

Field Visit
(AY 2020-2021)



ARMY COLLEGE OF DENTAL SCIENCES

Chennapur –CRPF Road , Jai Jawaharnagar Post, Secunderabad – 500 087, Telangana

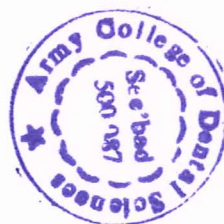
Ph: +914029708384, 9347411942

Website: www.acds.co.in Email : army_c@rediffmail.com

NAAC Accredited 'A' & Certified ISO 9001 : 2015 & ISO 14001 : 2015

List of students attending Field visit in AY 2020-2021

| S.no | Visit | Name of student |
|------|--|-------------------|
| 1. | Peripheral visit to Basavatarakam Cancer Institute | Dr Harsh Jha |
| 2. | Peripheral visit to Basavatarakam Cancer Institute | Dr Amulya Manohar |



Principal
Principal
Army College Of Dental Sciences

Peripheral Field Visit AY 2020-2021)



Quality matters in Cancer Care

**BASAVATARAKAM INDO-AMERICAN
CANCER HOSPITAL & RESEARCH INSTITUTE**
Promoted by Smt. Nandamuri Basavataraka Ramarao Memorial Cancer Foundation
& Indo-American Cancer Organisation
Road No 10, Banjara Hills, Hyderabad 500034, India
Phones : 91-40-2355 1235/2360 7944, Fax : 91-40-2354 2120
E-Mail : info@induscancer.com www.induscancer.com

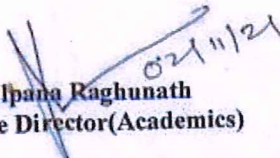


BASAVATARAKAM
INDO-AMERICAN
CANCER HOSPITAL & RESEARCH INSTITUTE

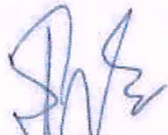
Date:02.11.2021

PERIPHERAL POSTINGS

This is to certify that **Dr.Amulya Manohar** , MDS 3rd Year student from Army College of Dental Sciences Hyderabad has completed observer ship from 19.10.2021 to 02.11.2021 in Department of Surgical Oncology (Head & Neck) at Basavatarakam Indo American Cancer Hospital and Research Institute, Hyderabad .


Dr.K.Kalpana Raghunath
Associate Director(Academics)

Dr. K. Kalpana Raghunath
MBBS, M.Phil, HNMM
Chief DNB Coordinator
Correspondent-Nsg & Paramedical
Associate Director (Academics)
Basavatarakam Indo-American
Cancer Hospital & Research Institute
HYDERABAD


Dr.T.Subramanyeshwar Rao
Medical Director & HOD-Surg onco
Dr. T. Subramanyeshwar Rao
M.S., MCh. (Surgical Oncology)
Director (Medical) &
Head-Dept. of Surgical Oncology
Basavatarakam Indo-American
Cancer Hospital & Research Institute


Principal
Army College Of Dental Sciences





Quality matters in Cancer Care



BASAVATARAKAM INDO-AMERICAN CANCER HOSPITAL & RESEARCH INSTITUTE

Promoted by Smt. Nandamuri Basavataraka Ramarao Memorial Cancer Foundation
& Indo-American Cancer Organisation

Road No 10, Banjara Hills, Hyderabad 500034, India
Phones : 91-40-2355 1235/2360 7944, Fax : 91-40-2354 2120
E-Mail : info@induscancer.com www.induscancer.com

BASAVATARAKAM



INDO-AMERICAN
CANCER HOSPITAL & RESEARCH INSTITUTE

Date: 19.10.2021

PERIPHERAL POSTINGS

This is to certify that **Dr. Harsh Kumar Jha**, MDS 3rd Year student from Army College of Dental Sciences Hyderabad has completed observer ship from 04.10.2021 to 18.10.2021 in Department of Surgical Oncology (Head & Neck) at Basavatarakam Indo American Cancer Hospital and Research Institute, Hyderabad.


