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# DENTAL 360

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**PREVEST** DenPro®  
THE FUTURE OF DENTISTRY



**“Have a  
persistent  
desire  
to do  
something  
better  
every day.”**

**Dr. Prasanna Neelakantan**

## The fountain of life lies within you...

**S**cience is constantly updated, what is considered as the treatment of the present age becomes obsolete in a few years. We have all seen clinical Dentistry transcend over the years as new data have accrued regarding biological concepts and improvements in procedural techniques have opened up newer treatment vistas. Regenerative technology was once considered a thing of the distant future, but we can already see numerous regenerative procedures being performed on a day to day basis.

*We stand on the world of revolution in dentistry: Understanding, Treating and ultimately preventing the causes of disease. But medical revolution only happens when there is paradigm shift in interventional strategies from replacement towards regeneration.*

*Cell transplantation does not always obtain the good result because of the low survival rate of transplanted cells. In addition, the use of ex vivo manipulated cell products faces many translational hurdles in treating non-vital disease. Recently, the body cells are focused as a potential source for therapeutics. Some researchers have demonstrated that endogenous stem cells may be recruited to a desired anatomic site pharmacologically. This is spurring interest in developing new generation of biomaterials that incorporate and release selected powerful extracellular influences in a near-physiological fashion, and subsequently capture endogenous cells and influence their fates for regeneration. The use of patient-derived products such as platelet-rich preparations that contain a multitude of endogenous growth factors and proteins is a clinically translatable biotechnology for this proposes. These simple and cost efficient procedures may have a potential impact in reducing the economic costs for standard medical treatments in regenerative dentistry.*

*There have been numerous attempts on pulpal regeneration using pletelet derived factors, however their outcomes varied. The variation in outcomes can be attributed to non standardized regenerative protocols. Recent publications on standardized protocols are yielding superior results. Use of bioactive materials and a thorough knowledge of medicaments are essential for successful regenerative therapy. The future of regenerative endodontics lies in overcoming the existing roadblocks and incorporating cutting edge technologies to improve the clinical and histological outcomes.*

*As quoted from the bible "for within you is the fountain of youth". The "Fountain of Life" lies within the cells of each of us. All you need is to realize its potential and unleash its full power.*



**Dr. Sai Kalyan**



# CLINICAL GUIDELINES FOR ASSESING POST REQUIREMENTS AND POST SELECTION

By : DR. S. SAI KALYAN

## ABSTRACT :

In an era of Interdisciplinary dentistry, Endodontics can undoubtedly be regarded as foundation for good Prosthodontics. Thousands of mutilated teeth which might have been otherwise doomed to extraction, are now being saved by endodontic treatment followed by Post and Core. It is important for the practitioner to have a clinical sense of what can be accomplished as final outcome before the rubber dam has been placed and work commenced on the tooth. A good treatment protocol is based on the best combination of fundamental concepts and current factual evidences. This paper highlights the guidelines for assessing post requirements in different clinical scenarios and provides a comparative evaluation of properties of various Post systems.

## INTRODUCTION :

Advent of adhesive dentistry has revolutionized every aspect of dentistry and the field of Post endodontic restoration is not an exception. With a plethora of Posts and Core build up materials available in dental market today, it is often difficult for the clinician to determine which system to use. In order to achieve predictable outcome in structurally compromised teeth, a number of factors need to be taken into judicious consideration and treatment planned accordingly. Use of Posts to increase longevity and strength of endodontically treated teeth has long has been a matter of debate. The primary dilemma is whether or not to use a post. This paper highlights the guidelines for assessing post requirements in diverse clinical situations and compares the major categories of posts in relation to the properties that affect the final outcome of the restoration.

## CLINICAL ASSESSMENT OF POST REQUIREMENTS :

Despite the availability of abundant data, Controversy persists in the area of post usage. Availability of various new materials have further complicated the selection and usage of Posts. The modern day usage of posts has by far been more empirical than scientific. Clinicians often face dilemmas regarding the selection of cases for post placement. The usage of posts must be based on sound biomechanical principles rather than an empirical basis. Failure to embrace definitive research guidelines and improper case selection can lead to catastrophic failures.

