

6<sup>th</sup> International Conference on  
**Dentistry and  
Oral Health**

# 6<sup>TH</sup> INTERNATIONAL CONFERENCE ON **DENTISTRY & ORAL HEALTH**

**14<sup>TH</sup>-15<sup>TH</sup> MARCH 2024**



**2024 VIRTUAL CONFERENCE**





Publisher: BioLEAGUES

Copyright © 2024: BioLEAGUES

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of the publisher.

This edition is produced in India and is intended for worldwide distribution. However, no part of this publication may be exported without the prior permission of the publisher, BioLEAGUES-Explore.



# TABLE OF CONTENTS

<b>PREFACE</b> .....	<b>V</b>
<b>ABOUT 6<sup>TH</sup> ICODH</b> .....	<b>VI</b>
<b>ABOUT BioLEAGUES</b> .....	<b>VII</b>
<b>ABOUT APADENTO</b> .....	<b>VIII</b>
<b>FROM BioLEAGUES</b> .....	<b>IX</b>
<b>ABOUT SPEAKERS</b> .....	<b>XI</b>
<b>ABSTRACT'S INDEX</b> .....	<b>XII</b>



CONFERENCE THEME

“ EXPLORING  
GLOBAL  
INNOVATIONS  
IN DENTISTRY:  
FROM RESEARCH  
TO PRACTICE ”



# PREFACE



This book reports the Proceedings of the “6<sup>th</sup> International Conference On Dentistry & Oral Health”, A Virtual Conference, held on 14<sup>th</sup> & 15<sup>th</sup> March 2024, organized by BioLEAGUES.

The publishing department has accepted more than 200+ abstracts. After an initial review of the submitted abstracts, 90+ papers were presented at the conference and were accepted for publication in the Conference Proceedings. The topics that are covered in the conference include Dentistry & Oral Health. We would like to thank all the participants for their contributions to the conference and the proceedings.

Reviewing papers of the 6<sup>th</sup> International Conference On Dentistry & Oral Health was a challenging process that relies on the good will of those people involved in the field. We were invited to the 6<sup>th</sup> International Conference On Dentistry & Oral Health proceedings. We would like to thank all the reviewers for their time and effort in reviewing the documents.

Finally, we would like to thank all the proceeding team members who with much dedication have given their constant support and priceless time to bring out the proceedings in a grand and successful manner. I am sure the 6<sup>th</sup> International Conference On Dentistry & Oral Health will be a credit to a large group of people, and each one of us should be proud of its successful outcome.

# ABOUT 6<sup>TH</sup> ICODH



The condition of your oral health reflects your general well-being. The mouth often serves as an early indicator of various medical conditions. It is crucial to uphold proper oral hygiene because the mouth acts as a gateway and can provide insights into your overall health. Considering this Asia Pacific Association for Dental and Oral health is organizing the 6<sup>th</sup> International Conference On Dentistry & Oral Health on 14<sup>th</sup> & 15<sup>th</sup> March 2024, at Virtual. which is based on theme "Exploring Global Innovations in Dentistry: From Research to Practice". This conference aims to bring together the dental experts, research scholars, budding scientists, professors and students from all over the world in sharing the recent trends, techniques and researches in dental science.



# ABOUT BioLEAGUES



As a non-profit BioLEAGUES is a globally recognized professional association that operates under the Technoarete Group. It serves to propel and fuel all innovative works of research with immense potential in the fields of Healthcare, Life Sciences, Pharmaceutical Sciences, and the Medical Sciences in general Medical Conference in India. In this capacity, BioLEAGUES has been directly responsible for a significant amount of the revolutionary developments that have taken place in these fields over the past few decades.

Aside from pushing the boundaries of innovation and discovery in these disciplines, BioLEAGUES also has programs in place to sustain development so that the pace of progress doesn't just increase constantly but also remains steadfast throughout.



# ABOUT APADENTO

**apa**  
**DENT**  
ASIA PACIFIC ASSOCIATION FOR  
DENTAL AND ORAL HEALTH



Asia Pacific Association for Dental and Oral Health is one of the leading professional associations committed to improving dental & oral health by promoting advanced science-based evidence through our initiatives in education and research. Oral & General Health are related and act as a key indicator of overall health, well-being, and quality of life. Dental caries, periodontal (gum) disease, tooth loss, oral cancer, oral manifestations of multiple illnesses, oral dental trauma, and birth defects such as cleft lip and palate are among the diseases and conditions covered.

APADENTO provides a broad-based home for members and societies who are interested in aspects of Oral Health with companies, hospitals, government organizations. APADENTO connect doctors and professionals in the field of Dental & Oral Health and act as a bridge between Researchers & Academicians by organizing.

# FROM CEO'S DESK



## Mr. Rudra Bhanu Satpathy

Founder & CEO,  
BioLEAGUES,  
India

It is indeed a privilege to acknowledge and thank all the supporters and organizers of the "6<sup>th</sup> International Conference On Dentistry & Oral Health", who contributed greatly to organize the conference successfully.

I would like to acknowledge and thank the Conference chair for his/her valuable contribution in the "6<sup>th</sup> International Conference On Dentistry & Oral Health".

My special thanks to all our keynote speakers who so graciously accepted our invitation to participate in the conference. I also wish to acknowledge and thank the sponsors of the conference whose financial support was extremely grateful.

I would like to specially thank our Scientific Committee from various organizations whose continuous support have helped us plan and execute the conference successfully.

I am highly indebted to the contribution given by all Students (UG/PG), Ph.D. Scholars, Research Scholars, Scientists, Clinicians, Pharmaceutical professionals (CEOs, MDs, Directors), Drug development and Discovery companies, Drug Delivery Systems and Health care Professionals.

# FROM MD'S DESK



## A. Siddth Kumar Chhajer

Director,  
BioLEAGUES,  
India

On behalf of the Association of Pharmaceutical Research, I am delighted to welcome all the delegates and participants around the globe to the "6<sup>th</sup> International Conference On Dentistry & Oral Health" which is going to be held on 14<sup>th</sup> & 15<sup>th</sup> March 2024.

This conference will revolve around the theme "Exploring Global Innovations in Dentistry: From Research to Practice".

It will be a great pleasure to join with all Students (UG/PG), Ph.D. Scholars, Research Scholars, Scientists, Clinicians, Pharmaceutical Professionals (CEOs, MDs, Directors), Drug Development and Discovery Companies, Drug Delivery Systems and Health Care Professionals.

I congratulate the Conference Chair, Organizing Committee, National Advisory Committee and Association of Pharmaceutical Research all the people involved for their efforts in organizing the "6<sup>th</sup> International Conference On Dentistry & Oral Health" and successfully conducting the International Conference and wish all the delegates and participants a very pleasant conference.



# ABOUT SPEAKERS



## ORGANIZING SECRETARY

### Dr. Flavio Molina

Implantologist at Blackrock Dental, Central D. Care, Prosthodontist at Ratoath Dental Implant Centre, Clinical Supervisor DDUH Trinity College Dublin, Ireland.



### Dr. Padmanabh Jha, MDS

Professor, Department of Conservative Dentistry and Endodontics, Subharti Dental College and Hospital, Meerut (U.P), India



### Dr. H Esther Nalini

Professor and Head, Department of Periodontics, KSR Institute of Dental Science and Research, Tiruchengode, India



### Dr. K. Meena Anand

Professor, Department of Periodontology, Faculty of Dentistry, Coordinator, Master of Science (Dentistry) Research Mode Manipal University College Malaysia (MUCM), Malaysia



### Dr. Himanshu Srivastava

Vice Principal, Associate Professor, Dept. of Oral & Maxillofacial Pathology and Microbiology, Aditya Dental College & Hospital, Beed, Maharashtra, India



### Eduardo Alvares Dainesi

Scientific Director, Eduardo Dainesi Institute – Dentistry Post-Graduation School in Bauru, Brazil



### Dr. Mahalakshmi

Associate Professor, Department of Orthodontics and Dentofacial Orthopaedics, Tagore Dental College, India



### Dr. Narasimman

Professor, Department of Prosthodontics, Tagore Dental College, India

# ABSTRACT'S

## INDEX

1.	A Review on Zeolites and Their Applications in Dentistry.....	01
	<b>Shantanu Deshpande, Madhura Shekatkar</b>	
2.	Assessment of Angiogenic Potential of Mesenchymal Stem Cells Derived Conditioned Medium from Various Oral Sources.....	02
	<b>Madhura Shekatkar, Shantanu Deshpande</b>	
3.	Exploring the Influential Factors of Decision Making among Geriatric Patients in the Selection of Dental Office Type for the Development of Global Innovations in Geriatric Dentistry A Cross Sectional Study .....	03
	<b>S. Shree Lakshmi, S. Aravind Warriar</b>	
4.	Association between Bilateral Sagittal Split Osteotomy Setback and Autorotation of the Mandible .....	04
	<b>Pooja Harish, Sayeda Fathimuz Zahara, Nandish Shetty</b>	
5.	Artificial Intelligence: A Look to the Future.....	05
	<b>Dr. Punam Navnath Nagargoje</b>	
6.	Artificial Intelligence: A Look to the Future.....	06
	<b>Dr. Gopal Lahudas Nagargoje</b>	
7.	To Evaluate and Compare the Osteogenic Potential of Two Different Photo Biomodulation Therapies Over mg 63 Cells on Titanium Discs- An Invitro Pilot Study .....	07
	<b>Dr. Divyabharathi Selvam</b>	
8.	Global Innovations in Dentistry: From Research to Practice .....	08
	<b>Dr. Trupti G Giri</b>	
9.	Improving Osseointegration Using a Compression Drill Immediately after Implant Placement: A Literature Review .....	09
	<b>Dr. Mithila Kakade</b>	
10.	Reactive Hyperplastic Lesions of the Oral Cavity: A Retrospective Survey Study and Literature Review .....	10
	<b>Dr. Varsha Ajit Sangle</b>	
11.	Root Fenestration – A New Classification based on Underlying Causes and Management .....	11
	<b>Gauri M Ugale</b>	
12.	Zadake's Angular Gauge (ZAG): A Novel Clinical and Cephalometric Orthodontic Diagnostic.....	12
	<b>Dr. Sujit Navnath Zadake</b>	
13.	Bridging Gaps, Building Smiles: Platform Switch vs. Platform Match in Dental Implantology .....	13
	<b>Dr. Sugirtha Chellapandi</b>	
14.	Digital Radiographic Evaluation of Quality of Obturation Between Two Obturation Techniques in Primary Molars: An In Vivo Study.....	14
	<b>Dr. Syeda Naseha Banu, Dr. Syeda Najeya Banu</b>	

15.	Dandy -Walker Syndrome “Let The Rare Never Be Forgotten” .....	15
	<b>Dr. Syeda Najeya Banu, Dr. Syeda Naseha Banu</b>	
16.	Assessment of Dietary Patterns and Estimation of Serum Protein Levels in Patients with and without Habit of Tobacco Consumption, with and without Tobacco-Related Lesions in an Indian Subpopulation (20-60yrs): A Case-Control Study and a Survey-Based Assessment.....	16
	<b>Shubhi Gupta</b>	
17.	Mental Health Survey in Dental Students.....	17
	<b>Khan Amaan Akbar</b>	
18.	Association of Socio-demographic Factors on Dental Caries among Urban and Rural School going Children (5-12 years) in Thane and Raigad District Regions: A Cross-Sectional Study .....	18
	<b>Dr. Sheetal Chaudhari, Utpreksha Sameer Patil, Dr. Vibhuti Shreesh Mhatre</b>	
19.	Comparative Evaluation of Quality of Obturation in Thermo-Plasticized Gutta Percha Obturation Technique and Hydraulic Condensation Technique using Bioceramic Sealer .....	20
	<b>Dr. Srikar Comandur, Dr. R Vinaychandra</b>	
20.	The Effect of Decoupling Technique on Fracture Resistance on Class 2 Composite Restoration.....	21
	<b>Dr. Mrinalini Jaichander, Dr. R Vinaychandra</b>	
21.	Assessment of Knowledge, Attitude and Practices Related to Sugar Content Mentioned on Packaged Food among Adults (20-45 Years): A Cross Sectional Study .....	22
	<b>Arin Purohit, Shubhi Gupta</b>	
22.	Role of Artificial Intelligence in Cleft lip and Palate Diagnosis to Treatment.....	23
	<b>Dr. Pragadeesh, Yuvaraj. J</b>	
23.	CGF in Crestal Bone Levels and Peri-Implant Bone Density.....	24
	<b>Dr. V.C.Karthik, Dr. Kirubakaran, Dr. Sonia Abraham</b>	
24.	Efficacy of Simvastatin as a Bone Substitute in Patients Undergoing Mandibular Third Molar Surgery .....	25
	<b>Dr. Velavan Krishnan</b>	
25.	Artificial-Intelligence- An Innovative Method to assess the Dental Age in Children with Growth Delay .....	26
	<b>Dr. Preethi Archana, Nivetha Raja</b>	
26.	Snap on Smile.....	27
	<b>Dr. Preethi Archana, Kameshvari. A</b>	
27.	Effect of Smoking on Salivary Levels of Monocyte Chemoattractant Protein-3 in Periodontally Healthy and Diseased Individuals.....	28
	<b>Dr. L.R Renuka, Dr. Reejamol M.K</b>	
28.	Analysis of Apical Third Root Canal Morphology of the Palatal Root of Maxillary First Molar and Its Proximity to Maxillary Sinus: A Cone Beam Computed Tomographic Study.....	29
	<b>K.Saji</b>	
29.	Augmented Reality in Treatment Planning .....	30
	<b>D. Rupshya</b>	
30.	Computer-Aided Design/Computer-Aided Manufacture (CAD/CAM) in Paediatric Dentistry.....	31
	<b>P. Sowmiya</b>	
31.	New Era of Molar Distalization .....	32
	<b>Ananya Mukherjee, Dr. Eenal Bhambri</b>	
32.	Ecological Model to Frame the Delivery of Pediatric Preventive Care.....	33
	<b>Sreenithi K, Dr. Preethi</b>	

33.	A Comparative Evaluation of Accuracy Between Vinyl Polyether Silicone and Addition Silicone Using Monophase Impression Technique in Fixed Partial Denture – A Randomized Clinical Trial .....	34
	<b>Dr. Sonia Abraham, Dr. V. C. Karthik</b>	
34.	Hollow Ocular Prosthesis for Rhinocerebral Mucormycosis: A Post-COVID-19 Rehabilitation .....	35
	<b>Dr. Prakash P, Dr. Kiruthiga D</b>	
35.	Does Free Radicals Play a Role in Progression of Periodontitis? .....	36
	<b>Dr. Sania</b>	
36.	Herbal Mouthwashes in Orthodontic Practice .....	37
	<b>Dr. Gourab Sarkar, Dr. Eenal Bhambri</b>	
37.	A Comparison of the Stress Distribution in a Mandibular Implant Supported Overdenture with Three Different Attachment Systems of Various Heights: 3D Finite Element Analysis.....	38
	<b>Pavan Ravindra Shinde</b>	
38.	Significance of Salivary Biomarkers in Diagnosing and Tracking Nicotine Addiction .....	39
	<b>Dr. Swetha. S.R, Dr. Shamala Ravikumar</b>	
39.	Micro-osteoperforations (MOPs): Minimally Invasive Accelerated Tooth Movement!! .....	40
	<b>Dr. Gaikwad Darshan Sanjay, Dr. Eenal Bhambri</b>	
40.	Precision in Assessing Alveolar Bone Response to Orthodontic Force: A Focus on Cortical Remodelling Using Cone Beam Computed Tomography .....	41
	<b>Dr. Angousana Arambam, Dr. Eenal Bhambri</b>	
41.	Advancing Orthodontics: Harnessing Biochemical Markers for Precise Growth Assessment and Treatment Planning .....	42
	<b>Dr. Sakshi Garg, Dr. Eenal Bhambri</b>	
42.	Framework for Patent Conception .....	43
	<b>Dr. Eenal Bhambri</b>	
43.	Assessment of Knowledge and Awareness Regarding Intellectual Property Rights Among the Orthodontic Postgraduate Students.....	44
	<b>Dr. Abin Mathew Thomas, Dr. Eenal Bhambri</b>	
44.	Cone-Beam Computed Tomography: A New Era in Clinical Orthodontics.....	45
	<b>Dr. Narute Annaso Sarjerav, Dr. Eenal Bhambri</b>	
45.	How Skeletal Maxillary Expansion are Transforming Clinically? .....	46
	<b>Dr. Priyanka Yambem, Dr. Eenal Bhambri</b>	
46.	Tongue Pressure in Various Skeletal Malocclusions.....	47
	<b>Dr. Arun Raj RG, Dr. Eenal Bhambri</b>	
47.	Effect of Rose Oil, Lavender Oil and Orange Oil on Dental Anxiety in Pediatric Patients Undergoing Extraction Under Local Anesthesia.....	48
	<b>Dr. M. Kamatchi</b>	
48.	Comparative Evaluation of Immunohistochemical Expression of Ki-67, $\alpha$ -SMA and MMP-9 in Oral Submucous Fibrosis and Hyperkeratosis .....	49
	<b>Dr. Vibhuti Shreesh Mhatre, Dr. Sheetal Choudhari</b>	
49.	Assessment of Dental and Skeletal Fluorosis and Its Correlation with Gingival/ Periodontal Diseases with Clinical, Radiographic, Biochemical Parameters and Urine Fluoride Level in Fluoridated Area of Sriganganagar, Rajasthan, India: A Cross-Sectional Study .....	50
	<b>Dr. Archana Bhatia, Dr. Sandeep Kumar Bains</b>	
50.	The Effectiveness of Homoeopathic Medicine in Management of Dentine Hypersensitivity .....	51
	<b>Dr. Sakthiya Sivakumar, Mahalakshmi</b>	

51.	3D Printers in Orthodontics.....	52
	<b>Dr. Mahalakshmi Krishnakumar</b>	
52.	Missed Anatomy -Hunt it Out.....	53
	<b>Dr. Saranya Sivaraj</b>	
53.	Bridging the Gap: Human and Computer Intelligence in Cleft Care.....	54
	<b>Dr. Hariharasudan J, Dr. Lakshmi Prasanna Palindla</b>	
54.	Pace the Race with Accelerated Orthodontics .....	55
	<b>Dr. Aishwarya. K</b>	
55.	Aligner Algorithm- An Invisible Voyage to Visible Smile .....	56
	<b>Dr. Ramya. R</b>	
56.	Buccal Pad of Fat – A Hidden Treasure in Augmenting Soft Tissue Intraoral Defects .....	57
	<b>Dr. N. Komagan Prabhu</b>	
57.	Microbiologically Induced Corrosion of Orthodontic Stainless Steel Alloys – A Cross Sectional Study.....	58
	<b>Dr. Lakshmi Prasanna. P, Dr. Hariharasudan. J</b>	
58.	See Beyond – Unveiling The Bionic Eye .....	59
	<b>Dr. Senbagavalli S</b>	
59.	Exploring the Intersection of Aviation and Dentistry: Oral Health at an Altitude .....	60
	<b>Swetha Lakshmi. S</b>	
60.	Management of Osteomyelitis of Mandible in a Pediatricpatient: A Case Report and Review of Literature .....	61
	<b>Sneha S</b>	
61.	Removable Prosthetic Management for Tooth Agenesis in the Pediatric Population: A Systematic Review of Case Reports and Case Series .....	62
	<b>Dr. Arya Acca Varghese</b>	
62.	Ozone Therapy: A New Vista in Dentistry.....	63
	<b>Dr. Priyanka B. Lasune</b>	
63.	To Evaluate the Correlation Between Bleeding on Marginal Probing (BOMP) and Bleeding on Pocket Probing (BOPP), and the Correlation of Both Bleeding Indices with Plaque and Comparing with the Self Reports (Questionnaire).....	64
	<b>Dr. Rakavi. R, Dr. Ashwath Balachandran</b>	
64.	Osseodensification by Densah Burs- Newer Concept for Improving Stability and Success Rate of Implant.....	65
	<b>Dr. Akshaya Subhashinee, Dr. Arun Vignesh</b>	
65.	Dental Informatics – An Innovation towards Access and Analysis.....	66
	<b>Dr. S. Kalaivani</b>	
66.	Evaluation of Healing Morphology of Fractured Condyle After Closed Reduction and Its Association with Functional Impairments.....	67
	<b>Shri Krishna Prasanth</b>	
67.	Microneedle and Nanodrug Delivery for Oral Mucosal Lesions – A Systematic Review and Meta Anlysis .....	68
	<b>Amirtha Varshini. N</b>	
68.	Congenital Craniofacial Deformities: Genetic and Clinical Aspects.....	69
	<b>Aishwarya A</b>	
69.	Adjunctive Benefit of Ozonized Water Irrigation with Mechanical Debridement in the Management of Stage III Periodontitis-A Randomised Controlled Clinical and Biochemical Study .....	70
	<b>Dr. Niranjana J Mohan, Dr. Ambili R</b>	
70.	Gleaming Grins .....	71
	<b>Dr. Rampriya M</b>	