Dr. K. Kalpana Raghunath
Associate Director (Academics)

Dr. K. Kalpana Raghunath
MBBS, M. Phil, HHSM
Chief DNB Coordinator
Correspondent-Nsg & Paramedical
Associate Director (Academics)
Basavatarakam Indo-American
Cancer Hospital & Research Institute
HYDERABAD


Dr. T. Subramanyeshwar Rao
Medical Director & HOD-Surg onco

Dr. T. Subramanyeshwar Rao
M.S., MCh. (Surgical Oncology)
Director (Medical) &
Head-Dept. of Surgical Oncology
Basavatarakam Indo-American
Cancer Hospital & Research Institute




Principal
Army College of Dental Sciences

**Industry visit to SP Dental Lab
(AY 2020-2021)**



ARMY COLLEGE OF DENTAL SCIENCES

Chennapur –CRPF Road , Jai Jawaharnagar Post, Secunderabad – 500 087, Telangana

Ph: +914029708384, 9347411942

Website: www.acds.co.in Email : army_c@rediffmail.com

NAAC Accredited 'A' & Certified ISO 9001 : 2015 & ISO 14001 : 2015

Visit To SP Dental Lab (AY 2020-2021)

| S. No | Name Of the Student |
|----------|-----------------------|
| 1. | Akash Choudhary |
| 2. | Anjali Pathak |
| 3. | Anupama Lakharwal |
| 4. | Ashtinder Kaur |
| 5. | B Meghna |
| 6. | Beauty Kumari |
| 7. | Bina Kumari |
| 8. | Chintada Surya Teja |
| 9. | Gayathri Bisht |
| 10. | Geetika |
| 11. | Goli Dileep Kumar |
| 12. | Gursher Singh Dhillon |
| 13. | Insha Iqbal |
| 14. | Iqbal Singh |
| 15. | Karishma |
| 16. | Kumari Priti Maurya |
| 17. | Mahak Bhadouria |
| 18. | Mamta Kumari Yadav |
| 19. | Manisha Kumari |
| 20. | Manisha Ma |
| 21. | Megha Chauhan |
| 22. | Monika Tripathi |
| 23. | Nandita Kalita |
| 24. | Neha Naz |
| 25. | Nisha Yadav |

| | |
|-----|-----------------------|
| 26. | Pooja Yadav |
| 27. | Poonam Gangwar |
| 28. | Ritu |
| 29. | Sagar Harshul Singh |
| 30. | Sai Vaishnavi Alahari |
| 31. | Simran Baunthiyal |
| 32. | Simran Singh |
| 33. | Soni Kumari |
| 34. | Tara Chand |
| 35. | Toshif Firdosh |
| 36. | Vandana |
| 37. | Vanshika Sharma |
| 38. | Vartika Singh |
| 39. | Vibha Kumari |
| 40. | Vivek K |
| 41. | Ranjima |
| 42. | Sahiti Chiluka |
| 43. | Priya Singh |
| 44. | Sakshi Kumari |
| 45. | Adarsh Kumar |
| 46. | Arti Kumari |
| 47. | Deepak Kumar |
| 48. | Gayatri Bisht |
| 49. | Pooja Panwar |
| 50. | Ritu Bhandari |
| 51. | Sreeraja |
| 52. | Swapnali |
| 53. | Saroj Jhakar |
| 54. | Shilpi Singh |
| 55. | V Mamani |



Principal

Principal

Army College Of Dental Sciences

Research Projects (AY 2020- 2021)



ARMY COLLEGE OF DENTAL SCIENCES

Chennapur –CRPF Road , Jai Jawaharnagar Post, Secunderabad – 500 087, Telangana

Ph: +914029708384, 9347411942

Website: www.acds.co.in Email : army_c@rediffmail.com

NAAC Accredited 'A' & Certified ISO 9001 : 2015 & ISO 14001 : 2015

List Of Students Undertaking Research Projects:

| Year | Name of students | Research topics |
|--------------|-------------------|---|
| AY 2020-2021 | Dr. Vishnu | Influence of audio & simulated 3D environment of anesthetic efficacy of Lidocaine for Inferior Alveolar Nerve Block in patients with Irreversible Pulpitis: Randomized Controlled Trial |
| AY 2020-2021 | Dr. Amit Kumar | To Evaluate the clinical performance of reinforced glass Ionomer materials in Class II restorations – A 12 month Randomized Controlled Clinical Trial |
| AY 2020-2021 | Dr. Neha Chauhan | Comparative evaluation of remineralizing capacity of various agents on artificial caries using Scanning Electron Microscope – Energy dispersive X-Ray Analysis: An Invitro Study |
| AY 2020-2021 | Dr Anoushka Menon | To study the effect of surface modifications on the translucency and opalescence of high translucency monolithic zirconia- an invitro study. |
| AY 2020-2021 | Dr Baljinder Kaur | Comparing marginal and internal fit of composite veneers fabricated with conventional, cad-cam, 3d printing and using 2 different resin cement. |