**Table 1: Guidelines for assessing Post Requirements<sup>1</sup>**

CLASS	NUMBER OF WALLS REMAINING (1 MM THICK DENTIN)	POST	CORE	DEFINITIVE RESTORATIO N
I	4	Not Indicated	Adhesive	Any
II	3	Not Indicated	Adhesive	Any
III	2	Not Indicated	Adhesive	Any
IV	1	Fibre (Anterior) Fibre/ Metal (Posterior)	Adhesive (Anterior) Adhesive/ Cast (Posterior)	Crown (Anterior) Onlay / Crown (Anterior)
V	0	Fibre/ Metal	Adhesive/ Cast	Crown

Posts were previously considered to reinforce root structure but it is currently understood that posts may help in reinforcement the coronal aspect (Core) but post preparation would significantly weaken the root structure. Since the post reinforces the coronal tooth structure<sup>1</sup>, it is logical that the remaining coronal tooth structure will dictate the placement of posts.

A classification given by Peroz et al suggested guidelines on clinical situations which demanded post insertion. This classification describes 5 classes, depending on the number of remaining axial cavity walls<sup>1</sup>.

## EVIDENCE BASED SELECTION OF POSTS IN CLINICAL PRACTICE :

In relation to the length of the Post, Goodacre<sup>2</sup> has suggested that posts should be as long, if not longer than the clinical crown height and should end apically halfway between the crestal bone and the root apex.<sup>3</sup>

In addition, a minimum of 4-5 mm of remaining gutta-percha filling is must for maintaining apical seal in teeth prepared to receive posts.<sup>4</sup>

It has long been established that increasing post diameter do not significantly add to retention<sup>5</sup>; rather it requires sacrificing large amount of radicular dentin with consequent root weakening.<sup>6</sup>

In order to obtain maximal retention without excessive weakening of tooth, Post diameter should not be more than one third of the root diameter anywhere along the length of the root and diameter at the root tip should be limited to 1 mm or less.<sup>2</sup>

Post Design affects the retention of post within the canal. The Order of retention<sup>7</sup> is as follows: Threaded > Parallel > Tapered

However, placement of parallel posts requires more post space preparation than tapered ones and hence may not be a good choice for roots with thin walls which are more prone to fracture.<sup>8</sup>

While restoring teeth in esthetic zones, Ceramic and newer fiber posts are preferred over metal posts.<sup>9</sup>

Table two provides Comparative evaluation of clinically relevant properties<sup>10-12</sup> of different types of Posts available in the dental market today.

**Table 2: Comparison of clinically relevant properties of different types of Posts.**

Type of post	Modulus of elasticity	Stress generation	Risk of corrosion	Esthetics	Retrievability	Number of visits	Biocompatibility
CAST METAL	++	++	++	--	--	02	--
PRE-FABRICATED METAL (Stainless Steel)	+++	+++	++	--	--	01	--
FIBRE	+ (almost similar to dentin)	+	--	++	+++	01	+
CERAMIC	+++ 200 MPa	++	--	++	---	02	+

## Core materials and post cementation :

Historically conventional glass ionomer cements have been used for cementation of posts. Development of resin technology has seen numerous resin based luting cements being introduced for the purpose of luting posts. These cements have

# CLINICAL GUIDELINES FOR ASSESING POST REQUIREMENTS AND POST SELECTION

By : DR. S. SAI KALYAN

superior bond strengths, thereby strengthening the endodontically treated tooth and increasing post retention<sup>13</sup>.

Dual curing resin cements (Ultra DC, Prevest DenPro) have been advocated for luting of posts due to inadequate light penetration inside the root canal. It is also very important to use the right adhesive system with the luting cement. Although the self etch systems (6<sup>th</sup>, 7<sup>th</sup> Generation bonding agents) are popular, the use of dual curing bonding agents such as Bond DC (Prevest DenPro, Jammu) and Futura bond DC(VOCO) are advocated.

The latest resin technologies utilize the same resin material for luting as well as core build up (Core DC Flo, Prevest DenPro). Enhanced strengths, lower viscosities, improved convenience and advanced delivery systems have caused the process of post luting and core build up being completed one single step. These materials have comparable biologic properties to that of human dentine (elastic modulus, Table :3) and have shown to be dimensionally stable and biologically inert. These properties make them the appropriate choice for the post and core technique.