71.	A Nano CT Evaluation of Volumetric Analysis, Morphologic and Marginal Changes of Used 5-Year-Old Extracted and New Stainless Steel Crown .....	72
	<b>Dr. Shruthi Devi, Dr. Ramesh</b>	
72.	Association Between Subgingival Candida Colonization and Chronic Periodontitis Severity in Type 2 Diabetic and Non-Diabetic Patient .....	73
	<b>Dr. B. Radhika</b>	
73.	Unwrap A Smile .....	74
	<b>Dr. Mohamed Abraar S</b>	
74.	WILKODONTICS-A Novel Synergy in Time to Save Time: A Case Report .....	75
	<b>Dr. Vadla Archita, Dr. Phani Yasaswini</b>	
75.	A Comparative Evaluation of Local Drug Delivery System Using Gengigel & Blue M Gel, as an Adjunct to Scaling & Root Planing in Chronic Periodontitis Patients: A Cross Sectional Study .....	76
	<b>Dr. Aiysha Nudrath, Dr. Rupa Rani B</b>	
76.	Management of Dens Invaginatus with Guided Endodontic Approach - Case Report .....	77
	<b>Damuka Sudheer Kumar</b>	
77.	Evaluation of Insulin Resistance, Insulin Sensitivity and Periodontitis in Patients with Varying Levels of Sugar in Take- A Cross Sectional Double Blinded Study .....	78
	<b>Dr. Cynthia Leslie C, Dr. Smriti. D</b>	
78.	Dynamic Navigation System in Implant Dentistry .....	79
	<b>Dr. S. Tamil Selvi</b>	
79.	Nurturing Screaming Meemies of Fear and Anxiety by Taking Sting Out of Local Anesthetics .....	80
	<b>Dr. Shajaratul Yakeen Nabi</b>	
80.	Awareness About Topical Fluoride Application Among Preclinical and Clinical Dental Students of Chengalpattu District-Tamilnadu .....	81
	<b>Dr. K. Rajeswary</b>	
81.	Techniques of Teeth Replacement with Basal Implants: A Case Series .....	82
	<b>Dr. Md Haseeb ur Rahman Fazlur Rahman</b>	
82.	Oro-dental Health Behaviors and Need for Improved Health Education Among Diabetic Patients Attending a Diabetes Clinic in a Tertiary Care Hospital in India .....	83
	<b>Jai Pal Majra</b>	
83.	Review on Nanoparticles used in 3D Dental Resins .....	84
	<b>Dr. Puja Harie Priya M.S, Dr. B. Muthukumar</b>	
84.	Efficacy of Folic Acid Containing Mouthrinse in Treatment of Chronic Periodontitis .....	85
	<b>Dr. C. R. Aashik, Dr. Rajapandian. K, Dr. Gayathri. K*, Dr. P. L. Ravishankar, Dr. Kalaivani.V</b>	
85.	Emerging Advances in Pediatric Dentistry .....	86
	<b>Deepika. S</b>	
86.	Benefits of Tissue Adhesives Over Suturing in Treating Skin Laceration for Paediatric Patients .....	87
	<b>Boomica R</b>	
87.	TMPS System -A New Venture in Diagnosis and Management of TMJ Dysfunction in Malocclusion Patients .....	88
	<b>Dr. Ravisankar, Jeya Priya. B. M</b>	
88.	Lesion Sterilization and Tissue Repair .....	89
	<b>Hindujha Magendran</b>	
89.	Evaluation of Shear Bond Strength, Microleakage and Degree of Conversion between Preheated and Non-preheated Resin Cements - An In-vitro Study .....	90
	<b>Kiruthiga D, Prakash P</b>	



90.	Comparison and Evaluation of Clinical Success of Zirconia Crowns and Glass Fiber Reinforced Composite Crowns in Primary Molars – An In Vivo Study.....	91
	<b>Dr. S Preethi Archana, Dr. A Vasanthakumari</b>	
91.	Comparative Evaluation of Clinical and Radiographic Success of Biodentine as a Pulpal Medicament After Conventional and Laser Pulpotomy in Primary Molars .....	92
	<b>Dr. A Selvabalaji, Dr. A Vasanthakumari</b>	
92.	Comparative Evaluation of Obturation Quality, Instrumentation Time, With Different File System After Pulpotomy in Primary Molars: A Randomised Control Trail.....	93
	<b>Dr. A Vasanthakumari, Dr. A Selvabalaji</b>	
93.	The Elusive Smile – Art in Darkness .....	94
	<b>Dr. Hemavarshini Shanmugalingham, Dr. Subash Sharma</b>	
94.	LL-37 Gene Expression Shifts Post-Scaling and Root Planing in Chronic Periodontitis Patients .....	95
	<b>Dr. Sunanda Rao K</b>	
95.	Non- Surgical Endodontic Management of Minimolar .....	96
	<b>Dr. Deebah Choudhary</b>	
96.	Investigating the Effects of EDTA, Citric Acid, Phosphoric Acid, and polyacrylic acid on Enamel, Dentin, and Cementum .....	97
	<b>Ashmi S, Ashlita Manola Tellis</b>	
97.	Evaluation of Madhumukthi Kudineer Chooranum for Its Anti-Diabetic Properties using Alpha-amylase and Alpha-glucosidase Enzyme Inhibition Assay in vitro .....	98
	<b>Dr. Baskar Rajamanickam</b>	
98.	Microneedle and Nanodrug Delivery for Oral Mucosal Lesions – A Systematic Review and Meta Analysis.....	99
	<b>Narmadha Chandran</b>	
99.	Non-Pharmacological Management of Orthodontic Pain Using Traditional Acupressure Technique- An In-Vivo Study .....	100
	<b>Kavichithra Jothy</b>	
100.	A Study on Association between Sella Turcica Bridging and Palatally Impacted Maxillary Canine amongst North Kerala Cohort.....	101
	<b>Dr. V. Santhosh Kumar</b>	
101.	Artificial Intelligence i.e., Neural Networking in Endodontics\Pedodontics .....	102
	<b>Dr. Chhaya Sharma</b>	
102.	Influence of Different Implant Abutment Connection and Abutment Material on Stress Distribution in Maxillary First Premolar–A Three Dimensional Finite Element Analysis.....	103
	<b>Shaikh Saleha Taranum iliyas, Ashwini Vilas Bharsakle</b>	
103.	Newer Approaches to Pain Control and Anxiety Reduction in Children.....	104
	<b>Haritha V G</b>	
104.	Evaluation of Nasopalatine Canal for Dental Implants- A CBCT Study .....	105
	<b>Dr. Sandeep Kumar Bains, Dr. Archana Bhatia</b>	
105.	Role of Cytokines in Biomolecular Transitional Axis of Oral Potentially Malignant Disorders into Oral Malignancies-A Review .....	106
	<b>Dr. M. Srinath, Dr. Shamala. S</b>	
106.	Salivary Proteomics - An emerging Diagnostic Tool.....	107
	<b>Shivapriya. P</b>	
107.	Importance of Molecular Techniques in Oral Pathology.....	108
	<b>Savaniya. K</b>	

108.	Evaluation of Cytotoxicity, Antimicrobial activity and Shear Bond Strength of Orthodontic Adhesive Containing Green Synthesised Titanium, Silver and Zinc Nanoparticles–An In-Vitro Study .....	109
	<b>Dr. D. Hemamalini, Dr. K. M Shahul Hameed Faizee, Dr. Xavier Dhayanath. L</b>	
109.	Unravelling the Hidden Potential of Natural Disinfectants .....	110
	<b>Sathya R, Konde S</b>	
110.	Deciphering the Role of TLR3 Polymorphisms in Oral Squamous Cell Carcinoma Pathogenesis: A Case-Control Study .....	111
	<b>Dr. Aproova Sharma</b>	
111.	Phytochemical Analysis of the Herbal Formulation of Toothpaste in the Management of Dental Hypersensitivity .....	112
	<b>Dr. V. Anitha, Dr. S. Agila, Dr. C. Sugirtha</b>	
112.	Analysing the Link between Fat Composition and Periodontal Status - A Cross-Sectional Study.....	113
	<b>Dr. D. Smriti</b>	
113.	Design and Development of Dentaltech (Mobile App) Platform using AI and Machine Learning for Diagnosis, Providing Treatment Plan and Educating People of Dental Care Deprived Region of India .....	114
	<b>Siddhika Rabade</b>	
114.	Guardians of Oral Integrity: Exploring Ethical Boundaries in Dental AI Integration .....	115
	<b>Dr. Ohm Nijandhan Kumar</b>	
115.	Prevalence of Styloid Process Elongation and the Type of Elongation Among Patients using Digital Orthopantomograph .....	116
	<b>Archana Sriramulu, Dr. Sindhu Poovannan</b>	
116.	Tag Free Early Oral Cancer Detection.....	117
	<b>M. Charulatha</b>	
117.	Estimating the Prevalence and Incidence of Bifid Mandibular Canal Using Digital Orthopantomography .....	118
	<b>Amaradeepika J</b>	
118.	Use of Dental Lasers among Teaching Faculty of Private Dental Colleges in Chennai–A Questionnaire Based Cross-Sectional Study.....	119
	<b>Amirtha, Dr. Vaishnavi</b>	
119.	Impact of Oral Health on the Oral Health Related Quality of Life (OHRQoL) among Individuals with Intellectual Disabilities in Chennai .....	120
	<b>Syed Althaf I</b>	
120.	Weight of Tobacco Product Waste (TPW) Vs The Power of mHealth in Tobacco Control .....	121
	<b>Swathi M</b>	
121.	Plastic Free Dentistry - The Need of the Hour .....	122
	<b>Sushmitha S</b>	
122.	Perception of Dental Practitioners Towards Oral Health Education Apps: A Cross-Sectional Survey in Chennai.....	123
	<b>Swarnamalika S</b>	
123.	A Revolutionized Era of Point of Care Testing (POCT) and Salivary Bio-Sensors .....	124
	<b>Anushya R</b>	
124.	Newer Innovations in Treatment of Premalignant Condition .....	125
	<b>R. Nirupama, D. Umamaheswari</b>	
125.	Enhancing Confidence: The Psychological Impact of Dental Veneers .....	126
	<b>Hariprasth</b>	
126.	Assessment of Parental Awareness on Premature Loss of Primary Teeth: A Cross-Sectional Study .....	127
	<b>Sabreen Faseeha. A, Dr. Ahsana Asif, Dr.Kalpana</b>	

127.	A Questionnaire Based Study on Post mucormycosis Rehabilitation by Prosthodontists in Tamilnadu and Pondicherry .....	128
	<b>Kanmani A, Jacob M Philip, Helen Mary Abraham</b>	
128.	Use of Digital Technologies in Prosthodontic Clinical Practice among Prosthodontists in Tamilnadu and Pondicherry-A Questionnaire Survey .....	129
	<b>Aswitha G, Jacob M Philip, Helen Mary Abraham</b>	
129.	Assessment of Parental Awareness on Initial Decalcification and Practice of Oral Health Care of Children Aged 1-6 years in an Indian Population - A Cross-Sectional Study.....	130
	<b>Nandhini. K, Dr. Ahsana Asif, Dr. Kalpana</b>	
130.	Transfer of Guided Emergence Profile Developed using Customized Provisional Implant Restoration and Cemented with Abutment Replica Technique .....	131
	<b>Nishaali MM, Jacob M Philip, Helen Mary Abraham</b>	
131.	Digital Denture .....	132
	<b>R. Janani, K. Kamali</b>	
132.	Digital Smile Designing .....	133
	<b>N. Keerthana, J.M. Karpaga Priya</b>	
133.	Evaluation of the Effect of Fixed Prosthodontic Treatment on the Gingival Status of Abutment Teeth.....	134
	<b>Akilash Raviraj, Helen Mary Abraham, Jacob M Philip</b>	
134.	Air Microbial Analysis during Implant Placement-Delve into the Microbial Realm .....	135
	<b>Arsha Johny, Helen Mary Abraham, Jacob M Philip</b>	
135.	Comparative Evaluation of Stress Distribution Patterns and Location of Centre of Resistance During Temporary Anchorage Device Assisted Molar Intrusion with and Without Micro-Osteoperforation - A Three-Dimensional Finite Element Analysis .....	136
	<b>Dr. S. Aswini Soundharya, Dr. Sumanth Kumar Rangarajan</b>	
136.	Resorbable Miniplates Vs Conventional Plates-Ease of Usage .....	137
	<b>Sneha Mathialagan, Dr. Israel Nathanael, Dr. R. Riaz</b>	
137.	A Study on Biggest Concern to the Society-Knowledge and Attitude regarding Third Hand Smoking among Non-smokers and Exploring Innovative Ways to Detect it .....	138
	<b>Dr. Vaishnavi. S, Dr. Pallavi Ammu Thomas</b>	
138.	Pleomorphic Adenoma - A Curious Case Report.....	139
	<b>Sharon Sylvi Livingston, Dr. Israel Nathanael, Dr. R. Riaz</b>	
139.	Assessment of Oral Health Status and Salivary Parameters Among Smokers and Non-Smokers Aged Between 30 to 60 Years in South India: A Cross-Sectional Study .....	140
	<b>Dr. Soundarya SP</b>	
140.	A Rare Case of Mandibular Third Molar Displaced into Submandibular Space: A Complication of Mandibular Third Molar Extraction .....	141
	<b>Nirmal Kumar. R, Dr. Israel Nathanael, Dr. R. Riaz</b>	
141.	Meliorism in Dentistry.....	142
	<b>Shreya V</b>	
142.	Tele-Orthodontics- A Life Saver during Pandemic.....	143
	<b>K Shrinithi, Sneha R</b>	
143.	Effectiveness of Pharmacological Interventions for the Cessation of Smoking Tobacco Among Smokers Aged 18years and Above: A Systematic Review and Meta-Analysis.....	144
	<b>Dr. Pallavi Ammu Thomas, Dr. Vaishnavi. S</b>	
144.	Delayed versus Simultaneous Implant Placement with Ramus Block Grafts: A Retrospective Cohort Study.....	145
	<b>Senem Askin Ekinci, Ceren Kucuk, Gokhan Gocmen</b>	

145. Everything to Know about Recovery of Infraorbital Nerve Injury – Post Complex Zygomatic Fractures (Unilateral ZMC Fractures – Rowe and Killey’s Type III, IV and V) .....	146
<b>Srishtika Mohana Ganesh Murthy, Dr. Israel Nathanael, Dr. R. Riaz</b>	
146. Determination of Oral Health Status, Barriers in Achieving Oral Healthcare and Parents’ Perception of Oral Health Locus among Preschool Children of Central India Population: A Cross Sectional Study .....	147
<b>Abhilasha Manker, Amit Tripathi</b>	
147. Masking the Black Diamond .....	148
<b>Dr. Swetha R K</b>	
148. Comparison of Different Layer Thickness of a 3D Printed Model based on Quality and Time .....	149
<b>Aswathi Selvaraj</b>	
149. Three different Problems-But Same Solution – A Case Series .....	150
<b>Maria Subash Aaron Muthuraj</b>	
150. Evaluation of Salivary Levels of Cariogenic Bacteria in Patients during Orthodontic Treatment with fixed Appliance Versus Thermoplastic Aligners- An Observational Prospective Study .....	151
<b>Sneha S, Sivaprasaath S</b>	
151. Adequacy of Different Resolutions of LCD 3D Printers for in House Aligners .....	152
<b>Daffy Jacantha S</b>	
152. Ameliorate Ridge Deficiency with Block Autograft .....	153
<b>Dr. B. Bhuvanewari</b>	
153. Root-End Resection .....	154
<b>Mariya Parveen S, Dr. Riaz, Dr. Israel Nathanael</b>	
154. Centrifugation Protocol For Obtaining A-PRF, I-PRF & S-PRF-Our Experience .....	155
<b>Dr. R. Riaz, Dr. Mensudar Radhakrishnan, Dr. P. Jeyavelu</b>	
155. Your Personal Toothbrush: A Novel Design of a Pressure Sensitive Toothbrush .....	156
<b>Dr. Juala Catherine</b>	
156. Non-Surgical Management of Skeletal Class III Malocclusion – A Case Report .....	157
<b>Subashree</b>	
157. Comparison of Biological Matrices on A Novel Gingival Advancement Technique .....	158
<b>Dr. Abirami. T</b>	
158. Innovative Technique to Control Aerosol Contamination .....	159
<b>Hemavathy M, Dr.B. Bhuvanewari</b>	
159. Muscular Neutralisation in Growth .....	160
<b>Dr. P Jeyaprakash</b>	
160. Provisional Restoration in Implant Dentistry: A Crucial Tool for Gingival Architecture Restoration .....	161
<b>Narasimman M</b>	
161. Aesthetic Transformation Using Laminate Veneers: A Case Report .....	162
<b>Rathinavel Pandiyan, Narasimman</b>	
162. <i>Syzygium Cumini</i> as a Root Canal Irrigant – <i>Unveiling Its Antibacterial Activity !</i> .....	163
<b>Anbazhagan SD</b>	
163. Mandibular Alveolar Ridge Split With Simultaneous Implant Placement: A Case Report .....	164
<b>Dr.B.Tamizhesai, Dr. M. Navinbharathy</b>	
164. Fracture Resistance of Endodontically Treated Teeth using Three Different Bioceramic Root Canal Sealers: An Invitro Study .....	165
<b>Pratheeba A.R</b>	

165.	Diagnostic Wax up- A Decision Maker.....	166
	<b>Dr. Anand V, Dr. Lokesh S</b>	
166.	Intentional Replantation for the Management of Tooth with Separated Instrument Beyond the Apex: A Case Report.....	167
	<b>Dr. Purusothaman A</b>	
167.	Solving the Challenge of Compromised Bone Volume with Khoury's Bone Plate Technique in Esthetic Zone .....	168
	<b>Dr. Keerthivasan, Dr. Aarth</b>	
168.	Engineering Hydroxylapatite Nanoparticles for Biomedical Applications A Tailoring Approach via Annealing .....	169
	<b>Prem Blaisie Rajula</b>	
169.	Push Out Bond Strength of Three Different Bioceramic Sealers-A Comparative <i>In Vitro</i> Study.....	170
	<b>Richwana S.T.</b>	
170.	Influence of Social Media in Orthodontic Practice- A Questionnaire Study.....	171
	<b>Shanthini Priya Arumugam</b>	
171.	Epidemiology of Malocclusions: A Global View .....	172
	<b>Carla Martinez</b>	
172.	Targeted Therapy in Cancer Management .....	173
	<b>Dr. Elamparithi B</b>	
173.	Sleep Quality and Post Dental Surgical Pain: A Bidirectional Road?.....	174
	<b>André Oliveira</b>	
174.	Embracing The Colours: Omnicroma.....	175
	<b>Arshavardhni R, Athira M</b>	
175.	Recent Systemic Links in Oral Health of Females .....	176
	<b>S. Varsha, B. Shanmuga Priya, Dr. Jai Santhosh Manikandan</b>	
176.	Management of Implant Fracture .....	177
	<b>Harshini S A, Jacob M Philip, Narasimman</b>	



## A Review on Zeolites and Their Applications in Dentistry

### Shantanu Deshpande

Dr. D Y Patil Vidyapeeth's Dr. D Y Patil Dental College and Hospital, India & Bharati Vidyapeeth (deemed to be) University Dental College and Hospital, India

### Madhura Shekatkar

Dr. D. Y. Patil Dental College and Hospital,  
Dr. D. Y. Patil Vidyapeeth, India

#### Abstract:

Zeolite is an aluminosilicate compound that has a wide spectrum of applications in medicine and dentistry. Several articles were published combining zeolites with various other elements for different applications in dentistry. This review aims to provide a detailed review of the origin of zeolites, their physical and chemical properties, and their possible applications as dental materials. Zeolite-based hybrid films can be used for the detection of oral cancers. Silver zeolite can be added to restorative materials and dental liners. In cases of root canal irrigation, chlorhexidine zeolite is used owing to its antibacterial properties. For dental implants, a zeolite coating can improve the osseointegration. Due to its microporous structure, application-driven zeolitic frameworks can be prepared by sieving in various cations and antibacterial compounds. This review helps improve our understanding regarding the uses of zeolites as a material in different aspects of dentistry along with possible further improvements as a dental material.

#### Keywords:

Anti-bacterial action, Dental applications, Osteointegration, Silver zeolite, Zeolites







## Assessment of Angiogenic Potential of Mesenchymal Stem Cells Derived Conditioned Medium from Various Oral Sources

**Madhura Shekatkar**

Dr. D. Y. Patil Dental College and Hospital, Dr. D. Y. Patil Vidyapeeth, India

**Shantanu Deshpande**

Dr. D Y Patil Vidyapeeth's Dr. D Y Patil Dental College and Hospital, India & Bharati Vidyapeeth (deemed to be) University Dental College and Hospital, India

### Abstract:

Abnormal angiogenesis hamper blood vessel proliferation implicated in various biological processes. The current method to clinically treat patients to enhance angiogenesis is administering the angiogenic growth factors. However, due to a lack of spatiotemporal control over the substantial release of these factors, numerous drawbacks are faced such as leaky vasculature. Hence, stem-cell-based therapeutic applications are running their race to evolve as potential targets for deranged angiogenesis. In clinical dentistry, adequate tissue vascularization is essential for successful endodontic therapies such as apexogenesis and apexification. Furthermore, wound healing of the extraction socket and tissue regeneration post-surgical phase of treatment including implant placement require angiogenesis as a foundation for the ultimate success of treatment. Mesenchymal Stem Cells (MSCs) secrete certain growth factors and cytokines in the culture medium during the proliferation. These factors and cytokines are responsible for various biological activities inside the human body. Oral cavity-derived stem cells can secrete growth factors that enhance angiogenesis. The study aimed to investigate the angiogenic potential of Conditioned Medium (CM) of MSCs derived from different oral sources. Oral tissues such as dental pulp of adult and deciduous teeth,

gingiva, and buccal fat were used to isolate dental pulp MSCs (DPSCs), exfoliated deciduous teeth, gingival MSCs, and buccal fat-derived MSCs. MSCs Conditioned Medium (CM) from passage four cells from all the sources were obtained at 48 h intervals and growth factor analysis was performed using flow cytometry. To assess the functionality of the CM, a Chick Yolk Sac Membrane (YSM) assay was performed. CM obtained from DPSCs showed higher levels of vascular endothelial growth factor, fibroblast growth factor, and hepatocyte growth factor as evidenced by flow cytometry. Furthermore, DPSC-CM exhibited significantly higher pro-angiogenic potential when assessed in the in-ovo YSM assay. DPSCs so far seem to be the best source as compared to the rest of the oral sources in promoting angiogenesis. A novel source of CM derived from buccal fat stem cells was used to assess angiogenic potential. Thus, the present study shows that CM derived from oral cavity-derived MSCs has a dynamic and influential role in angiogenesis. CM derived from various oral sources of MSCs could be used along with existing therapies in medical practice where patients have compromised blood supply like in diabetes and patients with debilitating disorders. In clinical dentistry, adequate tissue vascularization is essential for successful wound healing, grafting procedures, and endodontic therapies. DPSCs-CM shows better angiogenic potential in comparison with other oral sources of MSCs-CM. Our findings could be a turning point in managing all surgical and regenerative procedures requiring increased angiogenesis.