| | | |
|---------------------|-----------------------------|---|
| AY 2020-2021 | Dr AP Ravi | Comparative evaluation of tensile bond strength of vinyl siloxane ether with different tray materials using two tray adhesives. |
| AY 2020-2021 | Dr. Neha Kumari | Relationship between Fingerprint patterns and Periodontal disease Status- A dermatoglyphic study |
| AY 2020-2021 | Dr. Sneha Reddi | Awareness of periodontal diseases and it's management among medical college students in Hyderabad: A questionnaire-based study |
| AY 2020-2021 | Dr. Mohd Mudassir Moinuddin | Association between obesity and periodontitis among undergraduate students in Hyderabad in cross sectional survey. |
| AY 2020-2021 | Dr Bharat Poonia | Evaluation of orthodontic tooth movement predictability with customized fixed orthodontic appliances - A prospective cohort study |
| AY 2020-2021 | Dr Prem Shankar Chauhan | Effectiveness of two types of distraction techniques in management of dental anxiety and pain in 6-12- year-old children. |
| AY 2020-2021 | Dr Ayesha | Comparative Evaluation of micro tensile bond strength of restorative materials on SDF and Non-SDF treated tooth: An in-vitro Study. |
| AY 2020-2021 | Dr Anjana | Comparison of the efficacy of cartridge versus multidose Lignocaine local anesthetic vials. |
| AY 2020-2021 | Dr Aswani | Comparison of preemptive analgesic effect of Ibuprofen and Ketorolac on postoperative pain following third molar surgery. |

| | | |
|--------------|-------------------|--|
| AY 2020-2021 | Dr Harshul Singh | Chronic generalized periodontitis and bone health |
| AY 2020-2021 | Dr Harshul Singh | Dental caries and lifestyle |
| AY 2020-2021 | Dr Ichitha Joshi | Lasers in operative dentistry |
| AY 2020-2021 | Dr Sugam Kumar | Minimally invasive repair: A Review and case report |
| AY 2020-2021 | Dr Ashtinder Kaur | Evaluation of iatrogenic abrasion to adjacent tooth while preparing class II cavity , with/without protection: A invitro study |



[Signature]
Principal
Army College Of Dental Sciences




KNR UNIVERSITY OF HEALTH SCIENCES: TELANGANA
WARANGAL 506 007


ALLOTMENT OF REGISTRATION NUMBERS TO PG MDS 2020-21 BATCH STUDENTS WHO HAVE SUBMITTED DISSERTATION TOPICS FOR APPROVAL

ARMY COLLEGE OF DENTAL SCIENCES

| Sl.No. | Name of the Student | Subject | Topic | Regn. No. |
|--------|-------------------------|---|---|--------------|
| 1 | BHARAT POONIA | MDS IN ORTHODONTICS AND DENTOFACIAL ORTHOPEDICS | "Evaluation of Orthodontic Tooth movement predicability with customised fixed orthodontic appliances - A prospective Cohort study" | 20200101001D |
| 2 | PARTHIBAN V | MDS IN ORTHODONTICS AND DENTOFACIAL ORTHOPEDICS | NOT SUBMITTED | 20200101002D |
| 3 | MOHD MUDASSIR MOHIUDDIN | MDS IN PERIODONTOLOGY | "Association Between obesity and Periodontitis among Undergraduates students in Hyderabad - A cross Sectional Study" | 20201101001D |
| 4 | NEHA KUMARI | MDS IN PERIODONTOLOGY | "relationship between fingerprint pattern and periodontal status : a dermatoglyphics study" | 20201101002D |
| 5 | SNEHA REDDI | MDS IN PERIODONTOLOGY | "Awareness of Periodontal Disease and Its Management among Medical College Students in Hyderabad : A Questionnaire Based Study" | 20201101003D |
| 6 | A P RAVI | MDS IN PROSTHODONTICS AND CROWN & BRIDGE | "comparative evaluation of tensile bond strength of vinylsiloxane ether with different tray materials using two tray adhesives - an in vitro study" | 20203101001D |
| 7 | ANOUSHKA MENON | MDS IN PROSTHODONTICS AND CROWN & BRIDGE | "to study the effects of surface modifications on the translucency and opalescence of high translucency monolithic zirconia in vitro study" | 20203101002D |
| 8 | BALJINDER KAUR | MDS IN PROSTHODONTICS AND CROWN & BRIDGE | "to compare and evaluate the marginal and internal fit of composite laminate veneers by conventional layering cad - cam milling and 3d with two different resin cements - an invitro study" | 20203101003D |
| 9 | ANJANA S | MDS IN ORAL AND MAXILLOFACIAL SURGERY | "comparison of efficacy of cartridge versus multidose lignocaine local anaesthetic vials" | 20204101001D |
| 10 | ASWANI SREENIVASAN | MDS IN ORAL AND MAXILLOFACIAL SURGERY | "comparison of preemptive analgesic effect of ibuprofen versus ketoRolac on post operative pain following third molar surgery" | 20204101002D |
| 11 | AYESHA | MDS IN PEDIATRIC AND PREVENTIVE DENTISTRY | " COMPARATIVE EVALUATION OF MICROTENSILE BOND STRENGTH OF RESTORATIVE MATERIALS ON SDF AND NON SDF TREATED TOOTH AN INVITRO STUDY" | 20205101001D |
| 12 | PREM SHANKAR CHAUHAN | MDS IN PEDIATRIC AND PREVENTIVE DENTISTRY | "effectiveness of two types of distraction techniques In management of dental anxiety and pain in 6-12 year old children" | 20205101002D |
| 13 | AMIT KUMAR | MDS IN CONSERVATIVE DENTISTRY AND | "to evaluate the clinical performance of reinforced glass ionomer materials in class -II restorations - a 12 month | 20206101001D |