**Table 3: Comparison of Modulus of elasticity of different types of core build up material.**

	Core Material	Modulus of elasticity in GPa
1.	Dentine	18
2.	Amalgam	27.6
3.	Common composite	8.3
4.	Glass ionomer	7.3
5.	Fiber reinforced composite(FRC)	45
6.	Polyethylene fiber Reinforced Composite	23.6
7.	Flowable core build up composites	19
8.	Unfilled resin	4

## CONCLUSION :

Due to expanding favorable clinical experience and increasing number of focused clinical research studies, more number of teeth are being saved than ever before by endodontic treatment. These teeth might otherwise be doomed to extraction. An ideal Post should provide optimal retention of core with minimally invasive preparations. Clinicians should understand that there is no panacea for all ills and each case needs to be individually evaluated to formulate specific protocol in order to enhance the

survival of endodontically treated teeth.

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## Dr. Sai Kalyan

“Academician, researcher and medical device expert. He has a masters degree and a PhD in endodontics. His current interests include bioactive materials, nanomaterial systems and regulatory affairs.”



# Invisible Orthodontics : A GLIMPSE

In this era of self-improvement with its emphasis on health, there has been an explosion of interest in exercise programs, diet, nutrition and facial appearance. Many individuals would like to have the benefits offered by high quality orthodontic treatment, but at the same time, do not want to have their braces visible to their colleagues. They want 'invisible braces'. These patients come from a variety of occupations and lifestyles, mainly professionals in their late twenties and early thirties – the potential future achievers. Other significant groups include young females, students and people in the public eye such as flight attendants, models and actors.

This is to provide an insight into the different treatment modalities comprising 'invisible orthodontics', namely, ceramic braces, lingual orthodontics and clear aligner therapy.

## CERAMIC BRACKETS :

The arena of biomaterials witnesses newer windows being opened at regular intervals. The rationale of introducing esthetic brackets in orthodontics is due to the increasing number of adults seeking orthodontic therapy.

Neumann et al introduced the first transparent brackets in 1960s. However, excessive commercial marketing of ceramics initially occurred during the mid-1980s (1986).

**There are various types of ceramic brackets available. Monocrystalline brackets, even though they're much transparent, breakage is the main disadvantage. Polycrystalline brackets, on the other hand, are more fracture resistant. Alumina and zirconia, are the two different polycrystalline brackets, which have greater esthetic properties and are translucent.**

Ceramic brackets have high friction resistance, so one of the methods of reducing the frictional resistance is by inserting metal slots in the brackets. Even self-ligating ceramic brackets are available in the market nowadays.

The esthetic value and increased bond strength are few of their advantages.

However, as ceramic is harder than tooth enamel, enamel abrasion and wear is one of the major limitation. Debonding of the ceramic brackets also require special armamentarium, besides predisposing the enamel to iatrogenic damage. Other problems include staining and areas of decalcification observed around the brackets. Needless to say, the cost factor also adds to their disadvantages.

## LINGUAL ORTHODONTICS :

The first true lingual appliance began almost simultaneously in about 1980 with Dr. Calvin Kurz of California, USA and Dr. Fujita of Japan.

Lingual appliance is primarily used by adults, who didn't undergo treatment during their adolescence due to certain reasons. The main advantages of



lingual appliance therapy are that it is not visible to other people. It is primarily desired by working professionals who don't want their braces to be visible to their colleagues. An indirect advantage is that it favours relief of symptoms due to temporomandibular joint dysfunction owing to its bite-plane effect.

Simple cases, non-extraction cases, class I with mild dental crowding, deep bite, class II cases and bimaxillary cases make up good candidates for lingual appliance therapy.

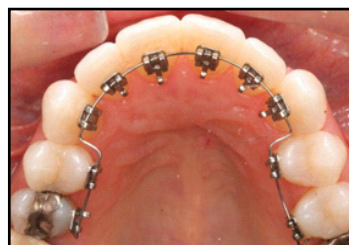
Whereas, for patients requiring orthognathic surgery, patients suffering from acute temporomandibular joint dysfunction, mutilated posterior occlusion, short clinical crown

heights, poor oral hygiene and for non-compliant patients, lingual appliance treatment is contraindicated.