### Keywords:

Mesenchymal Stem Cells, Conditioned Medium, Growth Factors, Neovascularization, Dental Pulp, Gingiva



## Exploring the Influential Factors of Decision Making among Geriatric Patients in the Selection of Dental Office Type for the Development of Global Innovations in Geriatric Dentistry A Cross Sectional Study

**S. Shree Lakshmi**

Sri Ramachandra Institute of Higher Education and Research, India

**S. Aravind Warriar**

Sri Ramachandra Institute of Higher Education and Research, India

### Abstract:

Studies confirm low utilization of dental services and high oral health disease burden among elders which is regarded as a heterogeneous population in India. Published literatures on studying the multitude of barriers as perceived by the elderly population in the utilization of oral health services in South India are scanty while its understanding is essential for development of appropriate target specific oral health care service system. Oral Health service planning requires information regarding utilization rate. Several factors influence the patient's decision-making process of choosing their oral health care setting. Increasing disease burden will elevate public health expenditures having an impact on the economy. Successful oral health educational interventions need planning which requires information regarding oral hygiene practices of the population so that appropriate IEC content with mention about the pros and cons of the aids which are professionally recommended and those commonly used respectively could be developed to enhance oral health promotion.

The purpose of this study was to determine the factors affecting the choice of dental office type, to explore the barriers in the use of oral health care services as perceived and to learn the oral hygiene practices among senior citizens of Chennai city. A cross-sectional survey was conducted in the dental OPD of a tertiary hospital through face-to-

face interviews among 250 patients aged  $\geq 60$  years. Data was collected and analysed statistically using SPSS. The findings of the study revealed that all the respondents preferred tertiary hospitals to private and governmental units. Reasons for opting so were determined to be the affordability of treatment fee, satisfaction level primarily as a consequence of the skills or competency of the care provider, fulfilment in the expectation of clean ambience, availability of holistic care services, and provision of service by considerate staffs at proximity. It was found in this study that a statistically significant link exists between single oral health barrier perceivers and their demographic profile such as age, gender, religion and their past dental experience such as the duration and type of dental treatment procedure underwent. Felt oral health needs in 136(54.4%) of the subjects among those reporting single barrier was low despite having oral health problems. Majority of the geriatric dental patients were found to be practicing insufficient oral hygiene with aids which are usually not professionally recommended.

On the basis of the present findings, it may be concluded that the financial status of geriatric patients governs their selection of dental care setting. The felt lack of oral problem was the major and preliminary barrier followed by time and financial constraints which were impediments from professional care and these factors need to be taken in account while planning geriatric oral health care delivery system and policies. The reported dental problem of the elders could be attributed to inadequate and improper oral hygiene practices which necessitate transition in the oral health attitude as the need of the hour strategy through urgent comprehensive oral care educational interventions.

### Keywords:

Patient Preference, Dental Care, Quality Improvement, Patient Satisfaction, Dental Setting, Oral Health Care Provider, Financial Coverage, Dental Treatment, Health Insurance, Outpatient Policy, Senior Citizens, Barriers, Utilization Of Health Care Services. Oral Hygiene Practices, Elderly, Geriatric Dentistry, Oral Health Promotion, Oral Hygiene Aids, Oral Health Promotion



9 789392 106460



## Association between Bilateral Sagittal Split Osteotomy Setback and Autorotation of the Mandible

### Pooja Harish

Yenepoya Dental College, Yenepoya (deemed to be university), India

### Sayed Fathimuz Zahara

Consultant Orthodontist, India

### Nandish Shetty

Consultant Orthodontist, India

### Abstract:

**Introduction:** The study aimed to evaluate the autorotation for Class III malocclusions after the Bilateral Sagittal Split Osteotomy (BSSO) setback procedure.

**Methodology:** This retrospective study includes lateral cephalograms of eight males and three females total of 11 patients who had undergone BSSO, without any other additional surgeries. The Frankfurt-Horizontal (F-H) plane was used as a reference and manual superimposition was done. Considering stable mandibular landmarks, Reference Line Perpendicular (RLp) and Reference Line (RL) were drawn as x and y coordinates, respectively. Pre- and postsurgical statistics were used to compare using paired t-test where  $P < 0.05$  was set for statistical significance.

**Results:** Superimposed tracings showed no significant difference in pre- and postsurgical treatments. There was no statistically significant amount of autorotation after the BSSO setback procedure ( $P = 0.714$ ).

**Conclusion:** Hence, BSSO setback surgery will not cause any significant amount of autorotation of the mandible. If autorotation is required it must be incorporated into treatment planning.

### Keywords:

Angle's Class III malocclusion, Autorotation, Bilateral sagittal split osteotomy, Mandible



## Artificial Intelligence: A Look to the Future

**Dr. Punam Navnath Nagargoje**

MIDSR Dental College, India

### Abstract:

In the field of Oral and Maxillofacial Surgery (OMFS), Artificial Intelligence (AI) offers a wide range of opportunities for enhancing preoperative planning, intraoperative workflow, and postoperative patient outcomes. With the application of predictive, preventative, personalized, and participatory methods, Artificial Intelligence (AI) has become a multifaceted health technology instrument that is transforming healthcare. AI includes a variety of computational ideas, including machine learning, neural networks and deep learning methods.

The research claims that AI is already being employed in a few OMFS domains, including localizing cephalometric landmarks, diagnosing cysts and tumors, and improving radiographic picture quality. Further investigation could make it feasible to offer practitioners in many disciplines with extra support to improve intraoperative screening, postoperative monitoring, and preoperative planning. All things considered, AI has the ability to significantly progress the field of OMFS and provide fresh approaches to long-standing clinical problems. Furthermore, preoperative evaluations, virtual surgical simulations, and customized treatment plans can be aided by sophisticated analysis of complex medical imaging data. This paper offers a thorough overview of AI in OMFS and provides insight into upcoming research initiatives.

### Keywords:

Oral Surgery, AI (Artificial Intelligence), Dentistry





## Artificial Intelligence: A Look to the Future

**Dr. Gopal Lahudas Nagargoje**

MIDSR Dental College, India

### Abstract:

Platelet Rich Fibrin (PRF) was first mentioned by Dr. Joseph Choukroun et al in 2001. It is an autogenous platelet concentrate containing growth factors and cytokines which is trapped in fibrin matrix. Growth factors which are present in it provide an ideal environment for wound healing and regeneration of the tissues. Platelet Concentrate has evolved a long way since 1954. In recent time it has been used in the field of medical science including dentistry, oral surgery, plastic surgery, Orthopedic surgery etc. This review discusses the evolution of platelet concentrate, its preparation technique and its application in the field of oral & Maxillofacial surgery.

### Keywords:

Blood Collection, Platelet-Rich Fibrin, Platelet-Rich Plasma



## To Evaluate and Compare the Osteogenic Potential of Two Different Photo Biomodulation Therapies Over mg 63 Cells on Titanium Discs– An Invitro Pilot Study

**Dr. Divyabharathi Selvam**  
SRM Dental College, India

### Abstract:

**Statement of Problem:** In medically healthy patients, the success rates of dental implant (DI) systems have reported to be between 90 and 95% at 10 years. DI may fail, however, due to a lack of osseointegration during early healing, or when in function due to breakage, or infection of the peri-implant tissues leading to loss of implant support. Today, Photo Biomodulation Therapy (PBMT) like Light Amplification by Stimulated Emission of Radiation (LASER) and Light Emitting Diode (LED) have gained popularity in medical and some dental sub speciality due to enhanced wound healing in both healthy and medically compromised patients. Still the applications of these therapy as an adjunct on dental implants is very limited.

**Aim and objectives:** To Evaluate and Compare The Osteogenic Potential Of Two Different Photo Biomodulation Therapy Over Mg 63 Cells On Titanium Discs

**Materials and Methodology:** Totally 42 samples of titanium discs placed in to Mg 63 cell cultured well plates. The samples were grouped as control group, Low level laser diode group (experimental group 1) and Light emitting diode group (Experimental group 2). After the placement of titanium discs, both the experimental group was exposed to respective radiations at three different durations (60 seconds, 180 seconds and 240 seconds). The cells on control and experimental groups was evaluated for its viability, adhesion, growth, attachment and proliferation using MTT assay at 24 hrs, 48 hrs and 72hrs

**Results and Conclusion:** The study results showed both the experimental groups had a positive effect on its osteogenic potential. Within the limitations of the study, irradiation using PBMT had shown favourable osteoblastic activity, but the results were statistically not significant. However, further long-term trials on a larger scale are needed for validating these study results.

### Keywords:

Dental Implants, Photo-Biomodulation, Low Level Laser, Light Emitting Diode, Osteogenic







## Global Innovations in Dentistry: From Research to Practice

**Dr. Trupti G Giri**

Maharashtra Institute of Dental Sciences & Research  
Maharashtra, India

### Abstract:

The field of dentistry is currently undergoing a significant revolution driven by ongoing breakthroughs in technology, materials, and procedures. This paper explores the domain of worldwide advancements in dentistry, charting the path from significant research triumphs to their tangible use in clinical environments.

Commencing with an examination of state-of-the-art research endeavors on a global scale, this scholarly article underscores pivotal advancements that possess the capacity to fundamentally transform the field of dentistry. The dental research field is currently seeing an unparalleled confluence of several fields and technologies, thanks to advancements such as digital dentistry, which includes CAD/CAM systems and intraoral scanners, as well as the incorporation of artificial intelligence in diagnoses and treatment planning.

Moreover, this paper examines the process of converting research findings into realistic applications in the clinical field. Researchers are making significant progress in the field of dental restorations and implants by creating innovative biomaterials, including bioactive ceramics and tissue-engineered constructions. These advancements are intended to enhance the durability and biocompatibility of dental restorations and implants. The utilization of minimally invasive technology, such as laser dentistry and dental robotics, is significantly transforming surgical procedures, resulting in expedited patient recovery and improved treatment outcomes.

Additionally, this study investigates the significance of interdisciplinary collaboration in fostering innovation within the field of dentistry. Researchers might enhance their

ability to address intricate dental difficulties more efficiently by cultivating collaborations among dentists, engineers, materials scientists, and other specialists, therefore harnessing a wide range of perspectives and experience.

This paper offers a thorough examination of the worldwide dental innovation, encompassing research laboratories and clinical practice, by utilizing various scholarly references and case studies. Through a comprehensive exploration of the process from research to practical implementation, the primary objective of this article is to provide dental professionals with the necessary knowledge and perspectives to effectively traverse the dynamic field of dentistry and provide the highest quality of treatment to their patients.

### Keywords:

CAD/CAM, 3D printing, Invisalign, Tele dentistry



## Improving Osseointegration Using a Compression Drill Immediately after Implant Placement: A Literature Review

**Dr. Mithila Kakade**

Maharashtra Institute of Dental Sciences & Research, India

### Abstract:

Oseodensification, a new technique in implant treatment, has gained attention for its potential to improve osseointegration and implant stability. This paper provides a comprehensive review of the application of compression drills immediately after implant placement, focusing on their impact on osseointegration and clinical outcomes. Using a systematic approach, this review synthesizes findings from scientific articles, clinical trials, and case reports. mechanisms and benefits of bone densification. This technique uses specially designed drills to compact the bone during implant site preparation, increasing bone density and improving the primary stability of the implants. The review highlights key studies demonstrating the effectiveness of compaction drills in promoting faster bone healing and implant reduction. micromotion and better bone-implant contact. In addition, it discusses the effect of osteodensification on various clinical scenarios, including immediate implant placement, loss of bone quality and socket preservation. In addition, this article discusses practical aspects such as surgical protocols, instrumentation, and possible complications of the compaction. a drill Through a critical analysis of the existing literature, it provides insight into the optimal use of sealing techniques to maximize implant success rates and long-term stability. In conclusion, this review highlights the potential of molars as a valuable adjunct in implant dentistry. an opportunity for clinicians to improve bone integration and optimize clinical outcomes. Also discussed are future research directions and areas of technology and instrument development to advance the field of bone compaction.

### Keywords:



Oseodensification, Implant Stability, Osseointegration



## Reactive Hyperplastic Lesions of the Oral Cavity: A Retrospective Survey Study and Literature Review

**Dr. Varsha Ajit Sangle**

MIDSR Dental College and Hospital, India

### Abstract:

**Context:** The reactive lesions are relatively common in the oral cavity because of the frequency with which the tissues are injured. They often result from a known stimulus or injury such as dental plaque, calculus, or foreign material.

**Aims:** The aim of this study was to review the clinicopathologic features of Reactive Hyperplastic Lesions (RHLs) of the oral cavity at MIDSR, Dental College and Hospital, Latur, Maharashtra, and to compare these data with those of previously reported studies.

**Settings and Design:** The patient case files from the Department of Oral and Maxillofacial Pathology from June 2010 to May 2016 were reviewed for cases of RHLs of the oral cavity.

**Subjects and Methods:** Both clinical and histopathological diagnosis of reactive lesions was selected for the study. Data including the type of the lesion, age, gender, and the site involved were collected.

**Statistical Analysis Used:** Descriptive statistics was applied to the data and differences in frequencies among groups were evaluated using SPSS (IBM Corporation) software.

**Results:** A total of 155 histologically diagnosed cases of RHLs were obtained with a prevalence of 11.7%. The data consist of 56 (36.1%) males and 99 (63.9%) females. The most common lesion clinically was traumatic fibroma (36.5%) and histologically fibrous hyperplasia (37.4%). The reactive lesions clinically presented as either sessile (51%) or pedunculated (49%) lesions.

**Conclusions:** The clinical features of reactive hyperplasia

among our patients were similar to those reported previously with divergence in some analyzed data. The novelty in our study was the correlation between histopathology and clinical features which were not reported in literature till date.

### Keywords:

Reactive Lesions, Reactive Hyperplastic Lesions, Oral Cavity



## Root Fenestration – A New Classification based on Underlying Causes and Management

Gauri M Ugale

Maharashtra Institute of Dental Sciences & Research, India

### Abstract:

Fenestration is derived from Latin word fenestra, meaning 'window. Isolated denuded windows along the tooth root due to absence of bone alone or along with overlying mucosa/gingiva having intact marginal tissue are termed fenestration. The fenestration commonly associated with the canine and maxillary first molar (mesio-buccal root). Fenestrations were classified on their apico-coronal location along the root length as apical third, middle third, and the coronal third. Hereby suggesting a different classification for fenestration based on its clinical presentation due to tissue extent and underlying causes.

### Keywords:

Fenestration, Isolated denuded window, Periapical infection, Soft tissue fenestration, Classification





## Zadake's Angular Gauge (ZAG): A Novel Clinical and Cephalometric Orthodontic Diagnostic

Dr. Sujit Navnath Zadake

MIDSR Dental College, Latur, Maharashtra, India

### Abstract:

Nasolabial angle has become the angle depicting the esthetics so has attained the prime importance in the treatment planning. The evaluation of the facial profile is an important factor in any current orthodontic diagnosis, considering that an extreme advancement or retreat in the position of the upper lip or chin can determine the worsening of the patient's profile and aesthetic results. There are many factors to consider, to preserve the aesthetics of the facial profile: the Nasolabial Angle (NLA), the nasal prominence, the position of the upper and lower lip and the depth of the chin-labial sulcus. The mentolabial (or labiomental) region is evident in frontal and profile views and forms the transition from the lower lip to the soft tissue chin. The mentolabial angle, also termed the labiomental angle, is a potentially important factor in the perception of facial profile attractiveness.

"Zadake's Angular Gauge (ZAG): A novel clinical orthodontic diagnostic aid" fabricated to measure the nasolabial angle and mentolabial angle clinically. Trial done on OPD patients too and later it was cross verified on lateral cephalogram with cephalometric tracing and showed same angular measurements of nasolabial and mentolabial sulcus. So, this aid can be used clinically as well as cephalometrically. Use of this device will be quick and effective method for orthodontic diagnosis. Hence, this device provides both accuracy, reliability and quick method.

### Clinical examination use:

1. Place the device in such a way that wire at 0 degree angulation kept fixed and another wire is adjusted according to interested anatomical landmark.
2. To measure Nasolabial angle: Fixed arm of the wire will

follow the superior border of upper lip and another arm should touch lower border of nose.

3. To measure Mentolabial angle: Fixed arm of the wire will follow the soft tissue pogonion and another arm should lie on inferior border of lower lip.

### Cephalometric use:

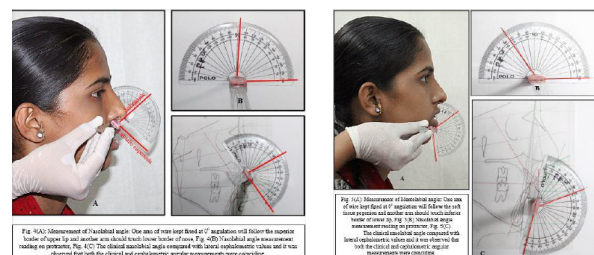
1. The clinical nasolabial and mentolabial angle compared with lateral cephalometric values and it was observed that both the clinical and cephalometric angular measurements were coinciding.
2. This device can also be used to measure other cephalometric angular measurements also.

### Advantages:

1. It helps to measure nasolabial and mentolabial angle clinically
2. Accurate and reliable.
3. Simple design.
4. Easy to fabricate and less time consuming
5. Cost-effective.
6. Less armamentarium required.
7. Patient compliance is not needed.

### Keywords:

Nasolabial Angle (NLA), Mentolabial angle (MLA), Diagnostic aid, Aesthetics, Facial profile





## Bridging Gaps, Building Smiles: Platform Switch vs. Platform Match in Dental Implantology

**Dr. Sugirtha Chellapandi**

Chettinad Dental College and Research Institute, India

### Abstract:

**Background:** Peri-implant bone loss is a critical concern in implant dentistry, affecting the long-term stability and success of dental implants. The concept of platform switching has been proposed to minimize bone resorption around implants. However, there is a need for further investigation comparing the effectiveness of platform switching versus non-platform switching implants in controlling peri-implant bone loss.

**Objective:** This randomized controlled trial aimed to evaluate and compare peri-implant bone loss around platform switching and non-platform switching implants.

**Methods:** A randomized controlled trial design was employed, with participants randomly allocated to receive either platform switching or non-platform switching implants. Peri-implant bone loss was assessed using standardized radiographic techniques at baseline and follow-up appointments. Ten patients with bilaterally missing mandibular posteriors to be restored with implant supported single crowns, were consecutively enrolled. The ethical clearance was obtained from the Institutional Review Board (IRB) prior to the start of the study. Group A (Control): Edentulous areas were fitted with non-platform switching implants. Group B (Test): Edentulous areas were fitted with platform switching implants.

**Results:** There was a minute refinement in clinical parameters, with a marked reduction in the peri-implant bone loss when platform switching implants were placed compared to the traditional non platform switching implants.

**Conclusion:** A promising method to reduce crestal bone loss is "The concept of platform switching". Platform switching showed a positive impact in maintenance or even

enhancement of crestal bone levels when compared with platform matching abutments of the same implant system, allowing clinicians to a better understanding of two different techniques at 12 months post-loading.

### Keywords:

Peri-Implant Bone Loss, Platform Switching, Dental Implants, Randomized Controlled Trial



9 789392 106460



## Digital Radiographic Evaluation of Quality of Obturation Between Two Obturation Techniques in Primary Molars: An In Vivo Study

Incremental Technique, Obturation, Pulpectomy, Motor-driven Lentulo Spirals

**Dr. Syeda Naseha Banu**

Rajiv Gandhi University, India

**Dr. Syeda Najeya Banu**

Bangalore Institute of Dental Sciences/ Rajiv Gandhi University, India

### Abstract:

**Aim:** To compare and evaluate the radiographic efficacy of the quality of obturation using two methods of obturation (incremental technique and slow-speed motor-driven lentulo spiral technique).

**Materials and Methods:** The study was conducted among children aged 4–7 years with pulpally involved mandibular primary molars requiring pulpectomy. A total of 36 teeth were selected and divided randomly into two groups, with 18 teeth in each group. Obturation in group I was performed using a hand plugger, and in Group II with a slow-speed motor-driven lentulo spiral. The obturation was evaluated for length of obturation and voids using digital intraoral receptor. The data was subjected to statistical analysis. The Chi-square test was used for inter-group comparison.

**Results:** The results showed that there is a statistically significant difference regarding the quality of obturation between the groups with respect to apical seal. Group 1 showed more optimal filling than Group 2. There was no significant difference evident among the two groups in relation to voids ( $P = 1.00$ ).

**Conclusion:** The incremental technique produced more ideal obturation compared to the motor-driven lentulo spiral technique.

### Keywords:





## Dandy -Walker Syndrome “Let The Rare Never Be Forgotten”

**Dr. Syeda Najeya Banu**

Bangalore Institute of Dental Sciences/ Rajiv Gandhi University, India

**Dr. Syeda Naseha Banu**

Rajiv Gandhi University, India

### Abstract:

Dandy-Walker Syndrome (DWS) is a rare congenital cystic malformation of the posterior cranial fossa. Clinical findings include delayed motor development in infancy; macrocephaly and hydrocephalus with bulging occiput, nystagmus and ataxia. DWS is also associated with hypertelorism, cardiac, skeletal, renal, dental and vertebral malformation. This paper focuses on a rare case of a 10-year old boy with DWS along with the involvement of the oral cavity. He was developmentally delayed; speech and hearing were impaired, and presented with ataxic gait. Intraoral examination revealed high arched palate, malocclusion, and poor oral hygiene. Following clinical examination and behavioural assessment, dental treatments including RCT, SSC and coronal restoration were planned and completed under local anaesthesia. Patient tolerated the procedure well with no complications during and after the treatment. DWS is a rare clinical entity present with distinct clinical presentations and varied intellectual development, which may be challenging to dental management. The dental management should involve the review of medical history, consultation with physicians, oral examination and behavioural assessment.