| | | | | |
|----|--------------|--|--|--------------|
| 14 | NEHA CHAUHAN | MDS IN CONSERVATIVE DENTISTRY AND ENDODONTICS | "comparative evaluation of remineralising capacity of various agents on artificial caries using scanning electron microscope energy dispersive x- ray analysis -an invitro study | 20206101002D |
| 15 | VISHNU RAJ | MDS IN CONSERVATIVE DENTISTRY AND ENDODONTICS | "influence of audio and simulated 3d environment on anaesthetic efficacy of lidocaine for inferior alveolar nerve block in patients with SYMPTOMATIC irreversible pulpitis : a randomised controlled clinical trial | 20206101003D |


Controller of Examinations
 KNRUHS, Warangal


Principal
Principal
Army College Of Dental Sciences



COVER STORY

Many researches have revealed that gum diseases like Periodontitis is associated with many systemic conditions of the body. It may contribute to many conditions like Stroke, Diabetes Mellitus, Cardiovascular diseases, Pneumonia, and so on. This association is demonstrated due to inflammation. Though a cause- and- effect relationship has not yet been discovered, researchers explain that periodontal diseases increase the risk of chronic diseases of the body.

Periodontitis is a disease of the oral cavity that can be confined to the gingiva as Gingivitis or may extend into deeper tissues leading to soft and hard tissue loss which affects the attachment of teeth to the bone. It is seen that bony destruction leads to deep periodontal pockets (spaces or openings surrounding the teeth under the gum line) to increased incidence of tooth loss.

Periodontitis

Periodontitis is caused by specific microorganisms resulting in progressive destruction of the periodontal ligament (tissue attaching the tooth to the bone) and alveolar bone (bone which houses the teeth). Chronic Periodontitis, is the most prevalent form of the disease. It is generally considered to be a slowly progressing disease. Though chronic Periodontitis is most frequently observed in adults, it can occur in children and adolescents, also. Chronic periodontitis has been defined as "*an infectious disease resulting in inflammation within the supporting tissues of the teeth, progressive attachment loss of gums to the teeth or bone, and bone loss.*"

This outlines the major clinical and etiologic features of the disease:

- Microbial plaque formation,
- Periodontal inflammation, and
- Loss of attachment and alveolar bone.

Formation of periodontal pocket is usually a sequel of the disease unless gingival recession accompanies attachment loss pocket depths remain shallow ongoing attachment and bone loss.

Earlier in the late 1800s, it was thought that chronic periodontitis was characterized by slow progressive destruction of the periodontium due to *Lime deposit* accumulation on the teeth.