The main disadvantage of lingual appliance is primarily constituted by its cost factor. The patient may suffer from speech problems, excessive salivation, poor oral hygiene and associated periodontal conditions. The duration of the treatment is greater and the finishing of the case is also not as good as that obtained in conventional labial orthodontics. The inter-bracket distance is reduced considerably, leading to episodes of pain for the patient. For the orthodontist, long clinical hours and the specific posture which the technique demands, may lead to the development of chronic orthopedic problems concerning the cervical spine in the long run.

## CLEAR ALIGNER THERAPY :

Clear aligners are the latest addition to the list of orthodontic armamentarium. The basic idea behind the development of clear aligner technology dates back to 1945, when Dr Peter Kesling introduced the tooth-positioning appliance.



Advancements took place thereafter when Henry Nahoum in 1950's developed the vacuum formed dental contour appliance often termed as the formed "invisibles". In 1971, Ponitz of Ann Arbor, Michigan introduced so-called "invisible" retainers.

Adult patients make the best clients for clear aligner therapy. The reason is that these patients are internally motivated and are highly compliant, the latter being the primary requirement in bringing about successful orthodontic treatment through this technique.

## THE INVISALIGN SYSTEM :

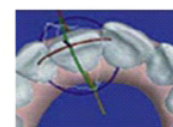
Invisalign® is an orthodontic treatment method in which removable, clear, semi-elastic polyurethane aligners are used to correct malocclusions.



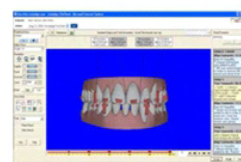
PVS impressions, waxbite, radiographs, photos



CT scan is made of impressions to produce a virtual model



TREAT II software used to simulate the teeth movement



ClinCheck® allows Orthodontist to reviews, modify, and approve the treatment plan



Stereolithography to build precise molds of teeth at each stage



Individualized, custom-created clear aligners are made from these models

There is an interesting history behind the invention of Invisalign system. It was developed by two MBA graduates from Stanford University, California, named Zia Christi and Kesley Wirth. They themselves had undergone previous orthodontic treatment and were wearing the clear aligners as retentive appliance, when they noticed that the teeth moved to their original place when they had not worn the retentive appliance for some time. They thought that the same philosophy could be utilized for actively moving the teeth within the jaws. So, this philosophy paved path

# Invisible Orthodontics : A GLIMPSE

to the development of Align Technologies in April 1997. They started it in a garage in Palo Alto, California, USA. Today the company is based in Santa Clara, California, USA. This technology was the first orthodontic treatment method to be based solely on three-dimensional (3D) digital technology.

- A rubber base impression (PVS) is sent to Align Technology with copies of x-rays, photos and a detailed treatment plan.
- A model is made that is embedded in a high contrast material which is entered into the computer by laser scanning very thin slices of the model (destructive scanning).
- Based on the doctor's detailed treatment plan, technicians generate a virtual correction of the malocclusion which is e-mailed to doctor (ClinCheck).
- The doctor reviews the virtual treatment and e-mails revisions if necessary.
- Any revisions requested are made by the Align technician and e-mailed back to the doctor as a modified ClinCheck.
- After final approval, the treatment sequence is divided into a series of algorithmic stages which has maximum tooth movement of 0.25 mm per stage.
- Models of each stage of treatment are made by having the computer direct their fabrication (stereolithography). Laser guides curing of thin layers of resin.
- Individual appliances (aligners) are made from the computer generated models of each stage.

The patients who are potential candidates for treatment using Invisalign system are simple non-extraction cases, having a full complement of erupted permanent teeth. With clear aligner therapy, only simple tooth movements are possible, like, space closure, dental expansion, flaring, intrusion / extrusion and mild crowding which can be corrected by interproximal reduction.

Results obtained by Invisalign system are highly predictable in cases requiring space closure, 2-4 mm of labial or buccal expansion, incisor rotations, deep overbite correction and non-skeletal cross-bite correction.

Moderate prognosis of certain cases is seen in root torqueing, distalization of posterior teeth upto 3-4 mm, treatment in periodontally compromised patients and in teenagers who have full complement of erupted permanent dentition, etc.