### Keywords:

Dandy Walker Syndrome, Hydrocephalus, Posterior Cranial Fossa, Dental Consideration





## Assessment of Dietary Patterns and Estimation of Serum Protein Levels in Patients with and without Habit of Tobacco Consumption, with and without Tobacco-Related Lesions in an Indian Subpopulation (20-60yrs): A Case-Control Study and a Survey-Based Assessment

**Shubhi Gupta**

DR G.D.POL Foundations Y.M.T Dental College Kharghar,  
Maharashtra University of Health Sciences, India

### Abstract:

Tobacco use deeply rooted in Indian culture significantly impacts oral health, with 32.8% of adults (18-69 years) reported to use tobacco in smoked or smokeless forms, and 28% using it daily (NNMS, 2021). A major risk factor for oral mucosal lesions, tobacco accounts for over 30% of cancers in India (KR Coelho et al., 2012). The projected incidence cases for tobacco-related cancers by 2025 is 427,273 (ICMR). Prolonged tobacco exposure to the oral mucosa leads to carcinogenic alterations, elevating the risk of lesions like leukoplakia, tobacco pouch keratosis, and smoker's palate, posing a significant cancer risk. Leukoplakia is a whitish patch or plaque that cannot be characterized clinically or pathologically as any other disease and it is not associated with any physical or chemical causative agent except the use of tobacco. Its neoplastic transformation range is 0.3-25%, with dysplastic changes increasing malignancy to over 30% (KC Srivastava et al 2014) Tobacco pouch keratosis (TPK) is characterized by the development of a white, translucent mucosal lesion at the site of tobacco contact. Clinically, the affected area appears white/grey, granular, or wrinkled. Smoker's palate i.e. nicotinic stomatitis, is a oral lesion associated with smoking tobacco. It predominantly affects the hard and anterior soft palate. The characteristic feature is the presence of white, keratosis on the palate,

often accompanied by small, reddish, raised papules and petechiae representing inflamed minor salivary gland ducts.

Although biopsy stands as the gold standard in assessing oral cancer and precancerous conditions, but the need of the hour is to come up with faster and less-invasive techniques for early detection of oral cancer and precancerous conditions. Molecular markers undoubtedly play a crucial role in detection of cancers. The role of molecular markers in tobacco related lesions is limited and thus needs further investigations.

Protein oxidation plays a vital role in oral cancer pathogenesis, with hypoproteinemia, termed cachexia, commonly observed in oral malignancies.

Dietary nutrients exhibit specific mechanisms either protecting against or increasing cancer risk. For instance, fruits and vegetables reduce oral cancer risk, while a pro-inflammatory diet with red meat and fried foods increases it.

This will be a pioneer study, to assess dietary patterns and determine serum protein.

### Keywords:

Leukoplakia, Tobacco Pouch Keratosis, Smoker's Palate, Molecular Markers



## Mental Health Survey in Dental Students

### Khan Amaan Akbar

Dr. G.D. Pol Foundations Y.M.T. Dental College & Hospital,  
Kharghar, Maharashtra University Of Health Sciences, India

#### Abstract:

**Objective:** This cross-sectional study aimed to investigate levels of distress, depression, anxiety, stress, and perception of study situation among dental students. Additionally, we explored the association between mental health scores and the Dentist Anxiety Scale (DAS) and Dental Environment Stress Scale (DESS) results.

**Participants:** Dental students from various colleges.

#### Methods:

- Mental burden (assessed using Patient Health Questionnaire, and Perceived Stress Scale)
- Self-reported changes in mental health
- Perception of study situation
- DAS and DESS scores

**Results:** The Research is still in progress, but following result is expected from data collected till now;

- A considerable proportion of students reported distress levels above the cut-off.
- More dental students reported anxiety and depression symptoms.
- Dental students had serious worries regarding the study situation.
- Common concerns related to difficulties with self-regulated learning, study-related worries, missing feedback, and lack of practical training.
- Higher DAS and DESS scores were associated with increased distress levels.

**Conclusion:** Dental education faces challenges related to mental health and practical training. Tailored psychological interventions, along with addressing anxiety specific to dentistry, are crucial for supporting dental students' well-

being and academic success.

This research underscores the importance of considering mental health as an integral part of dental education and provides insights for designing effective interventions to enhance student resilience and coping strategies.

#### Keywords:

Anxiety, Coping Strategies, Dental Environmental Stress Questionnaire, Dental Students, Dentist Anxiety Scale, Self-Regulated Learning





## Association of Socio-demographic Factors on Dental Caries among Urban and Rural School going Children (5-12 years) in Thane and Raigad District Regions: A Cross-Sectional Study

**Dr. Sheetal Chaudhari**

YMT Dental College and Hospital Kharghar, Maharashtra  
University of Health Sciences, India

**Utpreksha Sameer Patil**

YMT Dental College and Hospital Kharghar, Maharashtra  
University of Health Sciences, India

**Dr. Vibhuti Shreesh Mhatre**

YMT Dental College and Hospital Kharghar, Maharashtra  
University of Health Sciences, India

### Abstract:

Dental caries is a significant health problem among people of all ages but the magnitude of problem is greatest among school going children. The prevalence percentage of dental caries among 5, 12 and 15 years old was found to be 50%, 52.5% and 61.4% respectively in National Health Survey in India (2002-2003). Adverse dietary habits result in poor oral health which ultimately results in poor general health. Poor oral health adversely affects dietary intake and nutrition in turn affects the general health. The importance of maintaining primary teeth and their role in the development and maintenance of permanent teeth as well as the cost-effectiveness of early treatment interventions for permanent teeth in these age groups are the reasons for prioritizing the oral health of the children of this age. Due to uneven geographical distribution of dentists with respect to rural and urban areas, there exists widening disparities in access to quality care, predominantly in rural areas. There are no preventive care policies and recall systems for regular dental checkups in rural areas in India. Private fee for service is the only method of payment for dental care in India. This

makes dental services inaccessible to rural population. Therefore, there is an utmost need to assess the oral health status and treatment needs in children of rural area in India.

Present study aims at difference in oral health status between urban and rural population in India. Poor transport facilities, poverty, and illiteracy has widened the disparities in access to quality dental care among rural children. This helps to develop strategies and policies for providing effective oral health care in rural areas. Oral health is evaluated through DMFT index. Socio - economic status is evaluated through modified kuppuswamy's socio - economic status scale 2023. Present study also involves the nutritional patterns affecting oral health in school going children.

Purpose and methodology of the survey was explained to the parents/guardian by the investigator. Pre-tested self-modified structured tool/instruments were designed for recording all the relevant data. Information about socio-demographic details including age, gender, parent occupation, educational qualifications, family income, number of family members and birth order of child were recorded. Details regarding any medical conditions, medications, oral hygiene practices, dietary habits, use of any form of tobacco, last dental visit and perceived need were collected. The principal investigator was trained for administration of the questionnaire in-order to have a standardized survey interview.

Through this study children were advised about the importance of oral health and specific instruction about correct tooth brushing technique and other oral prophylactic measures were given to them. This study also explored various factors responsible for oral health disparities among tribal population highlighting their dental care needs.

This also helped to develop strategies and policies for effective oral health care in rural areas and lead to minimising the differences in health status of urban and rural population and improve overall quality of health in children from rural regions.

**Keywords:**

Dental caries, Significant problem, Young children, Poor oral health, Affect, General health, Uneven geographical distribution of dentists, Exist widening disparities, Rural areas, Services inaccessible to rural population, DMFT index, Modified kuppuswamy's socio, Economic status scale 2023, Pre-tested self-modified structured tool, Principal investigator is trained, Advised, Importance of oral health, Correct tooth brushing technique, Help to develop, Effective oral health care, Improve, Quality, Rural regions.



## Comparative Evaluation of Quality of Obturation in Thermo-Plasticized Gutta Percha Obturation Technique and Hydraulic Condensation Technique using Bioceramic Sealer

**Dr. Srikar Comandur**

Rajiv Gandhi University of Health Sciences, India

**Dr. R Vinaychandra**

RajaRajeshwari Dental College, Rajiv Gandhi University of Health Sciences, India

### Abstract:

The purpose of obturation is to seal the cleaned, shaped and disinfected root canal system and to prevent re-infection. It has been emphasized that good obturation should create a good seal; this includes apical and coronal seal as well as lateral seal i.e obturation must provide a fluid tight seal. Traditionally, a three dimensional seal of the thoroughly disinfected root canal system is achieved through a gutta percha core cemented with a root canal sealer.

Thermoplastisized gutta percha techniques have shown to be superior to other obturation techniques by adapting well to dentin and preventing microleakage provided they be used with a sealer. However there are various disadvantages associated with thermoplastisized gutta percha techniques such as risk of overfilling, technique sensitivity and transfer of heat to the periradicular areas.

To overcome this, advancements were made in sealer technology and bioceramic sealers were introduced. They interact with surrounding tissues to encourage growth and regeneration of more durable mineralized tissues, while also bonding to root dentin chemically, being less technique sensitive and overcoming drawbacks of thermoplastisized gutta percha techniques.

As the world of Endodontics is moving towards a sealer

based obturation, this study aims to compare the efficacy of thermoplastisized gutta percha techniques and hydraulic condensation technique using a bioceramic sealer through Micro- CT Volumetric Analysis of root canal system obturated.

### Keywords:

Bioceramic Sealer, Hydraulic Condensation, Thermo-plasticized gutta percha technique, Micro- CT Volumetric Analysis



## The Effect of Decoupling Technique on Fracture Resistance on Class 2 Composite Restoration

**Dr. Mrinalini Jaichander**

RajaRajeshwari Dental College, Rajiv Gandhi University of Health Sciences, India

**Dr. R Vinaychandra**

RajaRajeshwari Dental College, Rajiv Gandhi University of health sciences, India

### Abstract:

Composites are widely used for dental restorations due to their favourable features like conservative technique, good strength and aesthetics. Layering technique and different curing modes with light emitting diodes, decoupling technique have been introduced to counter polymerisation shrinkage which if not addressed will lead to post operative complications like sensitivity, pain, and loss of marginal integrity.

Decoupling technique states that polymerization shrinkage stress to the developing dentin bond of the hybrid layer should be minimized for a certain period of time 5 to 30 minutes by keeping initial increments to a minimum thickness less than 2mm. This minimal thickness prevents the coupling of deep dentin to enamel or superficial dentin before the hybrid layer is matured and close to full strength. This procedure neutralizes "Hierarchy of Bondability," which states that the shrinkage of composite flows toward the walls of the preparation that are the most mineralized and dry and flows away from the walls of the preparation that are the most moist and organic.

Therefore, the purpose of this study is to evaluate and compare the effect of decoupling technique on fracture resistance of class 2 composite restorations using flowable composite bulk fill composite and fibre reinforced composite.

### Keywords:



9 789392 106460

Polymerization Shrinkage, Decoupling Technique, Class 2 Composite Restoration, Hybrid Layer





## Assessment of Knowledge, Attitude and Practices Related to Sugar Content Mentioned on Packaged Food among Adults (20-45 Years): A Cross Sectional Study

### Arin Purohit

DR G.D. POL Foundations Y.M.T Dental College Kharghar.  
Maharashtra University of Health Sciences, Maharashtra,  
India

### Shubhi Gupta

DR G.D. POL Foundations Y.M.T Dental College Kharghar.  
Maharashtra University of Health Sciences, Maharashtra,  
India

### Abstract:

In the modern times, there has been an increase in prevalence of packaged food to the point that it has become ubiquitous, yet the danger of excessive sugar consumption still remains a mystery and is still being misunderstood by consumers. Inadequate dietary habits constitute a major health concern in which excessive sugar consumption plays a major role. Increased risk of Diabetes, Obesity and various such complications have become rampant in modern times. A lot of the excessive sugar consumption of the consumers comes from the packaged foods which are an essential part of life. India has an estimated 77 million people diagnosed with diabetes and prevalence of Pre diabetes is 14%. Therefore, by examination of the current trends in the patterns of consumption and detrimental effects of high sugar intake on health, this abstract underscores the necessity for informed decision-making when purchasing and consuming packaged food. The end goal of this study is to empower consumers with knowledge about sugar content in packaged food using a cross sectional study to promote healthier dietary choices and combating the growth of public health crisis of obesity and related diseases.

### Keywords:

Packaged Food, Excessive Sugar Consumption, Diabetes, Obesity, Dietary Habits



## Role of Artificial Intelligence in Cleft lip and Palate Diagnosis to Treatment

**Dr. Pragadeesh**

Adhiparasakthi Dental College and Hospital, India

**Yuvaraj. J**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

Cleft lip and palate (CLP) is the most common craniofacial malformation, with a range of physical, psychological, and aesthetic consequences. For this anomaly by using the artificial intelligence the diagnosis and treatment planning for CLP is detected. AI models play a major role in achieving a exact diagnosis, assessment, and treatment planning for children with CLP anomalies. The findings of this review showed that Deep Learning (DL) models transform the diagnostic process, predict susceptibility to CLP, and enhance alveolar bone grafts and orthodontic treatment. Additionally, Machine learning aids in preoperative planning for alveolar bone grafts and provides good treatment plans in orthodontic treatment. Our poster will depict the success of alveolar bone graft which provide good orthodontic interventions in (CLP). This poster will portray the role of AI in clp.

### Keywords:

Cleft lip, Cleft lip and Palate, Cleft Palate, Artificial Intelligence





## CGF in Crestal Bone Levels and Peri-Implant Bone Density

**Dr. V.C.Karthik**

Adhiparasakthi Dental College and Hospital, India

**Dr. Kirubakaran**

Adhiparasakthi Dental College and Hospital, India

**Dr. Sonia Abraham**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

**Background:** Modern dentistry aims to restore the comfort and health of the stomatognathic system. Dental implants have emerged as a promising option for this purpose. Concentrated Growth Factors (CGF) has been suggested to enhance the healing of bone grafts and enhance the integration of implants into bone. Growth factors are proteins which regulate the complex process of wound healing. They play an important role in cell migration, cell proliferation and angiogenesis in tissue regeneration phase. CGF was first developed by Sacco in 2006. It can be used as a barrier membrane to accelerate soft tissue healing. CGF does not require any chemical or anticoagulants so it is free from viral transmission diseases. Crestal bone levels, peri-implant bone density, bleeding, probing depth, mobility, occlusion factors, restoration adequacy, radiographic images, oral hygiene, patient health status are some of the important parameters for determining the longevity of success rates in implant dentistry. This study will assess the peri-implant bone density and crestal bone levels with and without the use of CGF.

**Aim:** To evaluate the effect of concentrated growth factors on peri- implant bone density and in preservation of crestal bone levels around dental implants.

### Materials and Methods:

Sampling procedure	Random selection of population (Sealed Envelope Method)
No. of Groups	Two - Control Group (Group 1) & Experimental Group (Group 2)
Sample Size	20

For Group 2, implants were placed with CGF. For Group 1, implants were placed without CGF. The peri-implant bone density and bone levels were measured by Digora and signora software.

**Results:** The mean crestal bone loss on the mesial aspect of implants placed in Group II is 0.294 mm and Group I is 0.345 mm and the mean crestal bone loss on the distal aspect of implants placed in Group II is 0.320 mm and in Group I is 0.331 mm. There is not much significant differences on mesial and distal aspects around implants between two groups. Intragroup comparison of bone density values in Group 1 shows the mean difference from baseline to one month is 0.6, and after three and six months periods are 1.1 and 1.1 respectively which indicates not much significant improvement in bone density values in Group 1. Inter group comparison shows a significant difference between both the groups starting from as early as the 1st month.

**Conclusion:** The results of this study indicates that CGF is significantly better in regeneration of bone around the implants when comparing with non- CGF groups. Although, CGF showed improvement in bone formation, there is not much differences in crestal bone level changes on mesial and distal sides of the implants between two groups.

### Keywords:

CGF, Crestal Bone Levels, Peri-Implant Bone Density



## Efficacy of Simvastatin as a Bone Substitute in Patients Undergoing Mandibular Third Molar Surgery

**Dr. Velavan Krishnan**

SRM Dental College, Ramapuram, India

### Abstract:

**Aim:** This study focused to evaluate the potency of osteotrophic agent - simvastatin by assessing the rate of bone regeneration and the density in patients with bilateral symmetrical third molar impaction by using Cone Beam Computed Tomography.

**Materials and Methods:** Totally 40 patients diagnosed as having impacted third molars within the age of 18- 25 years was enlisted in this study. In Group A patient, gel foam (control group) was laid down in the freshly extracted socket. In Group B patients, gel foam was blended with crushed smaller particles of Simvastatin tablets and dampened with normal saline (2 ml) was surfaced in the freshly extracted socket.

**Results:** Normality tests, Shapiro-Wilks tests, Kolmogorov-Smirnov test stated that the study followed normal distribution. The result of the study concluded that there is significant increase in bone regeneration in study group and it is statistically significant.

**Conclusion:** The present study concluded that the simvastatin when applied locally is effective in inducing early bone regeneration and it is very cost effective. Simvastatin use decreased the need for autogenous graft and thereby reducing donor site morbidity. It as an effective tool for bone healing in minor oral surgical procedural defects.

### Keywords:

Bone Substitute, Simvastatin, Osteotrophic Agent





## Artificial-Intelligence- An Innovative Method to assess the Dental Age in Children with Growth Delay

**Dr. Preethi Archana**

Adhiparasakthi Dental College and Hospital, India

**Nivetha Raja**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

This study investigates the application of Artificial Intelligence (AI) in dental age assessment for children experiencing growth delay. Leveraging AI-assisted methods, the research aims to enhance the precision and efficiency of age determination in pediatric populations. By analyzing dental developmental stages, the study explores the potential of AI to provide more accurate assessments, particularly in cases where conventional methods may be less reliable due to growth delay. The findings have implications for improving diagnostic accuracy in pediatric healthcare, offering a promising avenue for clinicians in evaluating the developmental status of children with growth challenges. This research contributes to the broader field of AI applications in healthcare and underscores its potential in refining age assessment protocols for a more comprehensive understanding of pediatric patients.

### Keywords:

Dental Age Assessment, Growth Delay Children, Conventional Methods, Artificial Intelligence, Convolutional Neural Networks, Dentistry



## Snap on Smile

**Dr. Preethi Archana**

Adhiparasakthi Dental College and Hospital, India

**Kameshvari. A**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

In dentistry, Snap-On Smile is a custom-made, non-invasive, removable dental appliance that can give you a temporary new smile. It's one of the affordable option to improve the appearance of your smile. It's thin and comfortable cover that fits over the existing teeth. It's a great solution for people who want to improve smile without undergoing extensive dental procedures. Snap-On Smile, helps in children including those who are dental phobic or they born with congenital missing teeth. They are also a solution for the transition from primary to permanent teeth. Snap-On Smile is an appliance made from crystallized acetyl resin, a durable and stain-resistant material that snaps into place over your teeth. It is completely removable and requires no filing or re-shaping of the teeth. The presentation explains about how the snap on smile is useful, effective and comfortable to the children and young adult.

### Keywords:

Snap on smile, Removable appliance, Improve smile, Simple, Dental Procedures





## Effect of Smoking on Salivary Levels of Monocyte Chemoattractant Protein-3 in Periodontally Healthy and Diseased Individuals

**Dr. L.R Renuka**

PMS College of Dental Science and Research Vattapara,  
Kerala University of Health and Science, India

**Dr. Reejamol M.K**

PMS College of Dental Science and Research Vattapara,  
Kerala University of Health and Science, India

### Abstract:

**Background and Objective:** Periodontitis is a multifactorial inflammatory disease which is associated with dysbiotic plaque microbial flora and altered immune response. Monocyte Chemoattractant Protein -3 (MCP-3) which is expressed by various immune cells stimulates the chemotactic activity of monocytes. Smoking alters the host response, including vascular function, neutrophil/monocyte activities, cytokine and inflammatory mediator release. The aim of present study was to evaluate and compare the salivary levels of MCP-3 in periodontally healthy and periodontitis patients with and without smoking habits.

**Methodology:** A total of 80 patients, periodontally healthy smokers, periodontally healthy non smokers and periodontitis patients with and without smoking habits (20 in each groups) were selected. Periodontal parameters such as Full Mouth Bleeding Score, Full Mouth Plaque Score, Probing Depth and Clinical Attachment Loss were recorded. Unstimulated whole expectorated saliva samples were collected for the estimation of MCP-3 which were assessed using enzyme-linked immunosorbent assay.

**Results and Discussion:** The overall comparison of salivary MCP3 levels among groups shows a significant difference with higher values in group IV (smokers with periodontitis) when compared to other three groups. The individual inter-

group pair-wise comparison of salivary MCP3 levels shows a significant difference between Group I (Nonsmokers with healthy periodontium) and Group IV, also between Group II (Smokers with healthy periodontium) and Group IV. Overall comparison of clinical parameters among groups shows a significant difference with highest value in Group IV. We have also correlated clinical parameters with salivary MCP3 levels which shows a positive correlation among groups.

**Conclusion:** Periodontal destruction can be affected by smoking through increased release of pro inflammatory cytokines, which are highly regulated by chemokines for recruitment of immune cells. The present study results also suggest that there is a significant influence of smoking on salivary MCP3 concentration which might lead to increased severity of periodontal destruction.

### Keywords:

Periodontitis, Chemokines, Smoking, Monocyte Chemoattractant Protein 3





## Analysis of Apical Third Root Canal Morphology of the Palatal Root of Maxillary First Molar and Its Proximity to Maxillary Sinus: A Cone Beam Computed Tomographic Study

**K.Saji**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

Maxillary first molar is more prone to caries as it is the first tooth to erupt in the permanent dentition of the maxillary arch which leads to longer functional time. Hence, the incidence of endodontic treatment in first molars is high. Understanding the anatomy of the pulp canal system has a key importance in all the phases of the endodontic procedures. The aim of this study was to assess the angulation of the apical exit from radiographic apex of palatal root of maxillary first molar, to measure the distance between radiographic apex and apical exit of palatal root of maxillary first molar and to measure the distance of apical exit of palatal root of maxillary first molar from maxillary sinus floor. A total of 118 untreated, well-developed maxillary first molars were selected on cone-beam computed tomography scans. Data was collected and viewed by invivo5 software. Descriptive statistical analysis was given as mean value. Radiographic apex and apical exit did not coincide in the large number of samples. The palatal root of maxillary first molar was found to be in direct contact with the floor of maxillary sinus in maximum samples. Apical exit does not coincide with the radiographic apex in all the cases. The distance between radiographic apex and apical foramina or apical exit ranges from 0 to 1.43 mm. The apical exit or apical foramina are in direct contact with maxillary sinus floor in 75% cases. From endodontic perspective, these observations should be considered during root canal therapy. CBCT gives a three-dimensional representation in three different spatial planes, hence, it helps to achieve accurate results in gaining

knowledge about the anatomy of the root and its canals as well as other anatomical structures in the proximity like the overlying maxillary sinus floor. Limitations of this study are that the apical anatomy of MB and DB roots was not studied since only the palatal root of maxillary first molar is closest to the floor of maxillary sinus. However, future research could be conducted on these two roots. Data from a wide geographical region could be considered to understand the relationship between maxillary molar roots and maxillary sinus.