Disease Progression

Chronic Periodontitis does not progress at an equal rate in all affected sites throughout the mouth. Some involved areas may remain static for long periods of time, whereas other areas may progress more rapidly. Rapid progressive lesions occur most frequently in interdental areas and are usually associated with areas more susceptible to plaque accumulation and inaccessibility to plaque control measures (e.g., furcation areas, over-extended margins of fillings/restorations, sites of malposed teeth, or areas of food lodgment)

Disease Distribution

Chronic periodontitis is considered a site-specific disease.

The clinical signs of chronic periodontitis:

- Inflammation
- Pocket formation
- Gum attachment loss
- Bone loss

As Chronic Periodontitis is usually painless, patients are likely to seek and accept treatment recommendations. Occasionally, pain may be present due to exposed roots which are sensitive to heat, cold, or both. Areas of localized dull pain, sometimes radiating deep into the jaw, have also been associated with periodontitis. The presence of areas of food lodgment, foul smell from mouth may add to the patient's discomfort. Gingival tenderness or "itchiness" can be seen.

Risk Factors for Disease

Local Factors

Attachment and bone loss are associated with an increase in the proportion of micro-organisms in the gingival plaque, organisms known to be exceptionally pathogenic and virulent. Microorganisms like *Bacteroidesgingivalis*, *Bacteroidesforis*, and *Treponemadenticola*, are frequently associated with attachment and bone loss in Chronic Periodontitis.

Plaque retentive factors are important in the development and progression of chronic periodontitis as they retain plaque microorganisms in close proximity to the periodontal tissues. Calculus is considered the most important plaque retentive factor because of its

Chronic Generalized Periodontitis & Bone Health

Dr. Sagar Harshul Singh & Dr. Mamta Kaushik



HEALTH ACTION | NOVEMBER 2021 17



Principal
Army College Of Dental Sciences

DENTAL CARE & LIFESTYLES

Dental Caries, commonly known as tooth decay or cavity, is among the most widespread oral diseases that a dentist encounters in clinical practice daily. Scientifically, Dental Caries is defined as an infectious microbiological disease of teeth that results in localized dissolution and destruction of calcified tissues. According to The Global Burden of Disease Study 2017, dental caries of the permanent teeth is the most common oral disease globally. It is estimated that 2.3 billion people suffer from caries of permanent teeth, and more than 530 million children suffer from caries of primary teeth. There is an alarming rate of increase in the prevalence of dental caries worldwide, affecting 60-90% of school children and many adults in most developed nations.

Dental caries is considered a disease of modern civilisation since pre-historic people rarely suffered from this form of tooth destruction. Anthropologic studies of *Von Lenhossek* revealed that Dolichocephalic skulls of men from the Pre-Neolithic period (12,000 BC) did not exhibit dental caries, but skulls of Brachycephalic man in the Neolithic period (12,000-3,000 BC) indicated the presence of carious teeth mainly in the cervical region of older adults.

One of the major factors responsible for caries incidence is diet. The diet of primitive people mainly consisted of roughage which cleanses the teeth of adherent debris during mastication. In modern times, soft & refined food tends to cling tenaciously to the tooth surface and remains without removal due to the absence of roughage.

The data from National Oral Health Survey (2002-03) states that the caries prevalence was 53.8% in children aged 12 years, 80.2% in the 35-44 year age group, and 85% in the age group 65-74 years.

Saliva

Saliva plays a significant role in the oral cavity. It helps in the digestion of starch and swallowing food (lubricating action), has a cleansing effect (washes away

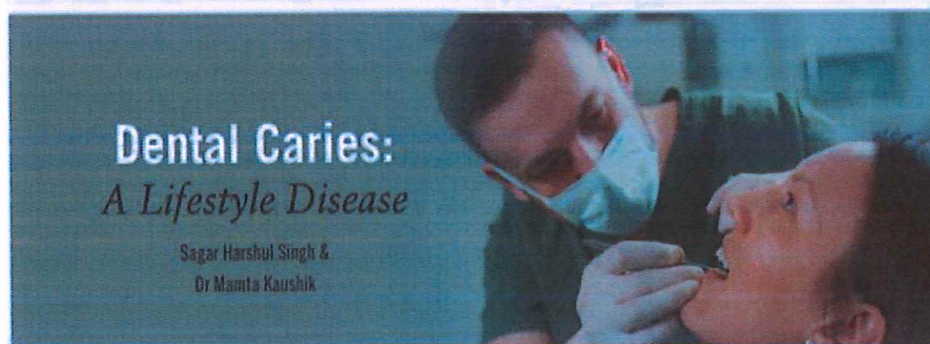
remnant food debris in the mouth), antibacterial effect, pH buffering action, which prevents caries activity. Normal pH levels varies from 6.2 -7.6. One of the most important functions of saliva concerning caries is its role in the removal of food debris from the mouth – flushing effect. The bicarbonate concentration mainly determines the pH of saliva.