Poor prognosis is seen in correction of severe rotations of premolars and lower canines, extrusion, mesial movement of posterior teeth (pre-molar extractions), individuals having short clinical crowns (partially erupted teeth) and treatment ensued in less mature teenagers.

The material used for fabrication of Invisalign appliances is polyurethane with added methylene diphenyl diisocyanate and 1,6-hexanediol. These materials are biocompatible.

For successful treatment with Invisalign system, the patients are required to wear the aligners typically for 24 hours daily; the patient is advised to remove them only while eating, drinking, brushing and flossing. Each set of aligner is commonly required to be worn for 7 to 14 days, with progress being patient and movement specific.

Nowadays, this system is becoming increasingly popular worldwide. It creates an increased awareness for esthetics. It makes patients more aware of plaque associated problems with fixed appliances. It is generally desired by working professionals who do not want fixed appliances (especially adults and re-treatments). It allows for the appreciation of the benefits of technology (especially by teenagers and young adults). Most orthodontic patients in today's date are computer literate and appreciate how technology can enhance treatment. This system

also serves as a good alternative to porcelain veneers and ceramic brackets.

There are several advantages associated with Invisalign system. First and foremost being its esthetic value, where it is hardly visible even at close distances. It helps in improving oral and periodontal health of the patient. The patient finds cleaning the appliance very easy. It doesn't cause any discomfort for the patient. There are no adverse effects on the speech. Patients find wearing the appliance highly comfortable as there are no brackets or archwires to cause soft tissue irritation. As bonding is not required, decalcification areas or white spot lesions are not formed. Another advantage is that the teeth can be bleached with the appliance at the beginning and during treatment. Since aligners are made of biocompatible polyurethane material, the associated risk of allergy is substantially reduced. Since the Invisalign system provides a bite-plane effect, it indirectly helps in relieving of symptoms in patients suffering from TMJ problems. For the clinician, this system requires shorter chairside time, as well as enabling him/her to treat different parts of the arch in different sequences.

However, this system holds a few disadvantages too. Tooth movement is very limited, of the order of 0.25 mm per appliance. Hence, for the correction of malocclusion, 20-30 appliances are required, depending upon the severity of malocclusion in question. Hence, the total treatment cost may be multiples of the total cost incurred by conventional fixed appliance. One major limitation is that this system is entirely dependent on patient compliance. The clinician has no control whatsoever over this aspect. Hence the patient needs to be internally motivated for this treatment. All permanent teeth should be fully erupted for treatment using this appliance. Also, there is currently no capability to incorporate basal orthopedic change with this appliance system. Further, unlike fixed or other types of removable appliances, the treatment plan cannot be changed once the appliance series has begun. This system is generally not successful in extraction as well as growth modulation (functional) cases. The patient needs to visit the orthodontist repeatedly for interproximal reduction. And last but not the least, there is an inherent technical difficulty of evenly dividing larger overall movement into small, precise stages manually.

In the present scenario, there has been an increasing trend of esthetically conscious professional adults seeking orthodontic treatment lately. At the same time, they do not want their braces to be visible to their colleagues. They want invisible braces.

For such patients, there are three above options available. Every option has its own advantages and disadvantages. It's the job of the orthodontist to put forth the pros and cons of each system to the patient, and let him/her decide what suits best for him/her.

Much advancement has been made over the years, and since technology is an ongoing process, we will witness further advancements in the years to come.



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# Strengthening Future Dentistry With Newer Materials

## ABSTRACT :

Future of DENTISTRY after covid 19, deals with introduction and usage of cost effective and strengthful, Dental materials. We should be focusing much more about strengthening DENTISTRY through the placement of newer materials, fixing a small restoration should be affordable for the common men. Discussing about the recent advances in detail.

## KEY WORDS :

Dental Materials, future dentistry, Dental amalgam, Glass ionomer, composite, Newer materials, Covid 19.

## INTRODUCTION :

"The future belongs to those who believe in the beauty of their dreams" – Eleanor Roosevelt

World after covid 19, would be not much simple even for the professionals. World of DENTISTRY need to change with the change in it's surrounding. Fixing a small restoration would not be affordable for common men if the same continues.