### Keywords:

Cone-Beam Computed Tomography, Maxillary Molar, Maxillary Sinus, Palatal Root





## Augmented Reality in Treatment Planning

**D. Rupshya**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

As industries worldwide embrace digital transformation, the field of dental education is no exception. Among the most promising technological advancements is Augmented Reality (AR). AR is the process of integration of digital information to the user's real environment wherein the computer graphics are overlaid on the Real Environment. In this technology, the user interacts with virtual objects placed in the real world. Three essential components of AR includes- Integration of Real and Virtual world, Interaction with the objects in real-time and registration in 3D. This permits to directly observe a human body and to see virtual objects on it or through it as the anatomy of the body is superimposed. AR means being able to visualize complex dental procedures right in front of them, practice surgeries in a risk-free environment, and access interactive 3D models that can be manipulated and studied from every aspect. This fusion of the digital and physical worlds promises to make dental education more interactive, comprehensive, and tailored to individual learning needs. My presentation will focus on how AR is not just an add-on but a potential game-changer in the way dental professionals are trained.

### Keywords:

Augmented Reality, Real and Virtual world, Integration, Interaction



## Computer-Aided Design/ Computer-Aided Manufacture (CAD/CAM) in Paediatric Dentistry

**P. Sowmiya**

Adhiparasakthi Dental College and Hospital, India

### **Abstract:**

With the rapid growth in digital technologies, there is always something new to learn and develop redefining the old techniques. Not only in adults, but digital workflow plays a good role even in the paediatric dentistry. CAD- CAM and digital imprint systems offer several benefits compared to traditional techniques. Use of CAD/CAM system to scan the preparations and generate restorations in-office, removes second appointment for paediatric patient. This workflow cuts down chair side time, thus shortening the procedure, and also improves children's cooperation. Zirconia crown preparation for decayed primary molar, has the advantage of the customization of the abutment tooth in contrast to the prefabricated options. Use of digital dentistry in paediatric patients and fabrication of space maintainer and zirconia crown using digital impression and digital workflow bring about great changes in paediatric dentistry practice. In current trends we encourage the use of digital technology in paediatric dentistry.

### **Keywords:**

CAD-CAM, Digital Dentistry, Zirconia Crown, Space Maintainer



## New Era of Molar Distalization

**Ananya Mukherjee**

Surendera Dental College and Research Institute, India

**Dr. Eenal Bhambri**

Surendera Dental College and Research Institute, India

### **Abstract:**

Molar distalization refers to the procedure of increasing the length of the dental arch by the rearward movement of the buccal segment teeth. A primary advantage in this technique is the ability to gain space in a conservative way without the need for extraction. One of the common methods to achieve distalization is the incorporation of extraoral appliances such as headgears. However, these appliances depend mainly on patient compliance and have a problem of bad esthetics, which led to the preference of intraoral distalizing appliances by some patients. In this paper we will focus on discussing the latest advancements in molar distalization devices. Here are the names of various new modalities to distalize molars -Franzulum Appliance, C-Space Regainer, The Mini-Distalizing Appliance (MDA), Pendulum-K, X-Bow Appliance, Skeletalized Distal Jet Appliance, 2K Appliance, Keles Slider, Magnets Used For Molar Distalization, Frog Appliance, J Molar Distalizer, Bone Anchored Pendulum Appliance.

This paper will focus on various new intraoral noncompliance appliances for maxillary molar distalization along with their side effects such as anchorage loss. To solve the problems of anchor loss, intraoral distalizing mechanics combined with palatal implants have also attracted attention.

### **Keywords:**

Molar Distalization, Extraoral Appliances, Intraoral Distalizing Appliances



## Ecological Model to Frame the Delivery of Pediatric Preventive Care

**Sreenithi K**

Adhiparasakthi Dental College and Hospital, India

**Dr. Preethi**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

Periodic screening and routine dental visits play an important role in maintaining the dental health of the children. Though the access to the dentist depends upon the parent's social and economical status and the availability of dental services in the locality, thus the proposed 5 staged socio-ecological model consists of 5 dimensions of paediatric screening which includes 1. individual, 2. interpersonal, 3. Organisational, 4. community/population, 5. public policy. Incorporating this model into day to day dental care may impart a positive outcome on individual and population level. Further knowledge about the locality which includes the information about the social practices, beliefs, presence of a primary health care centre, availability of resources, willingness of any organisation communities for funding the screening camps is required for establishing a screening camp. Application of this ecological model in the periodic screening of children will significantly improve the quality of oral health of the future generation.

### Keywords:

Ecological Model, 5 stages, Individual, Interpersonal, Organisational, Communities, Public Policy





## A Comparative Evaluation of Accuracy Between Vinyl Polyether Silicone and Addition Silicone Using Monophase Impression Technique in Fixed Partial Denture - A Randomized Clinical Trial

**Dr. Sonia Abraham**

Adhiparasakthi Dental College and Hospital, India

**Dr. V. C. Karthik**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

**Statement of Problem & Purpose:** The clinical evidence to define the accuracy of Vinyl Polyether Silicone and Addition Silicone using monophase impression technique which is used for making final impressions in fixed partial dentures. The clinical trial was to compare whether the impressions made from Vinyl Polyether Silicone (VPES) and Addition Silicone have maintained accuracy which might alter on delayed pouring when it is involved in saliva, blood etc.

**Material and Methods:** In this parallel group randomized controlled trial 64 impressions were made using monophase impression technique in partially edentulous patients randomly into two groups (group 1-VPES, group 2 -Addition Silicone). After making final impressions, tear and voids (presence/ absence) - magnification loupes(3x). Cast was poured on day1 and day 7. 128 casts were evaluated for linear dimensional accuracy using Vernier Caliper and for accuracy of dies using stereomicroscope. These measurements were evaluated by two different independent (blinded) observers. Statistical analysis was carried out using unpaired t test. Accuracy of dies showed statistically significant between the groups. Linear dimensional accuracy was statistically not significant between the groups. Percentage of tears and voids showed less difference between the groups.

**Conclusion:** Overall accuracy is maintained between VPES

and Addition Silicone even after storage for 7days using monophase impression technique, so both materials are clinically acceptable for making final impressions in FPD.

### Keywords:

Ecological Model, 5 stages, Individual, Interpersonal, Organisational, Communities, Public Policy





## Hollow Ocular Prosthesis for Rhinocerebral Mucormycosis: A Post-COVID-19 Rehabilitation

**Dr. Prakash P**

Adhiparasakthi Dental College and Hospital, India

**Dr. Kiruthiga D**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

Mucormycosis is an uncommon but significant developing opportunistic fungal co-infection (COVID-19) that is frequently linked with substantial morbidities. Rhino-orbit-cerebral Mucormycosis (ROCM) is the severe clinical type, appearing in debilitated individuals in association with sinus or paranasal sinus involvement because of the proclivity for contiguous spread. Prompt care of Rhino-orbit-cerebral mucormycosis focuses on therapeutic medications such as antifungals, antibiotics, and vigorous surgical debridement. Post-operative orbital defect restoration can be accomplished by utilising either surgical reconstructive procedures or a prosthesis.

The design of an ocular prosthesis to rehabilitate the patient based on the underlying clinical condition, prosthetic material, and prosthetic retention. The current report discusses the rehabilitation of an exenterated orbit with a cranio-naso-orbital fistula defect and contracted eyelid by a hollow ocular prosthesis with a magnet-assisted handle. The objective was to preserve the biological health of the underlying postsurgical tissue, prosthetic design and optimal aesthetics.

### Keywords:

COVID-19, Closed Hollow Bulb Obturator, Hollow Prosthesis, Ocular prosthesis, Rhinocerebral Mucormycosis, SARS-CoV-2, Mucormycosis, Maxillofacial Prosthesis



9 789392 106460



## Does Free Radicals Play a Role in Progression of Periodontitis?

**Dr. Sania**

Institute of Dental Sciences, India

### Abstract:

More than two-third of the world's population suffers from one of the chronic forms of periodontal disease. Primary etiological agent of this inflammatory disease is a polymicrobial complex, predominantly gram negative anaerobic or facultative bacteria within the sub-gingival biofilm. These bacterial species initiate the production of various cytokines such as interleukin-8 and TNF- $\alpha$ , further causing an increase in number and activity of polymorphonucleocytes (PMN) along with these cytokines, PMNS also produce reactive oxygen species or free radicals. Ros just like the interleukins have deleterious effects on tissue cells when produced in excess. To counter the harmful effects of ROS, human body has its own defence mechanisms to eliminate them as soon as they are formed. The aim of this review is to focus on the role of different free radicals and antioxidants in the pathophysiology of periodontal tissue destruction.

### Keywords:

Antioxidants, Periodontitis, Free Radicals and Oral Health



## Herbal Mouthwashes in Orthodontic Practice

**Dr. Gourab Sarkar**

Surrendera Dental College & Research Institute, India

**Dr. Eenal Bhambri**

Surrendera Dental College & Research Institute, India

### Abstract:

Orthodontic treatment aims to adjust the position of teeth to the right tooth curve, improve efficiency of chewing function, face harmony, oral health, dentofacial aesthetics, and tooth position stability. The Orthodontic treatment usually takes 2–3 years and its difficult to maintain oral hygiene during this period due to the difficulties in brushing due to malocclusion and fixed orthodontic appliance which further increase the accumulation of microbial plaque and decrease salivary flow. The primary causative factor in the development of gingivitis during orthodontic treatment is the insufficient removal of supragingival plaque. Mechanical tooth-cleaning is very important for patients with fixed orthodontic appliances. However few orthodontic patients have difficulties in maintaining plaque control by mechanical means alone. Several chemical antiplaque agents are available commercially, and they can be delivered in the form of mouthwash, dentifrices, chewing gums, and gel. Chlorhexidine gluconate is considered the most effective antiplaque mouth rinse and in preventing dental caries. However, it has some undesirable side effects such as vomiting, diarrhea, and tooth staining. So, Ayurvedic medicinal plants are being used in various treatments as there are no or minimal side effects. Several herbal mouthwash and herbal extracts have been tested in vitro and in vivo in search of a suitable adjunct to mechanical therapy for long-term use. This paper will focus on the indications of herbal mouthwashes in Orthodontic practice.

### Keywords:

Herbal Mouthwashes, Orthodontic Practice



9 789392 106460



## A Comparison of the Stress Distribution in a Mandibular Implant Supported Overdenture with Three Different Attachment Systems of Various Heights: 3D Finite Element Analysis

Pavan Ravindra Shinde

Aditya Dental College, Beed, India

### Abstract:

**Introduction:** In the last 20 years, finite element analysis has grown in importance as a tool for predicting how stress will affect an implant and the bone around it. Mastication produces vertical and transverse loads that cause axial forces, bending moments, and stress gradients in both the implant and the bone. Stress in the peri-implant region and in the components of implant-supported restorations has been studied using FEA-based techniques. FEA is a numerical stress analysis method that is frequently used to detect potential biomechanical issues. Solid objects are divided into several elements and connected at a common nodal point to create a finite element model. Each element is given the proper material properties that match the characteristics of the modelled object.

**Aims:** To study the influence of different attachment systems on stress distribution in mandibular implant supported overdentures

**Objectives:** Influence of different attachment systems with various heights on stress distribution in mandibular implant supported overdentures

**Material and Methodology:** A three-dimensional FE model of mandibular section bone will be constructed. D-2 type of bone which is more commonly found bone density in mandibular posterior region is considered. Osstem TS III, conical implant of 4mm diameter and 11.5mm height is used. Types of attachments used are - Ball attachment, locator

attachment, Magnet attachment. An average Masticatory force 100 N will determine from the literature. Force of 100 N at 30° to the longitudinal axis of the implant in buccolingual direction is applied to calculate the stress distribution. The stress levels will calculate as von Mises stresses.

**Result:** The result of the study showed that magnet attachment system showed higher von Mises stress value and ball attachment system showed lowest Von Mises stress value. The results also showed that, as height of attachment system increases up to certain limit, the Von Mises stress value decrease.

**Conclusion:** Within the limitation of this Finite Element analysis, it can be concluded that:

1. Different attachment systems do significantly influence the stress distribution in mandibular implant supported overdenture.
2. Different heights of attachment systems do significantly influence the stress distribution in mandibular implant supported overdenture.

### Keywords:

Stress Distribution, Mandibular Implant, 3D Finite Element



## Significance of Salivary Biomarkers in Diagnosing and Tracking Nicotine Addiction

**Dr. Swetha. S.R**

Adhiparasakthi Dental College and Hospital, India

**Dr. Shamala Ravikumar**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

Our society has suffered greatly from the socioeconomic health-related effects of tobacco usage and its products. The main and most harmful component of tobacco nicotine is linked to fatal psychological and physical repercussions, including significant withdrawal symptoms and compulsive cravings. Most of Nicotiana (70-80%) is broken down by hepato-somal microenzymes into cotinine, CYP2A6 is responsible for further breaking down cotinine to trans-3' -hydroxycotinine. A variety of products, including cigarettes, e-cigarettes, hookahs, nicotine gums, nicotine patches, and lozenges are sold containing nicotine. As saliva is the first bodily fluid to come into contact with cigarettes that are inhaled, the extent of the various effects of smoking, particularly on salivary components and their interactions have not been well investigated. Because of its non-invasive manner of collection, salivary biomarker levels present as a promising complement for diagnosis and may prove useful in large-scale population-based screening initiatives. This paper analyzes the accuracy of diagnosis and prognostic monitoring for nicotine de-addiction in tobacco users and highlights the effectiveness of primary salivary biomarkers. The most significant biomarkers found were 1-OHPG (1-hydroxypyrene glucuronide), NNAL 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanol, cotinine, lactate dehydrogenase, thiocyanate (SCN), alkaline phosphatase, carbon monoxide, and cortisol. The most promising biomarker is cotinine. It is especially helpful because it has similar half-lives in plasma and saliva and may identify tobacco components from exposures that occurred a few days ago. Due to its higher sensitivity and specificity

compared to other biochemical assays, as well as its ease of detection in a variety of bodily fluids such as blood, urine, and saliva, cotinine is ideally suggested as the preferred biomarker for estimating the absorption of tobacco smoke.

### Keywords:

Salivary Biomarkers, Nicotine





## Micro-osteoperforations (MOPs): Minimally Invasive Accelerated Tooth Movement!!

**Dr. Gaikwad Darshan Sanjay**

Surendera Dental College and Research Institute, Sri  
Ganganagar, India

**Dr. Eenal Bhambri**

Surendera Dental College and Research Institute, Sri  
Ganganagar, India

### Abstract:

The researchers have tended to study on methods which will shorten orthodontic treatment periods due to the fact that orthodontic treatments are long term treatments with increased side effect potentials depending on the use of orthodontic force. There is a need for shortening orthodontic treatment time besides minimizing the side effects and achieving permanent results. Accelerated orthodontics has gained much popularity in the recent research work. Many modalities have been proposed to accelerate Orthodontic Tooth Movement (OTM) such as local or systemic application of various chemical agents, some physical-mechanic stimulus, and surgery assisted methods are used. Surgically assisted methods have some complication risks due to the interventions as they are invasive methods, which is accepted as the disadvantage of these methods. Micro-osteoperforations (MOPs) is a procedure based on sound bone biology principles that has been developed to address the growing demand for rapid orthodontic treatment. This is a effective, safe, minimally invasive procedure to accelerate tooth movement and significantly reduce the duration of orthodontic treatment. Alikhani M, Raptis M, Zoldan B et al (2013) concluded that the micro-osteoperforation is an effective, comfortable, and safe procedure to accelerate tooth movement and significantly reduce the duration of orthodontic treatment. Attri S, Mittal R, Batra P et al (2018) they inferred that the MOP appears to enhance the rate of tooth movement with no difference in pain perception. This paper will suggests use of MOPs for accelerating

orthodontic.

### Keywords:

MOPs, Micro-osteoperforations, Orthodontic Tooth  
Movement, OTM



## Precision in Assessing Alveolar Bone Response to Orthodontic Force: A Focus on Cortical Remodelling Using Cone Beam Computed Tomography

**Dr. Angousana Arambam**

Surrendera Dental College and Research Institute, Rajasthan University Health Science, India

**Dr. Eenal Bhambri**

Surrendera Dental College and Research Institute, Rajasthan University Health Science, India

### Abstract:

The examination of alveolar bone response to orthodontic force is crucial, as the quantity of alveolar bone surrounding a tooth post-orthodontic movement is linked to treatment safety. The accepted concept is that orthodontic force triggers alveolar bone resorption on the pressure side and bone apposition on the tension side. To assess cortical bone remodelling, methods included are periapical radiographs, lateral cephalograms, and Cone-beam Computed Tomography (CBCT). However, two-dimensional images have limitations such as magnification, geometric distortion, and structure overlap, affecting result reliability. Cephalometric radiographs present midsagittal projections, potentially causing the traced image to appear wider than the actual limits of the palate and symphysis at the midline. In contrast, CT scans are now employed for both qualitative and quantitative assessments of potential implant sites. Fuhrmann et al.(1995) demonstrated the accuracy of quantitative evaluation of alveolar bone plates down to a minimum thickness of 0.5 mm using CT. Unlike conventional dental radiographs, CT findings allow for the evaluation of sites of dehiscence, and these findings have been shown to be statistically similar to histologic measurements. Recognizing this, our study utilized CT measurements for a more precise assessment of changes in bone width. The introduction of CBCT allows qualitative and quantitative

evaluation of alveolar bone height and thickness, as well as root length and thickness. This paper will focus on evaluation of cortical remodelling in cone beam computed tomography.

### Keywords:

CBCT, Lateral Cephalogram, Bone Remodelling







## Advancing Orthodontics: Harnessing Biochemical Markers for Precise Growth Assessment and Treatment Planning

### Dr. Sakshi Garg

Surrendera Dental College and Research Institute, Rajasthan  
University Health Science, India

### Dr. Eenal Bhambri

Surrendera Dental College and Research Institute, Rajasthan  
University Health Science, India

#### Abstract:

Assessment of maturational status is crucial in orthodontics, guiding treatment decisions with significant impact on outcomes. Traditional methods relying on chronological age and radiographic techniques have limitations in subjectivity and radiation exposure. This has prompted exploration into alternative approaches such as biochemical markers like insulin-like growth factor I (IGF-I) and Alkaline Phosphatase (ALP). These are linked with bone growth, provides insights into skeletal maturity. Their levels correlate with cervical vertebral and modified MP3 stages, suggesting a potentially more reliable indicator of skeletal maturity. This shift towards biochemical markers offers a safer and more precise means of assessing growth potential, minimizing radiation exposure and subjectivity. Incorporating these markers into diagnostic protocols allows orthodontists to tailor treatment plans effectively, leading to improved patient outcomes. There are variations in serum IGF-1 and ALP levels across different stages of skeletal maturity, with the highest mean values observed at cervical stage 3 and MP3G stage. This underscores the potential of biochemical markers as a comprehensive growth assessment tool, surpassing the limitations of radiographic methods. They emerge as a preferred biochemical indicator due to its well-established role in bone growth regulation and stability in blood levels. Serum testing offers accuracy and convenience over saliva or urine samples. Clinically, serum

IGF-1 and ALP testing holds promise as a valuable tool for orthodontic diagnosis and treatment planning, particularly in cases where traditional methods may be inconclusive. Additionally, it may aid in diagnosing active growth disorders in adults, thus expanding treatment options and enhancing patient outcomes.

#### Keywords:

IGF- 1, ALP, CVM, MP3



## Framework for Patent Conception

### Dr. Eenal Bhambri

Surrendera Dental College and Research Institute, Rajasthan  
University Health Science, India

#### Abstract:

It is interesting to note that India, although very rich in Intellectual capital, with the population of 1.3 billion, only 13000 patents are filed every year. We observe that many R&D organizations and academic institutes in the country are engaged in research work but there is no substantial patent filing. The possible reasons for the same are lack of intellectual property awareness or lack of understanding of patent filing procedures. This presentation is an attempt to create awareness about the importance of intellectual properties, patents, patentability criteria, patent filing procedure and try to give answers to the questions being faced while filing for a patent.

#### Keywords:

Intellectual Property Rights, Patents, Copyrights, Filing Procedure





## Assessment of Knowledge and Awareness Regarding Intellectual Property Rights Among the Orthodontic Postgraduate Students

**Dr. Abin Mathew Thomas**

Surrendera Dental College and Research Institute, Rajasthan University of Health Sciences, India

**Dr. Eenal Bhambri**

Surrendera Dental College and Research Institute, Rajasthan University Health Science, India

### Abstract:

**INTELLECTUAL PROPERTY RIGHTS (IPR):** Intellectual Property refers to intellectual creativity of a creator. In contrast to physical property, intellectual property is an intangible asset of a person. Intellectual Property Rights (IPR) are the exclusive rights given to the creators to their creations. Common types of Intellectual Property Rights are patents, copyrights, trademarks, industrial designs, geographical indications, trade secrets, layout designs for integrated circuits and even ideas. Intellectual property rights provide an incentive to the creator to develop his creation and to share it with other people for the development of the society. Dentistry in recent years has developed interest in the field of Intellectual Property Rights (IPR) and Patents due to extensive research in the fraternity and existing competition. There have been various patent applications and grants in the field of dentistry abroad due to better understanding of IPR but India still has very few patent grants and applications on the subject matter. With the advancements in modern science and technology, Intellectual Property Rights came in to existence to benefit and encourage innovative people for their work. The term intellectual property rights gained its strength from a long time and much expanded since then. These rights are applied to all innovations irrespective of educational qualifications and implies to all subjects. If people would be

aware about IPR, then only can proceed for IPRs in future for their research findings. Thus, the academic community requires a higher level of sensitization and exposure to IPR in India.