Cariogenic Microflora - Dental Plaque

Dental Plaque is a soft, translucent, and firmly adherent mass accumulating on the tooth surface. It is mainly composed of bacteria, salivary proteins, and inorganic salts. The oral cavity is home to various microflora, over 350 species of bacteria; only a few can cause dental caries. Dental plaque, associated with dental caries, has a high concentration of *Streptococcus mutans* and *Lactobacillus acidophilus*. *Streptococcus mutans* ferments carbohydrates like sucrose to produce acid, which helps in plaque adhesion by forming a large number of extracellular glucans and leads to the dissolution of the tooth surface.

Diet

Diet is another major factor in the development of dental caries. A less fibrous, more refined, soft, and sticky diet favours stagnation of food on the tooth surface. Cariogenic diet mainly involves carbohydrates. The modern-day diet contains refined carbohydrates like sucrose, fructose, glucose which makes the food more cariogenic. When sugars and starches are not removed from the tooth surface, bacteria quickly begin to feed on them and release acid that results in the dissolution of the tooth surface. Dietary sugars include sugars and free sugars. Free sugars are the main problem. Free sugars are majorly found in confectionery, cakes, biscuits, sweetened cereals, sweet desserts and jams, and sugary drinks, e.g., soda, fruit juices, energy, and sports drinks. Sugars and acids weaken tooth enamel, increasing the risk of tooth decay. Frequent consumption of cooked starch and sweets containing simple sugars leads to lower oral



Dental Caries: A Lifestyle Disease

Sagar Harshul Singh &
Dr Mamta Kaushik



Lasers in Operative dentistry

E. Soujanya¹, Neha Verma², **Ichita Joshi**³, Chandrakanth Majeti⁴¹Reader, Department of Conservative Dentistry & Endodontics, Army College of Dental Sciences, Secunderabad,²PG student, Department of Conservative Dentistry & Endodontics, Army College of Dental Sciences, Secunderabad,³Intern, Department of Conservative Dentistry & Endodontics, Army College of Dental Sciences, Secunderabad.**Abstract**

Light amplification by stimulated emission of radiation (LASER), is an optical device that emits coherent, monochromatic light. Laser has become the most promising technology in the field of dentistry and medicine. In the field of restorative dentistry, various kinds of lasers have been developed for diagnostic and operative applications. Understanding the basic concepts of laser-tissue interactions has led to a more efficient utilization of the technology on the clinical side by providing patient comfort, pain relief and better results for specific applications which helps the practitioner to become more efficient. Major concerns for using dental lasers are its high cost, need for specialized training and being technique sensitive, compromises its usefulness particularly in developing countries. This review article summarise a general overview of lasers in the field of operative dentistry in terms of diagnostic and treatment procedures.

Key words: Caries, Dentistry, Hazards, Lasers**Introduction**

"LASER" is an acronym for "Light Amplification by Stimulated Emission of Radiation". The acceptance of lasers as viable alternatives to traditional methods in medicine was one of the events that created an explosion of interest in the last decade in the role of lasers in dentistry. Fitting into concepts of micro dentistry and prevention, laser technology caused the pendulum to swing from simple mechanics to the boundless era of photonics. With better understanding of biological tissue responses, the possibilities of a clinician using lasers in an operative procedures have increased, varying from diagnosis of dental caries, caries removal, to curing of composite materials etc.¹

Evolution of Lasers1960² -Maiman constructed first pulsed ruby laser1972³ -Stern and Sogannes found unfavourable results regarding thermal effects of lasers on enamel and dentin effects1974⁴ -Yamamoto and Ooya found favourable results for caries prevention1992⁵ -Arcoria found Ar F Excimer laser useful for ablating vital tooth structure1995⁶ -Whitters found Nd:YAG as alternative means of providing analgesia during routine dental procedures1997⁷ -John A Hess found Nd:YAG laser enamel etching effective producing impact craters1997⁸ -L.R. Eversole found Er, Cr:YSGG laser removed enamel and dentin without pulp exposure1997⁹ -Coltens Cozean found Er:YAG laser safe and effective for caries removal, cavity preparation and enamel etching1998¹⁰ -Andreas Moritz found direct pulp capping effective with 93% vitality after 2 years1998¹¹ -Jennifer Dang found favourable results for pulpotomy procedure1998¹² -U.Kellers found Er:YAG laser safe and effective for cavity preparation1999¹³ -F.I.Baggett found Nd:YAG laser safe & effective in soft tissue surgery on children