We should be focusing much more about strengthening DENTISTRY through the placement of newer materials which the professionals and the common men can afford and demanding a better life.

Using a Amalgam restoration in posteriors is cost effective and yield a very good life to the tooth, But we humans are much aesthetically concerned and we don't agree to wear the same on our anteriors. We choose for a composite restoration, the one which both of them couldn't afford.

Dental treatment should change from here, modifications are necessary for everything and anything. Discussing the recent Advances made in the Dental materials so far, **DENTAL AMALGAM :** Dental amalgam is one of the most versatile restorative materials used in dentistry. It constitutes approximately 75% of all restorative materials used by dentists. It has served as a dental restoration for more than 165 years. There is still no adequate economic alternative for dental amalgam. The combination of reliable long-term performance in load bearing situations and low cost is unmatched by other dental restorative material.

## RECENT ADVANCES RESIN COATED AMALGAM :

To overcome the limitation of microleakage with amalgams, a coating of unfilled resin over the restoration margins and the adjacent enamel, after etching the enamel, has been tried. Although the resin may eventually wear away, it delays microleakage until corrosion products begin to fill the tooth restoration interface.

## FLUORIDATED AMALGAM :

Fluoride, being cariostatic, has been included in amalgam to deal with the problem of recurrent caries associated with amalgam restorations. The problem with this method is that the fluoride is not delivered long enough to provide maximum benefit. An anticariogenic action of fluoride amalgam could be explained by its ability to deposit fluoride in the hard tissues around the fillings and to increase the fluoride content of plaque and saliva, subsequently affecting remineralization. In this way, fluoride from amalgam could have a favorable effect not only on caries around the filling but on any initial enamel demineralization. The fluoride amalgam thus serves as a "slow release device".

## BONDED AMALGAM :

Conventional amalgam is an obturating material as it

merely fills the space of prepared cavity, and thus, does not restore the fracture resistance of the tooth, which was lost during cavity preparations. In addition, the provision for adequate resistance and retention form for amalgams may require removal of healthy tooth structure. Further, since amalgam does not bond to tooth structure, microleakage immediately after insertion is inevitable. So, to overcome these disadvantages of amalgam, adhesive systems that reliably bond to enamel and dentin have been introduced.

## FUTURE :

The prediction that amalgam would not last until the end of the 20th century was wrong. Its unaesthetic appearance, its inability to bond tooth, concerns about the mercury and versatility of other materials have not led to the elimination of this inexpensive and durable material. As other materials and techniques improve, the use of amalgam will likely continue to diminish, and it will eventually disappear from the scene.

## DENTAL CEMENTS :

### (GLASS IONOMER CEMENT)

Glass ionomer cements (GICs) are being used for a wide range of applications in dentistry. In order to overcome the poor mechanical properties of glass ionomers, several modifications have been introduced to the conventional GICs.

## MODIFICATIONS POWDER – MODIFIED NANO GLASS IONOMERS :

It is well-documented that incorporation of nano-sized particles may improve the mechanical properties of polymeric dental materials . De Caluwé et al. showed that doping conventional GICs with nano-sized glass particles can decrease the setting time and enhance the compression strength and elastic modulus . The main advantages of decreasing setting times of direct restorative materials are e.g., enhanced ease of handling and manipulation. These decrease the treatment time, benefitting both the clinician as well as the patient.

## MODIFICATION USING NANO – APATITE :

Due to their chemistry being similar to that of mineralized bone and dental tissues, hydroxyapatite and fluorohydroxyapatite have been used in many fields of dentistry such as implant dentistry , and caries prevention .For instance, nano-hydroxyapatite (nHAp) crystals can favor remineralization of enamel. Recently, resin composites modified by the addition of nHAp have been observed to have superior mechanical properties than unmodified resin composites.

## COMPOSITE :

Composites are composed of three distinct phases, each with its own role in dictating material properties: the polymerizable resin, filler, and the filler-resin interface.