### Keywords:

Development, Intellectual property rights, Patents, Research, Dentistry



## Cone-Beam Computed Tomography: A New Era in Clinical Orthodontics

**Dr. Narute Annaso Sarjerav**

Surrendera Dental College and Research Institute, Rajasthan University of Health Sciences, India

**Dr. Eenal Bhambri**

Surrendera Dental College and Research Institute, Rajasthan University Health Science, India

### Keywords:

CBCT, Cone-beam CT

### Abstract:

Cone Beam Computed Tomography (CBCT) is an important source of three-dimensional volumetric data in clinical orthodontics. Due to the progress in the technology of CBCT, for orthodontic clinical diagnosis, treatment and follow-up, it yields much more reliable information compared to conventional radiography. However, this imaging modality has certain indications in orthodontics, such as the assessment of impacted and ectopic teeth, assessment of pharyngeal airway, assessment of mini-implant sites, evaluation of craniofacial abnormalities, evaluation of sinus anatomy or pathology, evaluation of root resorption, evaluation of the cortical bone plate, and orthognathic surgery planning and evaluation. CBCT is particularly justified when it brings a benefit to the patient or changes the outcome of the treatment when compared with conventional imaging techniques. Therefore, CBCT should be considered for clinical orthodontics for selected patients. But it carries both risks and benefits in orthodontics and the principal risks and limitations include ionizing radiation, the presence of artifacts, higher cost, limited accessibility, and the need for additional training.

This study presents discussion on radiation dosage of CBCT and other imaging techniques used in orthodontics, advantages and disadvantages of CBCT in orthodontics, justifying the use of CBCT in orthodontics, and the benefits and evidence-based indications of CBCT in orthodontics.



9 789392 106460



## How Skeletal Maxillary Expansion are Transforming Clinically?

**Dr. Priyanka Yambem**

Surendera Dental College and Research Institute, India

**Dr. Eenal Bhambri**

Surendera Dental College and Research Institute, Rajasthan  
University Health Science, India

### Abstract:

Orthodontics and Dentofacial Orthopedics is a specialized field of dentistry that focuses on correcting dental and skeletal abnormalities. Orthodontists have the skill to modify jaw orientation through growth modification therapy. While changes to the facial skeleton through orthopedic applications may take time to become clinically relevant, the technique of “palatal expansion” is exceptional in that it yields observable clinical and radiographic changes during and immediately following the procedure. When orthopedic forces expand the palate, the midpalatal suture opens, affecting the entire circummaxillary suture network. The ideal is for pure skeletal expansion with minimal dental and alveolar changes. However, lateral forces on posterior teeth can lead to buccal tipping of anchor teeth and alveolar bending. Midpalatal suture opening depends on screw expansion, usually between 7-9mm. Skeletal expansion is 38%, dental tipping is 49%, and alveolar bending is 13%. It is clear that achieving the desired clinical outcome for palatal expansion is not possible without causing dental side effects, due to the highly variable response from the midpalatal suture. The more mature the individual gets, the more difficult it gets for the midpalatal suture to be separated by conventional palatal expansion devices. Therefore, in this paper we will be discussing about skeletal supported expanders.

### Keywords:

Expansion, Skeletal, Midpalatal Suture



## Tongue Pressure in Various Skeletal Malocclusions

**Dr. Arun Raj RG**

Surrendera Dental College and Research Institute, India

**Dr. Eenal Bhambri**

Surrendera Dental College and Research Institute, Rajasthan University Health Science, India

### Abstract:

The tongue is a powerful muscular organ that exerts strong pressure at frequent intervals. It is the strongest organ of the oral cavity and it plays an important role in swallowing, mastication, speech and respiration. It forms the important component of the buccinator mechanism which plays a vital role in guiding the teeth to normal occlusion and in maintaining arch form. Disturbance in the dynamic balance between the functional tongue and other muscles affects the shape of the arch and craniofacial skeleton. So, contribution of the strength of tongue is important to Orthodontics for proper treatment planning and achieving post treatment stability.

Proffit et al was among the first researchers who measured force levels of the tongue against the maxillary incisors and palate during normal swallowing and concluded that the resting position was more significant than the swallowing position<sup>2</sup>. According to Graber and Swain also, the duration of force is more important than its intensity and frequency. At rest, pressure from the tongue is slight but long lasting and therefore can move the teeth.

Many studies in the past have been done to evaluate the tongue pressure at different positions and in different regions.

Deshmukh et al conducted a study to evaluate tongue pressure in various growth patterns and found out that the horizontal growth pattern demonstrated the highest tongue pressure while it was the lowest in vertical growth patterns.

Chakraborty P et al evaluated tongue pressure on mandibular incisor in various dental malocclusions and concluded

that resting tongue force was found to be influential in the malocclusion of an individual.

So this study draw an attempt to make a conclusion on effects of tongue pressure in various malocclusion.

### Keywords:

Tongue Force, Skeletal Changes, Malocclusion





## Effect of Rose Oil, Lavender Oil and Orange Oil on Dental Anxiety in Pediatric Patients Undergoing Extraction Under Local Anesthesia

**Dr. M. Kamatchi**

Vivekanandha Dental College for Women, India

### Abstract:

**Introduction:** Fear and anxiety toward visiting dentists are major problems for a sizeable proportion of children and adolescents. Reducing dental anxiety is a major aspect of child management in dental visits.

**Objective:** The aim and objective of our study is to evaluate the effect of rose oil, lavender oil and orange oil and to compare their effects in reducing dental anxiety on children before LA and after LA administration during extraction.

**Methodology:** A total of 33 children aged between 6 and 9 years, who requires extraction of primary teeth were selected for the study. In the Group 1, 11 patients were treated with rose oil aroma, Group 2 of 11 patients treated with lavender oil, and group 3, 11 patients were treated with orange oil. Before starting the procedure, after giving the LA and after the procedure, blood pressure, pulse rate, oxygen saturation level, and anxiety level of the patient were checked. CBC scale was used to measure the anxiety in the subjective manner.

**Results:** The orange oil was provided a significant reduction in dental anxiety of children than the lavender oil and rose oil when comparing the blood pressure, SpO<sub>2</sub>, pulse rate before and after LA administration.

**Conclusion:** Aromatherapy with rose oil, lavender oil and orange oil, using decreased the dental anxiety of children, whereas, only orange oil could provide a significant reduction.

### Keywords:

Aromatherapy, Dental Anxiety, Extraction, Local Anesthesia





## Comparative Evaluation of Immunohistochemical Expression of Ki-67, $\alpha$ -SMA and MMP-9 in Oral Submucous Fibrosis and Hyperkeratosis

**Dr. Vibhuti Shreesh Mhatre**

YMT Dental College, India

**Dr. Sheetal Choudhari**

YMT Dental College, India

Ki-67,  $\alpha$ -SMA, MMP-9, Leukoplakia, OSMF

### Abstract:

Oral Squamous Cell Carcinoma (OSCC) is preceded by Oral Potentially Malignant Disorders (OPMDs). There are various established etiologic factors for OSCC. Disease presentation, progression, and prognosis of OPMDs differ with the type of etiologic agent for specific OPMDs. This could be attributed to the distinctiveness of the tissue microenvironment of these OPMDs resulting from the specific etiologic agent. This distinctiveness of the microenvironment could contribute to the differences in molecular mechanisms involved in the malignant transformation of these OPMDs. Histopathological assessment of dysplasia in OPMDs is considered important for the assessment of the risk of malignant transformation in OPMDs. Comparative analysis of the markers such as Ki-67, Alpha Smooth Muscle Actin ( $\alpha$ -SMA) and matrix metalloproteinase-9 (MMP-9) between leukoplakia and OSMF with and without dysplasia may help to elucidate the differences in tissue microenvironment of these OPMDs and differential molecular mechanisms involved in their malignant transformation. The present study aims to compare the expression of Ki-67, MMP-9, and Alpha Smooth Muscle Actin ( $\alpha$ -SMA) between OSMF and Hyperkeratosis, with and without dysplasia to analyze the differences in the molecular progression of OSMF and leukoplakia to OSCC.

### Keywords:





## Assessment of Dental and Skeletal Fluorosis and Its Correlation with Gingival/ Periodontal Diseases with Clinical, Radiographic, Biochemical Parameters and Urine Fluoride Level in Fluoridated Area of Sriganganagar, Rajasthan, India: A Cross-Sectional Study

**Dr. Archana Bhatia**

Surendera Dental College & RI, India

**Dr. Sandeep Kumar Bains**

Surendera Dental College & RI, India

### Abstract:

**Background:** Dental fluorosis affected areas have higher gingival inflammation levels than non-affected areas. The present study aims to assess the prevalence of skeletal and non-skeletal Fluorosis and its relationship with Gingivitis or Periodontitis by evaluating Clinical, Biochemical, Radiological changes and Urine examination in patients of Sriganganagar, Rajasthan.

**Methodology:** A total of 1000 patients affected with gingivitis or any form of periodontitis aged between 15-75 years were selected. A complete oral examination was done and Gingival Index (GI), Plaque Index (PI), Probing Pocket Depth (PPD), and Dean Fluorosis Index (DFI) was recorded on case history proforma. Radiographic parameters (OPG and X-rays of long bones), Biochemical parameters (RBC count, hemoglobin concentration (Hb%), and Erythrocyte Sedimentation Rate (ESR), and urine fluoride level were recorded in each patient.

**Results:** The prevalence of dental fluorosis in male patients was 31% (155) and in female patients was 26% (130). The prevalence of skeletal fluorosis in male patients was 22% (108) and in female patients was 17% (85). Most of the subjects showed a fair interpretation for plaque scores (65%), a

small minority of them showed good (14%) and poor plaque scores (21%). 42% of subjects manifested with moderate gingivitis while mild and severe gingivitis was 32% and 26% respectively. The prevalence of gingivitis was 100%. The prevalence of moderate and severe dental fluorosis was 31% and 14% respectively. 5% and 22% of the subjects showed very mild and mild dental fluorosis whereas 6% of the subjects showed questionable dental fluorosis. Only 22% of the subjects had normal translucent semi-vitriform enamel. The overall prevalence of dental fluorosis was 78%. The mean hemoglobin level was  $13.2 \pm 2.4$  and  $11.6 \pm 1.2$  in male & female patients. The RBC count was  $5.82 \pm 0.12$  and  $4.84 \pm 0.16$  in male & female patients. The mean ESR level was  $11.5 \pm 7.2$  and  $13.4 \pm 8.4$  in male & female patients. The difference was significant ( $P < 0.05$ ). The mean water fluoride level was 1.46 ppm. The mean urine fluoride level was 1.92 ppm. The mean serum fluoride level was 1.81 ppm. There was a statistically significant strong positive correlation between PI and GI (0.842), PI and DFI (0.762) and GI and DFI (0.846), DFI with water F levels (0.752). Weak but statistically significant correlations were found between urine fluoride levels with GI (0.582), PI (0.336), DFI (0.174), WFL (0.458), and between water fluoride levels and PI (0.426), GI (0.372).

**Conclusion:** There was an increase in the prevalence and severity of periodontal disease in subjects with dental fluorosis. The severity of gingivitis and dental fluorosis increased with an increase in water fluoride level.

### Keywords:

Dental fluorosis, Gingivitis, Periodontitis



## The Effectiveness of Homoeopathic Medicine in Management of Dentine Hypersensitivity

**Dr. Sakthiya Sivakumar**

Sri Sairam Homoeopathy Medical College and Research Centre/ University, India

**Mahalakshmi**

Sri Sairam Homoeopathy Medical College and Research Centre/ University, India

### Abstract:

**Background:** Dentine Hypersensitivity (DH), more commonly known as sensitive teeth, refers to a type of dental pain. It occurs when the top protective layers of the tooth, enamel and cementum, wear away and expose dentin. Discomfort typically arises from exposed dentin responding to heat, cold, touch, pressure, or acidic foods.

Homoeopathic medication cures this problem of hypersensitivity. Again, the problem of dentine hypersensitivity being individualized in nature as pain responses vary substantially from person to another, Homoeopathy can provide an answer to this problem. To ascertain the role of homoeopathic medicine and its effectiveness in Dentine Hypersensitivity.

**Conclusion:** Homoeopathy medicine has a significant role in the management of dentine hypersensitivity.

### Keywords:

Dentine Hypersensitivity, Homoeopathy





## 3D Printers in Orthodontics

**Dr. Mahalakshmi Krishnakumaran**

Tagore Dental College and Hospital, Dr. MGR University,  
India

### Abstract:

Dentistry has rapidly ameliorated as a result of progressive manufacturing and digital technology. The most cutting-edge technology in the industrial sector is three-dimensional (3D) printing, which enables the creation of objects with intricate structures while cutting costs and lead times. Orthodontists now enjoy a number of benefits from the advancements in imaging and 3-dimensional (3D) modelling in dentistry, which includes more effective diagnosis and treatment planning. Cone-beam Computed Tomography (CBCT), 3D facial imaging, scanning methods, and dental model technology advancements make precise reconstructions of teeth, soft tissue, and bone possible. The workflow used in clinical settings is changing to become virtually entirely digital. As a result, it has been used in dentistry to produce provisional crowns, orthognathic surgical wafers, transparent orthodontic aligners, and implant surgical templates. It can be done in a variety of processes in which material is deposited, joined or solidified under computer control, with material being added together (such as plastics, liquids or powder grains being fused), typically layer by layer. Recently, the world market has been overrun with an abundance of low-cost 3D printers that were once intended for enthusiasts. The printed outcome's accuracy needs to be guaranteed before using 3D printed dental models for therapeutic applications. This research evaluates the cost-benefit ratio of each printer and the accuracy of printed models made using various printers for orthodontic applications.

### Keywords:

3D Printing, LCD Printers, 2K vs 4K vs 8K



## Missed Anatomy -Hunt it Out

### Dr. Saranya Sivaraj

Adhiparasakthi Dental College and Hospital, Dr. M. G. R  
Medical University, India

#### Abstract:

The key to success for endodontic treatment is thorough debridement of the root canal system of necrotic or infected pulp tissues, micro organisms and complete sealing of the root canal space. This will prevent the persistence of infection and reinfection of the root canal space. Many factors responsible for endodontic treatment failure are residual necrotic pulp tissues, presence of peri - radicular infection, periodontal disease, root fractures, broken instruments, mechanical perforations, root canal over fillings, root canal under fillings and missed or unfilled canals. The failure to locate and treat all of the canals of the root canal systems is considered as one of the major causes of the root canal treatment failures. The risk of missing anatomy during root canal treatment is high because of the complexity of the root canal system. All categories of teeth may have extra roots and/or canals, but the likelihood of finding aberrant configurations is higher in premolars and molars. Prevention of missed anatomy starts with good pre-operative radiographs, correct access cavity preparation and locating the orifices of the root canals. However, to find hidden canals, adequate armamentarium is required such as the dental operating microscope and/or high power loupes. These when used in conjunction with a headlight system, provide enhanced lighting and visibility. Ultra sonic tips and long shank round burs with small shaft diameters will allow for a better controlled and delicate removal of calcifications and other interferences at the canal orifices.

#### Keywords:

Endodontic Treatment, Missed Canal, Failure,  
Armamentarium





## Bridging the Gap: Human and Computer Intelligence in Cleft Care

### Dr. Hariharasudan J

Sri Venkateshwaraa Dental College, University, India

### Dr. Lakshmi Prasanna Palindla

Adhiparasakthi Dental College and Hospital, TN DrMGR University, India

#### Abstract:

The most prevalent craniofacial deformity, cleft lip and palate (CLP), has a variety of functional, psychological, and cosmetic effects. Artificial intelligence is a technology that can assist individuals who have CLP, particularly those who live in remote places and may not have easy access to proper care. Additionally, we aim to explore how the integration of AI technology can bring about significant advancements in the fields of diagnosis, treatment methods, and predictive outcomes.

We will discuss cutting-edge algorithms and predictive AI models that are essential to accurate diagnosis, susceptibility evaluation, and treatment planning for children with CLP abnormalities by reviewing the available data. According to the results of the current literature study, Deep Learning (DL) models improve orthodontic therapy and alveolar bone grafting, predict CLP susceptibility, and revolutionize the diagnostic procedure. Patients with cleft lip and palate can have their alveolar bone defect's severity automatically predicted by an AI algorithm with a sufficient degree of accuracy.

In order to reduce treatment risks and increase the likelihood of surgical success, this new technology will be used in clinical decision support systems in the future. AI-enabled computerized programming software can be used to create advanced technologies for precise landmark detection, rapid digital cephalometric analysis, clinical decision-making, and therapy prediction. Machine Learning can assist in identifying cephalometric predictors of the future requirement for orthognathic surgery in children with

repaired unilateral cleft lip and palate.

In conclusion, these advancements inspire optimism for a future where AI seamlessly integrates with CLP management, augmenting its analytical capabilities.

#### Keywords:

Cleft lip and palate (CLP), Artificial Intelligence (AI), Cleft Care



## Pace the Race with Accelerated Orthodontics

Accelerated Orthodontics, MOP, Propel, RAP

**Dr. Aishwarya. K**

Adhiparasakthi Dental College & Hospital, India

### Abstract:

In today's world speed is the need of situation, one of the main challenge in orthodontics is decrease the treatment time without compromising treatment outcome an advancement and modification in routine orthodontic treatment procedure are much required. An accelerated orthodontics is introduced to match with the speed of fast moving world. To overcome the saturation of biological response, introduced micro-osteoperforation in the alveolar bone to minimise the disturbance to the integrity and architecture of the hard and soft tissue.

Minimally invasive nature of micro-osteoperforations has recently gained momentum. It is an auxiliary dentoalveolar procedure to accelerate tooth movement with minimal surgical intervention. It involves controlled microtrauma of alveolar bone without the need of raising a mucoperiosteal flap. Based on the principle that orthodontic force triggers inflammatory pathways and osteoclastic activities.

To emphasis the significance of MOP as a potential source of accelerating orthodontic tooth movement and minimising the treatment duration to appraise MOP as a minimally invasive technique with a higher compliance rate and predictable treatment outcome. MOP is a minimally invasive technique with little patient discomfort. It eliminate the disadvantage of other surgical procedures. Catabolic and anabolic effects can be achieved by performing MOP according to patients treatment plan. MOP using regional acceleratory phenomenon (RAP) shortens the duration of adult orthodontic treatment providing efficient outcome.

### Keywords:







## Aligner Algorithm- An Invisible Voyage to Visible Smile

**Dr. Ramya. R**

Adhiparasakthi Dental College & Hospital, India

### Abstract:

With the release of Invisalign on the market in 1999, the field of “digital clear aligner therapy” (CAT) really got underway. Few people in the orthodontic sector anticipated the surge in demand that aligners would generate and the number of businesses that would rush to join this market. Aligners are currently being produced by several dozen businesses worldwide, and the number is rising yearly. As the pioneer of this revolutionary treatment, Invisalign holds a leading position. Clear Aligner Therapy (CAT) offers numerous advantages, including virtually invisible braces, comfort, and removable for eating and brushing. CAT utilizes custom-made aligners to guide teeth into position, often with attachment devices for precise force application. It's ideal for patients concerned about aesthetics. Improvements in the materials and manufacturing processes for aligners enabled the use of 3D technology in particular to plan dental movements and incorporate attachments to control over the location of teeth in all three space planes.

Thus aligners which were previously thought to be challenging or even impossible for complicated malocclusion became efficient in complex movement.

Nonetheless, it is acknowledged that a variety of factors, including material qualities, thickness, degree of activation, and attachment use, affect the biomechanical aspects of aligners. Clinicians have concerns regarding the efficacy of aligners due to the paucity of published studies that thoroughly assessed the biomechanics of the device prior to 2003. The purpose of this literature study was to locate and examine orthodontic literature, as well as to assess the This paper will explore the rising trend of clear aligner use, its clinical applications, limitations, and the distinctions among the various available products.

### Keywords:

Aligner, Invisible Braces, Smile



## Buccal Pad of Fat – A Hidden Treasure in Augmenting Soft Tissue Intraoral Defects

**Dr. N. Komagan Prabhu**

SRM Dental College, Ramapuram, India

### **Abstract:**

Buccal pad of fat is an anatomically rounded and biconvex structure that is of great importance to the facial contour. Its strategic location within the cheek, wedged between the masseter and buccinator helps in easy mobilization for closure of various intraoral defects. Because of its ease in getting access and rich blood supply, its use in replacing buccal mucosa as a free or pedicled graft can be commonly performed. Even In posterior defect of buccal mucosa, buccal fat pad flap can be used because of low morbidity and failure rate. Here we have illustrated the successful uses of BFP in various intraoral defects.

### **Keywords:**

Buccal Pad Of Fat, Free/Pedicled Graft, Intra Oral Defects





## Microbiologically Induced Corrosion of Orthodontic Stainless Steel Alloys – A Cross Sectional Study

**Dr. Lakshmi Prasanna. P**

Adhiparasakthi Dental College & Hospital, Tamil Nadu, India

**Dr. Hariharasudan. J**

Sri Venkateswaraa Dental College and Hospital, India

### Abstract:

**Objectives:** To determine if there are variations in the quantity and quality of bacteria involved in biocorrosion in plaque samples of patients treated with fixed orthodontic appliances with that of untreated healthy individuals and to evaluate the corrosion changes produced by these bacteria on stainless steel orthodontic alloys in vitro in artificial salivary media.

**Materials & Methods:** Plaque samples collected from orthodontically treated patients and untreated healthy individuals were tested for variations in quantity and quality of acid producing, iron oxidizing, manganese oxidizing, sulphate reducing types of bacteria along with total bacteria. *Streptococcus mutans*, *Beta haemolytic Streptococcus*, *Enterococcus species*, *Lactobacillus species*, *Bacillus species*, *Pseudomonas aeruginosa*, sulphate reducing bacteria were isolated and their corrosion potential was demonstrated on stainless steel brackets using Field Emission-Scanning Electron Microscope (FE-SEM) under magnification of 2500X. Independent sample t test, Chi-square test were used to test the significance of variation between the groups.

**Results:** Bacterial groups tested were higher in number in study group than in control group with statistically significant differences in total bacteria ( $p=.000$ ), manganese oxidizing bacteria ( $p=.013$ ), sulphate reducing bacteria ( $p \text{ value} < .05$ ) and statistically insignificant differences in *Streptococcus mutans*, *Lactobacillus species* colony counts ( $p=.109$ ). FE-

SEM imaging of stainless steel brackets inoculated with the isolated bacteria revealed surface destruction with varying patterns and severity.