Corresponding Author: Dr. E. Soujanya, Reader, Department of Conservative Dentistry & Endodontics, Army College of Dental Sciences, Secunderabad, Telangana, India. Email: soujanya.e.17@gmail.com
How to Cite: Soujanya E, Verma N, Joshi I and Majeti C. Lasers in Operative dentistry. Journal of Army College of Dental Sciences. 2020; 8(1): 18-26

Journal of Army College of Dental Sciences



Principal
 Army College Of Dental Sciences

A Paradigm Shift from Traditional Replacement to Minimally Invasive Repair-A Review and Report of Cases Series

Sugam Kumar¹, Uday Kumar Podugu², Shradha Suman Rout³, Pooja Chauhan⁴, Mamta Kaushik⁵, Pushpa⁶, Priyanka Badu⁷

^{1,3, 4, 5, 6, 7}Intern, Department of Conservative Dentistry and Endodontics, Army College of Dental Sciences, Secunderabad

²Senior Lecturer, Department of Conservative Dentistry and Endodontics, Army College of Dental Sciences, Secunderabad.

³Professor & HOD, Department of Conservative Dentistry and Endodontics, Army College of Dental Sciences, Secunderabad.

Abstract

Failed or broken restorations are routinely treated with replacement by most clinicians. Replacing ditched amalgam restorations and fractured ceramic restorations with other similar restorations results in significant loss of dental structure. The present case series report three cases of successful repair of fractured amalgam and ceramic restorations using composite restorative material.

Key words: Amalgam, Ceramic, Composite, Repair, Replacement

Introduction

Dental amalgam has been used in dentistry for over a century. Despite poor aesthetic characteristics, lack of adhesion, and advancements in resin-based composite technology amalgam restorations are still one of the restorative treatment options in several dental practices.¹ The popularity can be attributed to its good clinical performance, relatively low cost, and long-term cost-effectiveness.² Secondary caries and fractures are common failures related to amalgam restorations and represent the main reasons for replacement of defective amalgam restorations.³ However, the concept of conservatively repairing only the restoration's caries or defect is now gaining momentum. This treatment approach is not only effective, but beneficial to the patient as it minimises the removal of healthy tooth structure and reduces the risk of irreversible pulpal irritation.

Ceramic and metal-ceramic restorations have also been used for several decades by clinicians to provide aesthetics and masticatory function.⁴ Studies have shown various advantages of the ceramics, like color stability, radiopacity, coefficient

of thermal expansion similar to that of dentin, good compressive and abrasive resistance, and esthetics.^{4,5} However, trauma and fatigue can cause fracture of the ceramic or destroy the ceramic-metal bond. This could be because ceramic has a low tensile strength and a high modulus of elasticity with a brittle behaviour.⁴ Problems such as a high treatment cost, possible trauma to the restored tooth, difficulty of removing the restorations, and patient demand for a rapid solution, may occasionally delay the replacement of a fractured metal ceramic restoration.⁶ Intraoral repair of fractured ceramic restorations with composite resin restorative materials is also a viable alternative.⁷ Numerous repair systems are available for recovery of ceramic fractures.⁸ The techniques include surface preparation of the ceramics and silane treatment in the bonding procedure.⁹

The present article consist of case series including 3 cases of fractured restoration and successful management of amalgam and ceramic restoration with composite.

Corresponding Author: Dr Sugam Kumar, Intern, Address- Flat no: A-09, Trumurti apartment, Road number 2, Ganesh nagar, Bhopkhal, Pune-411031 (Maharashtra) Email: coolsugamkumar@gmail.com

How to Cite: Kumar S, Podugu UK, Rout SS, Chauhan P, Kaushik M, Pushpa, Badu P. A Paradigm Shift from Traditional Replacement to Minimally Invasive Repair - A Case Series and Literature Review. Journal of Army College of Dental Sciences. 2020; 8(1): 32-37.