## MODIFICATIONS :

### FLOWABLE COMPOSITE

It is termed as "flowable composite" because of its low viscosity and ability to be syringed into a cavity preparation with a needle tip. Most of the flowable composites presently available are not filled, generally containing from 56% to 70% filler by weight. Accordingly, they have reduced mechanical properties such as a higher susceptibility to wear, a higher polymerization shrinkage, and lower flexural strength. Flowable composite resin materials can be useful not only as a liner but to build up cavity preps, to block out small undercuts and to use as an indirect or direct pulp cap.

# Strengthening Future Dentistry With Newer Materials

## NANO COMPOSITE :

Nanotechnology may provide composite resins with a dramatically smaller filler particle size that can be dissolved in higher concentrations and polymerized into the resin system.

## ANTIMICROBIAL COMPOSITE :

Antimicrobial properties of composites may be accomplished by introducing agents such as silver or one or more antibiotics into the material.

## FIBER REINFORCED COMPOSITE :

Fiber-reinforced composites have numerous industrial and aerospace applications because they are light, strong and nonflammable. However, with respect to clinical dentistry, they are relative newcomers into the spectrum of prosthodontic treatment option.

## CONCLUSION :

Recent Advancement in any field in and out of dentistry have only lead to the progression. Advancements in the materials used are necessary for the need. Here discussed are very few in about Dental Amalgam, Glass ionomer cements and composite. Many other materials that we use in Dental practices has got many more modifications, change in a good way is needed for everything,

making Dental treatment affordable to the common man. And making a strengthened DENTISTRY out of newer materials is necessary for the hour after Covid 19 pandemic.

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## HARIKRISHNAN M U

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AN ORATOR ,HAS SHARED STAGES OF "  
SPEAK FOR INDIA CONTEST " and WON  
UNIVERSITY ARTS FESTIVALS .

INTRESTED IN SPEAKING UP AND WRITINGS  
ON PUBLIC INTEREST TOPICS .



## Product Profiles :



## Fusion Crysta™ Orthodontic Adhesive Kit Light Cure Orthodontic Kit

Crysta Orthodontic Adhesive Kit is a light curing composite kit used for bonding metal & ceramic brackets to tooth surface and for cementation of molar bands. Novel MDP primer technology combined with the highly translucent adhesive, makes it a reliable combination for stress free orthodontic bonding. R



## Fusion Core DC Flo®

Flowable, Dual Curing, Nano-tech Core Build-up Composite

**Fusion Core DC Flo** is dual cure, radiopaque, two component, core build-up material in a convenient automix delivery syringe. This material flows conveniently, yet stacks without slumping, thus offering easy placement. The dual cure formulation allows complete curing.





# PROFILE

## Of the month

*Dr. Prasanna Neelakantan*

*Prasanna Neelakantan* graduated with a Bachelor of Dental Surgery

from The Tamil Nadu Dr. MGR Medical University, India, and a Master of Dental Surgery in Conservative dentistry and Endodontics from Saveetha University, Chennai, India. He subsequently received his PhD from the University of Amsterdam with Prof. Paul Wesselink and Dr. Hagay Shemesh as his promoters. He served as an assistant professor in Saveetha University, India until 2016. He is currently a Clinical Assistant Professor at the University of Hong Kong Faculty of Dentistry and a visiting professoriate staff member at the University of Siena. He has published over 115 peer-reviewed publications and has presented over 50 invited lectures worldwide, including keynote lecture at the European Society of Endodontology Congress. He is a recipient of many awards and honours including the Indian Society for Dental Research (Indian Division of the

IADR) Fellowship in 2012, Young Achiever's award from Saveetha University in 2012, International Association for Dental Research Innovation in Oral Care Award and Joseph Lister Award in 2018, HKU Faculty Outstanding Teaching award and HKU Faculty Knowledge Exchange award. He serves as an Associate Editor for Restorative Dentistry and Endodontics; Frontiers in Oral Health and Reviews editor for Frontiers in Cellular and Infection Microbiology. He also serves on the editorial board of the International Endodontic Journal. He is a peer reviewer for several international journals including the International Endodontic Journal and Journal of Endodontics. At the University of Hong Kong Faculty of Dentistry, Prasanna is involved with the undergraduate/graduate teaching, and is the Assistant Dean (Research and Innovation). The main focus of his research group are biofilm biology, quorum sensing and novel nanotherapeutic antibiofilm strategies.