**Conclusions:** Bacteria implicated in corrosion were higher in number in orthodontically treated patients than in untreated healthy individuals and they were capable of causing surface destruction of orthodontic stainless steel alloys.

### Keywords:

Bacteria, Corrosion, Stainless Steel Alloys



## See Beyond – Unveiling The Bionic Eye

**Dr. Senbagavalli S**

Adhiparasakthi Dental College & Hospital, India

### Abstract:

Blindness is a devastating disease which can happen due to various reasons such as due to retinitis pigmentosa and many other age-related macular degenerations. In this kind of disease, the photoreceptor cells gets degenerated and damages the retina and due to which a person losses his vision power. Therefore, bionic eye plays a vital part by restoring the vision. The bionic eye, inspired by the intricate mechanisms of natural vision, comprises a miniature camera embedded in glasses capturing visual information. This data is wirelessly transmitted to a microelectrode array surgically implanted in the retina. Through electrical stimulation of retinal cells, these implants generate visual signals bypassing damaged photoreceptors and restoring rudimentary vision. In contrast, retinal implants directly interface with the retina, bypassing dysfunctional photoreceptors to stimulate the remaining neural pathways. These implants consist of a microelectrode array placed over the retinal surface, which electrically stimulates retinal ganglion cells, eliciting visual percepts. Technologies that are involved in bionic eyes are-Multiple Unit Artificial Retina Chip System (MARC), Artificial Silicon Retina System (ASR), Argus ii.

Holographic technology is used by which a person can again live a new life independently. This method take place through a small surgery replacing complicated surgeries. The quality of images to the bionic eye will be more clear by increasing the number of electrodes in the retinal implant. Platinum and iridium are currently used for implants but these metals deteriorates within 5 to 10 years. Instead of these metals if diamond device are implanted inside the eye then it will not deteriorate. This poster will describe basic structure and working of the bionic eye, projects on the bionic eye to date, vision through the bionic eye, implants and restoration of

sight, limitations, and the future of the bionic eye.

### Keywords:

Visual Prosthesis, Bionic Eye, Retinal Implant, Argus ii, Blindness





## Exploring the Intersection of Aviation and Dentistry: Oral Health at an Altitude

**Swetha Lakshmi. S**

Adhiparasakthi Dental College & Hospital, India

### Abstract:

With an increasing number of air passengers, flight attendants, leisure pilots as well as military pilots, dentist may commonly encounter flight related oral conditions requiring treatment. Aviation dentistry represents unique field where the principles of dental care joins with the challenge of flying. At higher altitude the oxygen decreases and has a deleterious effect on the fillings, gums and the mouth. The tooth damage is experienced when there is compromise in the quality of the restoration or the unrestored tooth. This poster examines the importance of oral health in aviation which mainly focuses on the effects of higher altitude on dental conditions for both passengers and the crew members. By analyzing the potential risk factors such as barodontalgia, xerostomia as there is a decreased oxygen supply and dental emergencies during flight this abstract highlights the significance of dental screening to avoid the oral health issues. Thus with increasing number of airlines, the dental problems being faced by the members are more of a concern therefore aviation dentistry becomes an important field. Aircrew patients as well as air passengers often challenge the dentist in treating several flight related conditions. Lack of co- operation often leads to several dental problems in the passengers and the air crew members.

### Keywords:

Aviation Dentistry, Aircrew Members, Barodontalgia



## Management of Osteomyelitis of Mandible in a Pediatric patient: A Case Report and Review of Literature

Sneha S

Adhiparasakthi Dental College and Hospital, India

### Abstract:

Osteomyelitis is an inflammation of bone marrow sustained most commonly by bacteria, although fungal etiology is rarely described, particularly in immunocompromised children. According to the time period between diagnosis and symptom onset, this condition is classified as acute (<2 weeks), sub-acute (2 weeks–3 months), or chronic (>3 months). Bacteria may reach bone marrow through the bloodstream, or spreading from nearby tissue. Infection can also be subsequent to an injury that exposes bone to a contaminated environment. The estimated incidence of acute osteomyelitis is about 8 cases per 100,000 children/year.

This paper outlines a patient case report of Chronic Osteomyelitis (CO) of the mandible who reported to Adhiparasakthi Dental college and Hospital, Tamilnadu, India. The case report underscores the presentation of intermittently painful and swollen ramus of the mandible. We detail the typical findings from laboratory investigations, such as normal inflammatory markers, and imaging results, including sclerosis and periosteal edema.

In this paper, we delineate an investigative protocol that includes suggestions for extra-oral bone biopsies and systemic MRI imaging. We stress the significance of multidisciplinary care. Additionally, we illustrate the effectiveness of our treatment algorithm. This study contributes valuable insights to the literature, informing oral and maxillofacial surgeons about this rare condition. Given the clinical uncertainty surrounding treatment options, our findings aim to guide clinicians in establishing an investigation pathway and management protocol.

### Keywords:

Osteomyelitis, Inflammatory Markers, Sclerosis, Periosteal Edema, Biopsy, Ramus, Immunocompromised



9 789392 106460



## Removable Prosthetic Management for Tooth Agenesis in the Pediatric Population: A Systematic Review of Case Reports and Case Series

Dr. Arya Acca Varghese

Vinayaka Mission's Sankarachariy Dental College, India

### Abstract:

**Statement of Problem:** Dental agenesis is a condition in which the absence of teeth causes debilitating problems, primarily in speech, mastication, and esthetics. The optimal removable prosthetic management for the condition is unclear. Purpose. The purpose of this systematic review was to evaluate the spectrum of removable prosthetic techniques with regard to the type of edentulism and to provide clinical guidance for practicing dentists.

**Material and Methods:** An electronic and manual search was conducted in the PubMed, Scopus, and Google Scholar databases. Publications of case reports and series written in English without data restrictions that reported on removable prosthodontic management of patients with oligodontia, hypodontia, or anodontia were included.

**Results:** A total of 59 articles comprising 83 case reports were analyzed. In patients with anodontia, the most common treatment option was an acrylic resin complete denture. Hypodontia and oligodontia were commonly managed by using either a partial denture or overdenture. Irreversible hydrocolloid or alginate was the most accepted material for the preliminary impressions and elastomeric materials for definitive impressions. The tooth arrangements were modified to simulate natural dentition and improve esthetics. Modifications of conventional acrylic resin dentures have been proposed for improved denture adaptation. Good retention is essential to the long-term success of prosthetic treatment and may be achieved with a denture relined or with retention clasps. The active growth of the patients means

constant maintenance, including denture renewals or repairs, emphasizing the need for long-term follow-up care.

**Conclusions:** Prosthodontic rehabilitation at an early age has been shown to significantly impact the overall quality of life for a child with tooth agenesis.

**Clinical Implications:** The management of tooth agenesis with removable prostheses has a positive outcome. However, the materials and methodology must be modified to suit a child patient and instill a positive attitude toward dental care. Thus, every dentist treating children must be aware of and able to provide straightforward effective treatment considering all the parameters, including behavior management, in a child patient.

### Keywords:

Tooth agenesis, Removable prosthesis, Pediatric dentistry, Dentures





## Ozone Therapy: A New Vista in Dentistry

**Dr. Priyanka B. Lasune**

Maharashtra Institute of Dental Science and Research, India

### Abstract:

In the revolutionary dentistry, keeping treatment minimally invasive and pain-free is promising. In order to resolve this agenda, the ozone therapy has been introduced by Dr. EA Fisch first in dentistry to make treatment painless and non-invasive.

Ozone (O<sub>3</sub>) is a triatomic molecule, consisting of three oxygen atoms. It can be generated using various systems like ultraviolet system, cold plasma system and corona discharge system. This therapy is non-traumatic, painless and non-invasive that increases the patient's acceptability and used in various treatment modalities since, it has unique properties in various field. Ozone helps in disinfecting the cavity, healing the oral lesions like lichen planus, aphthous ulcers due to its immense property of ranging from antimicrobial, immunostimulant, analgesic, and antihypnotic to detoxicating, bioenergetic, and biosynthetic activities. This paper mainly emphasizes on utility of ozone in oral health care management.

### Keywords:

Ozone therapy, Antimicrobial, Dentistry, Lichen planus





## To Evaluate the Correlation Between Bleeding on Marginal Probing (BOMP) and Bleeding on Pocket Probing (BOPP), and the Correlation of Both Bleeding Indices with Plaque and Comparing with the Self Reports (Questionnaire)

**Dr. Rakavi. R**

Chettinad Dental College and Research Institute, India

**Dr. Ashwath Balachandran**

Chettinad Dental College and Research Institute, India

### Abstract:

**Background:** Gingivitis is a common finding among different populations, with a high prevalence in all age groups. To assess gingival inflammation, several indices have been proposed. The presence of bleeding as being the most meaningful and earliest sign of inflammation. Bleeding on probing histologically corresponds to a long, thinned or ulcerated pocket epithelium. Primarily, two different methods have been employed to provoke bleeding (i) by running a probe along the gingival margin at the sulcus level (ii) by inserting the probe towards the bottom of the pocket. Regarding the structures which are measured by these two indices to diagnose gingivitis, Bleeding on Marginal Probing (BOMP) is more related to the underlying inflammation present at the margin of the gingiva, whereas Bleeding upon Pocket Probing (BOPP) is more associated with inflammatory changes at the bottom of the pocket.

**Aim:** To evaluate the correlation between Bleeding on Marginal Probing (BOMP) and Bleeding on Pocket Probing (BOPP), and the correlation of both bleeding indices with plaque and comparing with the self reports (questionnaire).

**Materials and Methods:** A study consisting 100 healthy individuals of dental students is investigated. Subjects are asked a questionnaire and clinical measurements. Following

parameters are included in clinical measurements which are 1) age 2) gender 3) Bleeding on marginal probing 4) bleeding on pocket probing 4) bleeding on marginal probing depth 5) bleeding on pocket probing depth 5) oral hygiene index 6) plaque index 7) whether the patient is under orthodontic treatment 8) patient who are on post orthodontic treatment. The probe used for bleeding on marginal probing and bleeding on pocket probing is pressure sensitive is UNC-15 probe and pressure sensitive probe respectively. The inclusion criterion was a (DUTCH PERIODONTAL SCREENING INDEX) DPSI, which corresponds to a maximum probing depth of 4-5 mm in absence of gingival recession. The exclusion criteria were - overt dental caries, inter-proximal restorations between the first and second or second and third upper molars, clinically evident oral lesions, removable partial denture or night guard, (peri)oral piercings, drug abuse, use of antibiotics during the last 3 months, which could interfere with outcome of the study.

**Results:** Preliminary results indicate a significant association between both bleeding indices with plaque and the self reports (questionnaire). Participants with higher Bleeding on Marginal Probing (BOMP) and Bleeding on Pocket Probing (BOPP) demonstrated an increased risk of developing gingival inflammation. The prevalence of bleeding upon probing is influenced by the scoring method that is used for the diagnosis. Probing the bottom of the pocket results in significantly more bleeding than running a probe along the margin.

**Conclusion:** This study provides evidence supporting an association between both bleeding indices with plaque and the self reports (questionnaire), highlighting the potential impact on oral health. Further research is warranted to elucidate the underlying mechanisms and establish whether interventions could contribute to prevention and management of gingival and periodontal disease. Understanding these relationships may have implications for public health strategies aimed at promoting both systemic and oral health.

### Keywords:

Plaque, Bleeding, Marginal probing, Pocket Probing, Questionnaire



## Osseodensification by Densah Burs- Newer Concept for Improving Stability and Success Rate of Implant

**Dr. Akshaya Subhashinee**

SRM Dental College, India

**Dr. Arun Vignesh**

SRM Dental College, India

### Abstract:

The success of dental implants is dependent on osseointegration, which is a crucial factor for implant stability. Quality of bone, surgical technique, insertion torque values are the factors that predominantly affect primary stability which is a key pre-requisite for obtaining predictable osseointegration. For acquiring biomechanically stable implants, bone density has to be suffice to attain the required bone-to-implant contact. Osseodensification is a newer concept for osteotomy which employs universally compatible drills- densah burs which operate in a counter-clockwise direction at the surgical site preparation. This biomechanical bone preparation provides sufficient insertion torque in cases of decreased bone height and densification for osseointegration of implants. Use of densah burs permits bone densification in counter-clockwise direction and precise bone removal in clockwise direction. This contributes for osteotomy site expansion thereby increasing the bone density in immediate vicinity of prepared surgical site. Osseodensification by densah burs improves the primary stability and bone density thereby averting buccal bone peri-implant defects.

### Keywords:

Densah Burs, Osseodensification, Osseointegration





## Dental Informatics – An Innovation towards Access and Analysis

**Dr. S. Kalaivani**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

Dental Informatics (DI), a sub discipline of medical informatics, is defined as the application of computer and information sciences to improve dental practice, research, education and management. It is a multidisciplinary field encompassing information technology, data science, and communication. This has transformed the landscape of dental practice, research, and education, and hold immense potential for improving oral health outcomes and enhancing patient care. For instance, Electronic Health Records (EHRs), tele dentistry, digital imaging, mobile dental applications have revolutionized the field of dentistry by facilitating the collection, storage, and analysis of large and complex dental datasets. This has led to significant advancements in dental research, including the development of predictive models for disease risk assessment, identification of patterns and trends in oral health outcomes, and evaluation of the effectiveness of various treatment modalities. The documentation, management, and exchange of patient information have been streamlined among dental care providers, thus improving communication, coordination, and continuity of care. Implementation of dental informatics has many challenges like interoperability and standardisation of dental data, privacy and security of dental data. Ensuring dental data's confidentiality, integrity, and availability is crucial to maintain patient trust and comply with legal and ethical requirements as well success of dental informatics. Providing training to dental professionals, government funding is also important for the appropriate use of dental informatics which will provide a better level of care with greater efficiency and productivity. It is evident that patients will benefit from these productive advances, but concomitantly the dental professionals have to execute these advances into everyday dental practice.

### Keywords:

Dental Informatics, Electronic Dental Records, Tele Dentistry, Digital Imaging



## Evaluation of Healing Morphology of Fractured Condyle After Closed Reduction and Its Association with Functional Impairments

**Shri Krishna Prasanth**

SRM Dental College RMP, India

### Abstract:

**Background & Objectives:** The objective of our study was to evaluate the morphological healing pattern of condylar fracture after closed reduction and to clinically evaluate its association with functional impairments after healing. These morphological patterns were analysed using Three Dimensional Computed Tomography (3D-CT) image.

**Methods:** 15 patients presenting with condylar fracture were included in the study. Intermaxillary Fixation (IMF) was done using Erich's arch bar and elastics for a period of 3 weeks. After removal of IMF, active mouth opening exercises were advised. Three Dimensional Computed Tomography (3D-CT) scan was done pre-treatment and post-treatment for the assessment of healing pattern of condylar fractures. Its relation to functional impairment was evaluated. The parameters assessed were; amount of jaw deviation, amount of mouth opening, occlusion and pain after 1st month, 3rd month and 6th month.

**Results:** 8/15 patients had L-shaped pattern of healing, 5/15 patients had unchanged pattern, 2/15 patients had spherical pattern, 0/15 patients had detached pattern. 100% patients (2/2) with spherical pattern had reduced mouth opening at the end of 6 months. One patient with L-shaped pattern had anterior open bite after 3rd and 6th month. At the end of 1st month, 50% of patients with L-shaped pattern (4/8), 20% of patients with unchanged pattern, 50% of patients with spherical pattern (1/2) had pain.

**Conclusion:** Closed reduction provides satisfactory management of condylar fracture without any significant functional impairment. Pain & functional impairment may be

encountered in displaced fractures which heal with loss of normal morphology. However, the same gets corrected over a short period of time.

**Reference:** Peterward booth, Barry L Eppley, Rainer Schmelzeisen. Maxillofacial trauma and esthetic facial reconstruction. 2003. 272-274.

### Keywords:

Fracture, Condyle, Mandible, Closed Reduction, Functional Efficacy



9 789392 106460



## Microneedle and Nanodrug Delivery for Oral Mucosal Lesions – A Systematic Review and Meta Anlaysis

**Amirtha Varshini. N**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

**Title:** Assessment of Knowledge, attitude and Awareness of Emergency Management of Trauma Among Parents and Teachers - A questionnaire based survey

**Background:** Prompt and effective management of trauma in children is crucial for minimizing morbidity and mortality. Parents and teachers play pivotal roles in recognizing and responding to pediatric emergencies. Assessing their awareness of emergency management of trauma is essential for improving preparedness and outcomes.

**Objective:** This questionnaire-based survey aimed to evaluate the level of awareness regarding the emergency management of trauma among parents and teachers, identifying areas for education and intervention.

**Methods:** A structured questionnaire will be distributed to parents and teachers in various educational institutions and community settings. The questionnaire will assess knowledge of common pediatric traumas, recognition of warning signs, first aid skills, and familiarity with emergency response protocols. Data will be analyzed to determine levels of awareness and areas needing improvement.

**Outcome:** Findings from this survey underscore the importance of enhancing awareness and education among parents and teachers regarding the emergency management of trauma in children. Targeted interventions, such as first aid training programs and dissemination of educational materials, are warranted to improve preparedness and outcomes in pediatric emergencies. Collaboration between healthcare providers, educators, and community stakeholders is essential for fostering a culture of safety and

resilience in managing pediatric trauma.

### Keywords:

Microneedle, Nanodrug, Oral Mucosal



## Congenital Craniofacial Deformities: Genetic and Clinical Aspects

**Aishwarya A**

CRI in Adhiparasakthi Dental College and Hospital, India

### Abstract:

**Background:** Congenital craniofacial deformities encompass a spectrum of conditions affecting the skull and facial structures, often with genetic etiology. Understanding the genetic and clinical aspects is crucial for diagnosis, management, and genetic counseling.

**Objective:** This review aims to elucidate the genetic underpinnings and clinical manifestations of congenital craniofacial deformities, providing insights into their diagnosis, treatment, and genetic counseling implications.

**Methods:** A comprehensive literature search was conducted utilizing electronic databases to identify relevant studies on the genetic and clinical aspects of congenital craniofacial deformities. Studies were selected based on their relevance to the topic and publication date.

**Results:** Congenital craniofacial deformities result from genetic mutations affecting craniofacial development during embryogenesis. Key genes implicated include those involved in cranial neural crest cell migration, proliferation, and differentiation. Clinical manifestations vary widely, encompassing craniosynostosis, cleft lip/palate, micrognathia, and midface hypoplasia, among others. Diagnosis relies on clinical evaluation, imaging studies, and genetic testing. Management strategies include surgical correction, orthodontic interventions, and multidisciplinary care. Genetic counseling is essential for families, providing information on recurrence risk and reproductive options.

**Conclusion:** Congenital craniofacial deformities are genetically heterogeneous conditions with diverse clinical presentations. Understanding their genetic basis and clinical features is vital for accurate diagnosis, appropriate management, and genetic counseling. Further research into

the genetic mechanisms underlying these deformities is needed to improve diagnosis, treatment, and outcomes for affected individuals and their families.

### Keywords:

Craniofacial Deformity, Key Genes, Neural Crest Migration, Differentiation, Counselling







## Adjunctive Benefit of Ozonized Water Irrigation with Mechanical Debridement in the Management of Stage III Periodontitis-A Randomised Controlled Clinical and Biochemical Study

**Dr. Niranjana J Mohan**

PMS College of Dental Science and Research, India

**Dr. Ambili R**

PMS College of Dental Science and Research, India

### Abstract:

**Objective:** Periodontitis is a chronic inflammatory disease initiated by dysbiotic microbiota. Conventional mechanical debridement often needs adjunctive measures to control the disease process. The objective of the present study was to find out benefit of ozonized water irrigation along with nonsurgical periodontal therapy for the management of periodontitis.

**Methods:** We have conducted a randomized controlled, triple-blinded, parallel-group clinical trial. The test group ( $n = 25$ ) was treated with ozonized water irrigation, whereas the control group ( $n = 25$ ) received normal saline irrigation along with mechanical debridement. Full mouth plaque score, bleeding score, probing pocket depth and clinical attachment loss were evaluated at baseline and 4 weeks after treatment. Salivary interleukin 1 beta was analysed using enzyme linked immunosorbent assay. Analysis of covariance, t test and chi-square test were used for intergroup comparison.

Intragroup comparison was done using the paired t test.

**Results:** Adjunctive ozone water irrigation resulted in significant improvement in all clinical parameters, except probing pocket depth after adjusting the extraneous effects due to initial confounding factors ( $p < 0.001$ ). But as per subgroup analysis, ozone water irrigation resulted

in significant reduction in pocket depth in deep pockets ( $p = 0.01$ ) and the number of sites with a pocket depth  $\geq 4$  mm with bleeding on probing. Salivary interleukin 1 beta also reduced significantly in the test group after therapy.

**Conclusion:** Ozone irrigation provides adjunctive benefit along with nonsurgical periodontal therapy in reducing clinical parameters and inflammatory mediators in saliva. But long-term benefits need to be assessed with future studies. The study was registered in the Clinical Trial Registry of India (CTRI no: CTRI/2020/06/026275).

### Keywords:

Clinical trial, Interleukin 1 beta, Ozone, Periodontitis

## Gleaming Grins

**Dr. Rampriya M**

Saveetha Dental College, SIMATS deemed University, India

### **Abstract:**

Due to the rise in patients' requests for cosmetic dentistry to enhance their smiles, dental aesthetics has grown to be a key component of restorative dentistry in recent years. The patient's self-esteem may be harmed by a bad grin. One of the most crucial factors is establishing a patient's cosmetic look after losing their teeth. We are all fascinated by the appearance of straight, white teeth. In every advertisement, billboard, social media post, etc., we see models with radiant smiles and perfect dental alignment. Teeth are distinctive in their own ways for each person. A welcoming, lively, and kind grin might help someone become that person. Because of their aesthetic appeal, toughness, and biocompatibility, porcelain laminate veneers have proven to be a practical alternative for repairing the anterior teeth. A result of scientific advancement, they beckon with a promise of transformation, inviting individuals to embrace the allure of possibility and the transformative power of a luminous smile.