Journal of Army College of Dental Sciences

Principal
Army College Of Dental Sciences



**ARMY COLLEGE OF DENTAL SCIENCES
DEPARTMENT OF CONSERVATIVE DENTISTRY AND ENDODONTICS
UG RESEARCH ACITIVITY**

| SN0 | PROPOSED TOPIC | RESEARCH TEAM | STATUS |
|-----|--|--|---------|
| 1 | Evaluation of Iatrogenic abrasion to adjacent tooth while preparing class II cavity with / without protection –An In vitro Study | Intern Ashtinder (Under Guidance of Dr. Mamta Kaushik) | Ongoing |
| | | | |

Ashtinder
Dept of Conservative
Dentistry and Endod
ACDS, Secunderabad

Ashtinder
Principal
Army College Of Dental Sciences



Clinical Internship (AY 2020- 2021)



ARMY COLLEGE OF DENTAL SCIENCES

Chennapur –CRPF Road , Jai Jawaharnagar Post, Secunderabad – 500 087, Telangana

Ph: +914029708384, 9347411942


Website: www.acds.co.in Email : army_c@rediffmail.com

NAAC Accredited 'A' & Certified ISO 9001 : 2015 & ISO 14001 : 2015

Clinical Internship

| S.No | Name of student |
|------|-----------------------|
| 1. | Akash choudhary |
| 2. | Anjali pathak |
| 3. | Anupama lakharwal |
| 4. | Ashtinder kaur |
| 5. | B meghna |
| 6. | Beauty kumari |
| 7. | Bina kumari |
| 8. | Chintada surya teja |
| 9. | Gayathri bisht |
| 10. | Geetika |
| 11. | Goli dileep kumar |
| 12. | Gursher singh dhillon |
| 13. | Insha iqbal |
| 14. | Iqbal singh |
| 15. | Karishma |
| 16. | Kumari priti maurya |
| 17. | Mahak bhadouria |
| 18. | Mamta kumari yadav |

| | |
|-----|-----------------------|
| 19. | Manisha kumari |
| 20. | Manisha ma |
| 21. | Megha chauhan |
| 22. | Monika tripathi |
| 23. | Nandita kalita |
| 24. | Neha naz |
| 25. | Nisha yadav |
| 26. | Pooja yadav |
| 27. | Poonam gangwar |
| 28. | Ritu |
| 29. | Sagar harshul singh |
| 30. | Sai vaishnavi alahari |
| 31. | Simran baunthiyal |
| 32. | Simran singh |
| 33. | Soni kumari |
| 34. | Tara chand |
| 35. | Toshif firdosh |
| 36. | Vandana |
| 37. | Vanshika sharma |
| 38. | Vartika singh |
| 39. | Vibha kumari |
| 40. | Vivek k |


 Principal
 Army College Of Dental Sciences



Community Postings
(AY 2020-2021)



ARMY COLLEGE OF DENTAL SCIENCES

Chennapur –CRPF Road , Jai Jawaharnagar Post, Secunderabad – 500 087, Telangana

Ph: +914029708384, 9347411942

Website: www.acds.co.in Email : army_c@rediffmail.com

NAAC Accredited 'A' & Certified ISO 9001 : 2015 & ISO 14001 : 2015

Posting Completion Letter For Postings of Final Year BDS Students In Department of Public Health Dentistry For AY 2020-2021

This is to certify that Final year BDS students, have successfully completed postings in Department of Public health dentistry as part of their 4th year course for the AY 2020-2021. The posting schedule and list of students are as follows

| Sl No | Batch | Posting Dates | Final Year Names |
|-------|-------|-------------------|---|
| 1 | A | 26/10/21-6/11/21 | Adarsh Kumar Akanksha Yadav Alex Thomas C Amulya Pranavi Arti Kumari Ashwani Kumar Atul Kumar Singh Lakshmi Bhargavi Chiluka Sahiti |
| 2 | B | 13/9/21-23/9/21 | Deepak Kumar Garima Singh Gaurav Pandey Gayatri Kumari K Ranjima Nidhi Singroha Parvathy V Pooja Panwar |
| 3 | C | 24/9/21-7/10/21 | Pragati Sharma Prateek Singh Priya Singh P Balaji Reddy Rashi Sharma Ritu Bhandari R J Sreeraja Sakshi Kumari Sarat S |
| 4 | D | 8/10/21 -25/10/21 | Saroj Jhakar Shilpi Singh Shubham Kumar Panda Swapnali Tanuradha Hooda Vaidya Pranav |

Signature of HOD

Principal

Principal
Army College Of Dental Sciences

