organizing Chairperson of the Conference, Founder Member and Secretary of ACE-Karnataka, Vice Principal of ABSMIDS, NITTE (DU). The conference was inaugurated on the 08th of July 2022 by Sri N Vinaya Hegde, Chancellor of NITTE (Deemed to be University)

A book on Micro-Dentistry in Endodontics authored by Dr Mithra N Hegde and Dr Shazeena was released by Guest of Honour, Dr P Karunakar, Dean, Panineeya Mahavidyalaya Institute of Dental Sciences and Research Centre, Hyderabad. Dr Ramya Raghu, President of ACE-Karnataka presided over the function while Dr Neeta Shetty, Organizing Secretary delivered the vote of thanks.

The conference first of its kind, varied with three Plenary Sessions comprising of Symposium, Panel Discussion and Q&A sessions with eminent resource persons from all over India. Two sessions i.e Geriatric restorative care: Demand and Challenges and Endodontic failures and retreatment strategies: Dilemma in decision making was conducted and Industry Technology Platform Sessions (Demonstration and hands-on) were held on eight different topics. The conference was attended by more than 300 International and National delegates and post-graduate students and around 40 colleges participated from all over India



The Chhattisgarh Association of Conservative Dentistry & Endodontics organized its first international scientific CDE on July 14, 2022 at Raipur CG. The event was graced by Dr Rana Varghese, President CGACDE & vote of thanks was by Dr Yogesh Sahu, Secretary. The resource person was Dr Walid Kurdi & the CDE was on Bypass like a Boss. This program had more than 130 participants

Entertainment

NEWSLETTER OFFICE

Dr. Rashmi Nair.

Professor, HOD
Department of
Conservative Dentistry
and Endodontics.
CDCRI, Chhattisgarh

IACDE members are
requested to send their
inputs, activities in your
state, news, views,
scientific and academic
achievements, awards,
jokes, cartoons
& questions for
thenewsletter to:
newsletter@iacde.in

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endodontist	apical curettage	pulptits
apicoectomy	root amputation	perforation
reversible pulpitis	chronic	gutta-percha
control tooth	percussion	indirect pulp cap
abscess	debridement	hemisection
irreversible pulpitis	palpation	nonvital
pulpectomy	Acute	

IACDE JUMBLE WORDS ANSWERS

1. CALCIFICATIONS
2. MAXILLARY
3. REVITALIZATION
4. MICROSURGERY
5. ESTHETICS



Dr. Vijetha Badami

Professor and Head,
Dept of Conservative Dentistry and Endodontics,
MNR Dental College, Sangareddy, Hyderabad

Beyond Dentistry