### **Keywords:**

Indirect Ceramic Veneers, Composite Veneers, Bleaching





## A Nano CT Evaluation of Volumetric Analysis, Morphologic and Marginal Changes of Used 5-Year-Old Extracted and New Stainless Steel Crown

**Dr. Shruthi Devi**

Saveetha Dental College and Hospitals, Tamil Nadu, India

**Dr. Ramesh**

Saveetha Dental College and Hospitals, Tamil Nadu, India

### Abstract:

**Introduction:** Childhood decay, mainly early childhood caries, is the most common cause that is responsible for either partial or complete loss of the tooth structure in case of primary teeth with devastating effect to general health in young children. Stainless steel is considered as a gold standard among non aesthetic restorative materials for restoring primary and young permanent molars. Rehabilitation and restoration of the primary teeth damaged due to decay or trauma is a challenging task to the pediatric dentists as the materials and technical variations in each crown system can result in difference in the strength and marginal fit and ultimately influences the outcome of the final restorations. **AIM:** To compare and contrast the volumetric analysis, morphologic and marginal changes of 5-year-old extracted and new stainless-steel crown.

**Materials and Methods:** 30 extracted primary molar teeth with tested prefabricated stainless steel crowns stainless steel crowns (n,30) and 1 new stainless-steel crown (n,1) (kidzee kids crown; shinhung, seoul, korea) were evaluated. A rainbow scanner (dentium, seoul, korea) was used to digitise the inner and outer surface morphologies of all crowns. The data were superimposed and evaluated using 3d software. The differences between the outer and inner surfaces and inner volume were measured. Morphologic and marginal changes for crowns were all measured on 31 stainless steel crowns. The data was entered and analyzed using mann-

whitney u test and t-test are two statistical tests.

**Results:** Stainless steel crowns had a slightly higher compressive strength (783.94+24.16 N) than zirconia crowns (545.68+27.42 N) ( $p= 0.001$ ). In both classes, minimal micro leakage values were observed. Zirconia crowns allowed more tooth reduction (0.260+0.055 gms) than stainless steel crowns (0.136+0.050 gms), which was statistically important ( $p= 0.050$ ).

**Conclusion:** Both zirconia and stainless-steel crowns were good options for full coronal restorations. But in terms of strength stainless steel crowns were better than zirconia especially in the posteriors.

### Keywords:

Extracted Primary Teeth, Morphologic Analysis, Stainless Steel Crown, Volumetric Analysis



## Association Between Subgingival Candida Colonization and Chronic Periodontitis Severity in Type 2 Diabetic and Non-Diabetic Patient

**Dr. B. Radhika**

Chettinad Dental College and Research Institute, The Tamilnadu Dr. M.G.R Medical University, India

### Abstract:

**Background:** Periodontitis is a chronic inflammatory disease affecting the supporting structures of the teeth. Diabetes mellitus, particularly type 2 diabetes, is a significant risk factor for periodontitis. Candida species, commonly found in the oral cavity, can contribute to oral infections. This study aims to analyze the association between subgingival Candida colonization and stage II/III periodontitis patients with and without newly diagnosed type 2 diabetes mellitus, providing insights into the interplay between Candida, periodontitis, and diabetes.

**Aim:** The aim of the study was to analyze the association of subgingival colonization of Candida species in stage II and stage III periodontitis patients with and without type 2 newly diagnosed diabetes mellitus.

**Materials and Methods:** This case control study consisted of 500 participants who were divided into 3 groups. Group 1 included 100 healthy patients with Dental biofilm induced gingivitis. Group 2 comprised 200 stage II periodontitis patients, categorized into 100 patients without diabetes mellitus (Group 2A) and 100 patients with type 2 newly diagnosed diabetes mellitus (Group 2B). Group 3 comprised 200 stage III periodontitis patients, categorized into 100 patients without diabetes mellitus (Group 3A) and 100 patients with type 2 newly diagnosed diabetes mellitus (Group 3B). All the participants were investigated for Random blood sugar to know whether there are any newly diagnosed Type 2 diabetes mellitus patients and they were further inspected for fasting and postprandial blood sugar. The subgingival plaque samples were collected

from the periodontal pockets and cultured in Sabouraud's Dextrose Agar (SDA) plate and observed for the growth of Candida species. The positive samples were further analyzed for different types of Candida species by standard microbiological procedures that include CHROMagar, direct microscopy, germ tube test, carbohydrate assimilation test and carbohydrate fermentation test. Statistical analysis utilized SPSS 21.0, employing ANOVA and Pearson Chi Square tests for comparing various parameters among groups. Significance was set at  $p < 0.05$ .

**Results:** The overall prevalence of Candida species among 500 participants was 166 (33.2%). The most frequently isolated species in this study was *C.albicans*(23.6%) followed by *C.glabrata* (6%), *C.tropicalis* (3.2%) and *C.krusei* (0.4%). The overall prevalence of Candida species in this study was 48.5% in type 2 newly diagnosed diabetes mellitus patients (97 out of 200) and 23% in patients without diabetes mellitus (69 out of 300). The *C.albicans* was the predominant species in type 2 newly diagnosed diabetes mellitus patients.

**Conclusion:** In this study the overall prevalence of Candida species was higher in stage II and stage III periodontitis patients with type 2 newly diagnosed diabetes mellitus. There was a greater predilection of Candida species in type 2 newly diagnosed diabetes mellitus patients with stage III periodontitis.

### Keywords:

Stage II periodontitis, Stage III periodontitis, Type 2 diabetes mellitus, Candida species, Dental plaque or biofilm



9 789392 106460



## Unwrap A Smile

**Dr. Mohamed Abraar S**

Saveetha Dental College, SIMATS Deemed University, India

### **Abstract:**

An aesthetic and functional smile enhancement has great contribution to a person's self Confidence in addition to their longevity and functional success. It gives us an idea of treatment modality as a corrective approach when trying to uplift the patient's confidence and giving her/him a reason to smile again. Smile enhancement is not a process that you need to perform; rather it is one that you choose to perform. The reason of undergoing smile enhancement may vary from one individual to another. My case presentation will take us through smile enhancement resulting from treatment using veneers, fixed dental prosthesis, bleaching etc.

### **Keywords:**

Ceramic veneers, Fixed bridge, Bleaching



## WILKODONTICS-A Novel Synergy in Time to Save Time: A Case Report

**Dr. Vadla Archita**

MNR Dental College and Hospital, India

**Dr. Phani Yasaswini**

MNR Dental College and Hospital, India

### Abstract:

An increasing number of patients seeking orthodontic treatment in short time has been a recurring request. To meet their expectations, various innovative techniques have developed to accelerate orthodontic tooth movement. Significant acceleration in such movement has been reported following combination of Selective Alveolar Decortication and Platelet Concentrates with latter being responsible for increased scope of tooth movement and long-term improvement of Periodontium.

"Wilkodontics," often called Periodontally Accelerated Osteogenic Orthodontics (PAOO) is procedure that helps in accelerating tooth movement whereby rendering extensive dental services and care to patients in bone activation through selective Decortication. A case report of a 21year old female undergoing orthodontic treatment ought's for faster process, for which PAOO was done with corticotomy along with the placement of PRP for quicker and efficient results.

### Keywords:

Selective Alveolar Decortication, Platelet Concentrates





## **A Comparative Evaluation of Local Drug Delivery System Using Gengigel & Blue M Gel, as an Adjunct to Scaling & Root Planing in Chronic Periodontitis Patients: A Cross Sectional Study**

**Dr. Aiysha Nudrath**

MNR Dental College & Hospital, India

**Dr. Rupa Rani B**

MNR Dental College & Hospital, India

### **Abstract:**

**Aim:** To compare the efficacy of Gengigel & BlueM gel in treating chronic periodontitis patients.

**Methodology:** This is a comparative study where 36 sites of chronic periodontitis patients (aged 20-55 years) were divided into Group A (Scaling and Root Planning), Group B (Gengigel), and Group C (BlueM gel) based on the treatment/local drug delivery system to evaluate clinical parameters (Probing depth, CAL, OHI index, and Plaque index) at baseline and six months.

**Results:** Though clinical parameters improved in all three groups, statistically significant improvement was seen in groups B & C.

**Conclusion:** Both Gengigel and BlueM gel demonstrate effectiveness in treating chronic periodontitis.

### **Keywords:**

Periodontitis, Local Drug Delivery, Angiogenesis, Osteoinduction





## Management of Dens Invaginatus with Guided Endodontic Approach - Case Report

**Damuka Sudheer Kumar**

Tamil Nadu Government Dental College and Hospital, India

Dens invaginatus, Guided endodontics, Thermoplastic gutta percha, Bioceramic Root Canal Sealer

### Abstract:

Dens invaginatus is one of the rare malformations of teeth which results from an infolding of the dental papilla during the development of teeth.

Navigation of the root canals in a dens invaginatus is a challenging task in clinical practice. Recently, the guided endodontics technique has become an alternative method for accessing root canals without causing iatrogenic damage to tissue.

A female patient of 13 years age reported with the chief complaint of pain in upper front tooth region. Based on clinical and radiographic findings, it was diagnosed as chronic periapical abscess associated with dens invaginatus (Oehler's type II) in 22.

Access cavity preparation done with CBCT-guided 3D printed surgical stent.

Biomechanical preparation done with nickel titanium files.

Calcium hydroxide intracanal medicament given for one week and obturation done.

Conservative root canal access was achieved in Dense Invaginatus tooth using guided endodontic approach with a CBCT-guided 3D printed surgical stent. This technique can be a valuable tool for negotiating the root canals in minimally invasiveness, thereby reducing chairside time and more significantly decreasing the risk of iatrogenic damage to the remaining tooth structure.

### Keywords:



9 789392 106460



## Evaluation of Insulin Resistance, Insulin Sensitivity and Periodontitis in Patients with Varying Levels of Sugar in Take- A Cross Sectional Double Blinded Study

**Dr. Cynthia Leslie C**

Chettinad Dental College and Research Institute, India

**Dr. Smriti. D**

Chettinad Dental College and Research Institute, India

### Abstract:

**Background:** Sugar has become a pervasive component of modern diets over the past few decades. Despite its ubiquity, the excessive consumption of sugar is often overlooked, viewed simply as a sweetening agent rather than a potentially harmful substance. Dietary sugars, play a crucial role in the development and progression of both insulin resistance and periodontitis. Excessive sugar consumption can lead to hyperglycaemia, which contributes to insulin resistance and systemic inflammation. Moreover, sugars serve as a substrate for the growth of periodontal pathogens, promoting the inflammatory response within the periodontium.

The Homeostatic Model Assessment of Insulin Resistance (HOMA-IR) index is a tool used to gauge insulin resistance in individuals, calculated based on fasting insulin and glucose levels. Elevated levels of cytokines in periodontal disease can disrupt insulin levels by phosphorylating serine residues of insulin receptor substrate-1, contributing to the development of insulin resistance and impairing glucose tolerance. This study aims to provide a comprehensive understanding of the complex interactions between metabolic health, dietary habits, and oral inflammatory conditions in the South Indian population.

**Aim:** This cross-sectional study aimed to evaluate the

associations between insulin resistance, insulin sensitivity, and periodontitis in individuals with different levels of sugar intake.

**Materials and Methods:** A total of 20 participants were recruited and categorized into two groups based on their sugar consumption: low sugar intake (n=10) high sugar intake (n=10). Insulin resistance and insulin sensitivity were assessed using Homeostatic Model Assessment of Insulin Resistance (HOMA-IR) and Quantitative Insulin Sensitivity Check Index (QUICKI), respectively. Periodontitis was evaluated using clinical parameters including probing depth, clinical attachment level, and Periodontal Inflamed Surface Area (PISA).

**Results:** Significant differences were observed in HOMA-IR, QUICKI, and PISA scores among the two groups. Participants with high sugar intake demonstrated higher HOMA-IR values, indicating increased insulin resistance, and lower QUICKI values, indicating decreased insulin sensitivity. Moreover, individuals with high sugar intake exhibited more severe periodontitis, as evidenced by higher PISA scores and greater clinical attachment loss.

**Conclusion:** Our findings suggest a significant association between sugar intake, insulin resistance, insulin sensitivity, and periodontitis, and it is plausible that dietary sugars have an impact on this association. This correlation suggests that systemic aspects linked to insulin resistance might play a role in the development and progression of periodontitis. These findings underscore the significance of dietary choices in maintaining optimal metabolic and periodontal health.

### Keywords:

Insulin Resistance, Insulin Sensitivity, Glycaemic Load, Diabetes, Periodontitis, Dietary Sugars



## Dynamic Navigation System in Implant Dentistry

**Dr. S. Tamil Selvi**

K.S.R .Institute of Dental Science and Research, India

### Abstract:

Implant-supported fixed prostheses are now a recognized therapy for the rehabilitation of individuals who are either completely or partially edentulous. The precise positioning, angle, and depth of the implant within the jawbone are crucial factors that impact its long-term stability, longevity, and success rate. Even the smallest discrepancy or variation can have a major impact on the implant's long-term effectiveness and its three-dimensional position, or even damage crucial anatomical structures and result in catastrophic complications. Consequently, to overcome and aid in implant surgery, robotic systems, dynamic navigation systems, and static navigation systems have been developed. These systems aim to enhance surgical precision, achieve long-term stability of the implant, lower surgical complications, and provide more patient comfort. However, there are still certain drawbacks with static navigation, including the need to select an implant guide support, the existence of cooling barriers, a restricted field of view, the inability to dynamically alter the design, and the guide's thickness influencing the surgical operating space, it has been proposed and developed quickly in recent years, making surgical procedures easier to visualize with dynamic navigation system.

The dynamic technique, also known as navigation, is the use of a surgical navigation system that allows for intraoperative adjustments to the implant position by reproducing the virtual implant position using computerized tomographic data. Based on motion tracking technology, these devices enable real-time tracking of both the patient and the dental drill during the entire procedure. Also, allows the surgeon to follow on a screen the three-dimensional position of instruments in real time during implant site preparation with prosthetically driven concept.

The CBCT method is generally used to measure the accuracy of post implant placement or hole drilling using dynamic navigation by comparing the intended and actual positions. Statistically, angular platform, global platform, and global apical deviation are the three dimensions used to define the accuracy of implant placement that is comparable with robotic implant surgery. This paper presentation reviews about its workflow, indications, limitations and future perspectives in implant dentistry.

### Keywords:

Dental Implants, Navigation System, Dynamic Computer-assisted Implant Placement, Accuracy





## Nurturing Screaming Meemies of Fear and Anxiety by Taking Sting Out of Local Anesthetics

**Dr. Shajaratul Yakeen Nabi**

Government Dental College, Srinagar, University of Kashmir, India

### Abstract:

**Introduction:** Dental fear and anxiety are everyday challenges posed to every dentist all over the globe and mainly is prevalent due to pain provoking stimuli. Young patients specially children often cannot tolerate dentistry in a routine clinical setting thus prompting dentists to look out for alternate techniques to provide quality dental care. Needle phobia is one of the most common phobias encountered in dental settings. The sensation of needle being attached to syringe and penetrating the oral mucosa is quite fearful and distressing for dental patients especially paediatric dental patients carrying negative impact on patient's psychology. Although delivery of local anaesthesia is the central plank of pain relief technique in dentistry but according to literature, needle phobia is diagnosed in 19% of children. Owing to such widespread and significant impacts, it is of utmost importance take this phobia out at the earliest and also treat them appropriately. So, the need of the study was to find out an effective technique to reduce pain sensation during local anaesthesia administration and quantifying usefulness of combining cryotherapy and distraction and needleless jet injectors in diverting stressful pain stimuli and mitigating patient's dental fear and anxiety.

**Aim:** To investigate efficacy and feasibility of needleless jet injectors and vibratory devices with cryotherapy for pain and anxiety management in children against conventional method during local anaesthesia administration.

**Methodology:** The study was done on 90 children requiring local anaesthesia. The children were equally divided into 3 groups, Group A which comprised of children intervened with a conventional anaesthetic syringe, Group B which

comprised of children intervened using jet injections and Group C which comprised of children intervened with conventional anaesthetic syringe along using vibrotactile with cryotherapy device.

The patients in the all the groups were seated on the dental chair with pulse oximeter placed on the finger and child were asked to choose a face from WBFPS that describes how she/he feels. Scores for FLACC, SEM and pulse oximeter were noted at T<sub>0</sub> by the observer. Local anaesthesia was delivered using conventional needle in area adjacent to the tooth requiring invasive treatment procedure. In jet injection group, the device was held perpendicular to long axis of the tooth and anaesthesia was delivered. However, in vibrotactile with cryotherapy device group, it was applied extra orally for 10 seconds. During this stage, child was asked to choose a face from WBFPS that describes how she/he feels and scores for FLACC, SEM and pulse oximeter were noted again at T<sub>n</sub>. The child was again asked to choose a face from WBFPS after the anaesthesia administration and scores for FLACC, SEM and pulse oximeter were also noted at T<sub>e</sub>.

**Results:** The children intervened with vibratory device and cryotherapy had lower subjective pain scores using WBFPS, lower objective pain scores using FLACC and SEM and also lower pulse oximeter readings than jet injectors followed by conventional method.

**Conclusion:** Pain management is one of the basic requirements for making child feel comfortable and gaining trust. These simple methods of vibratory distraction, cryotherapy and needleless injections can be effective non pharmacological methods for alleviating pain and anxiety in children.

### Keywords:

Pain, Anxiety, Distraction, Cryotherapy, Needleless injection, Local anaesthesia



## Awareness About Topical Fluoride Application Among Preclinical and Clinical Dental Students of Chengalpattu District-Tamilnadu

**Dr. K. Rajeswary**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

**Background:** Professionally applied topical fluorides are proven to be very effective in preventing dental caries. Each dental professional should have adequate knowledge about the topical fluoride application which was incorporated in their undergraduate curriculum.

**Aim and objective:** The aim of the study was to assess the knowledge and awareness about practical implications of topical fluoride among the dental students in Chengalpattu district.

**Materials and Methods:** A descriptive cross sectional questionnaire study was conducted from among undergraduates of a dental college in Chengalpattu district. A self-administered sixteen closed-end questionnaire was used to assess their knowledge and attitude towards fluoride application was sent via google forms to the students. Descriptive statistics and chi-square analysis was done.

**Results:** The present study included 89 male and 277 female dental students. Among them 151 were pre-clinical and 215 were clinical students. Majority of clinical students (83.3%) correctly responded that fluorides are used to prevent dental caries when compared to pre-clinical students (46.4%). Clinical students had higher knowledge about fluoride gels when compared to pre-clinical students. Yet, most of the students from both the groups had limited knowledge about fluoride varnish application. Though topical fluoride was the most preferred dental caries prevention method among the study participants (94.8%), majority felt that fluoride application can cause fluoride toxicity (59.6%).

**Conclusion:** The present study concludes that the awareness

about topical fluoride application has significantly improved as the dental students are exposed to clinical practice. Knowledge about fluoride varnish application needs improved among the clinical students.

### Keywords:

Awareness, Dental caries, Topical fluoride, Fluoride Varnish





## Techniques of Teeth Replacement with Basal Implants: A Case Series

**Dr. Md Haseeb ur Rahman Fazlur Rahman**

Aditya Dental College, India

### Abstract:

Conventional implants have great limitations in case of atrophic maxillary and mandibular ridges. Ultimately, patients who have severely atrophied jawbones paradoxically receive little or no treatment, as long as conventional implants are considered the device of first choice. Basal implants were developed with the goal to overcome the limitations of conventional implantology, primarily for atrophied ridges or inadequate bone with the protocol of immediate loading.

Basal implantology is also termed bi-cortical implantology, cortical implantology, and strategic implantology. Cortico-Basal Implantology is a modern innovative implantology system which utilizes the basal cortical portion of the jaw bones for retention of the dental implants, which are less prone to resorption and are infection free. Basal bone is defined as the osseous tissue of the mandible and maxilla other than the alveolar processes. In basal implants all cases (single tooth/segment/full arches) can be loaded immediately within three days (immediate functional loading). This is not the case with conventional implants as they are loaded after 3-4 months of healing. All basal implants are placed flapless. Expert operators can place basal implants in all situations without the need for stents. Flapless placement with conventional implants is limited to cases where abundant bone volume is present for implant placement, The use of surgical stent is mandatory for flapless placement of conventional implants but this is not the case for basal implants, Fabrication of stents for conventional implants need dual scans (more radiation) and further investment of time, money and effort.

In smooth surface basal implants the problem of periimplantitis simply does not exist. Periimplantitis is an issue restricted to rough surface implants. The techniques in basal implants require 10-12 implants in upper arch and

8-10 implants in a lower arch. Even for single posterior tooth replacements 2-3 implants are placed. This leads to ideal force distribution under immediate loading situations. Placement of implants in posterior regions of maxilla and mandible during full arch replacements avoid cantilevering of prosthesis. This is a better solution over techniques like ALL ON 4 (practiced by conventional implantologist) which has lesser number of implants for load distribution. The placement of just four implants in anterior zone leads to cantilevered design of prosthesis. The unique one-piece monoblock design of basal implants avoids problems associated with screw loosening which is very common with conventional implants. Working on resorbed ridges is less challenging with basal implants. The techniques of basal implant allow flapless immediate loading even in the most resorbed jaws without need of bone grafting surgeries. One single compact surgical kit is enough for all basal implants surgeries as opposed to conventional implants, which need multiple kits for various procedures (e.g. kit for implant placements, kit for sinus lift, kit for ridge split etc.).

### Keywords:

Strategic implantology, Periimplantitis, Immediate loading, Flapless



## Oro-dental Health Behaviors and Need for Improved Health Education Among Diabetic Patients Attending a Diabetes Clinic in a Tertiary Care Hospital in India

Jai Pal Majra

BPS Govt Medical College for Women, India

### Abstract:

**Background:** Periodontal diseases and diabetes mellitus are closely associated and highly prevalent chronic diseases with many similarities in pathobiology. Periodontitis may impair glycaemia control and Diabetes increases the risk of periodontal diseases. Therefore, prevention and control of periodontal disease must be considered an integral part of diabetes control. Though, awareness is the key but little is known about patients' knowledge and perceptions regarding the link between two. Aim of this study was to assess the knowledge and practices diabetic patients have towards their increased risk for periodontal diseases and their behaviour towards sustaining good oral health through proper oral care and regular check-up.

**Materials and Methods:** A self-administered multiple choice type questionnaire was constructed incorporating ten items related to socio-demographic data, awareness on periodontal risk and the need for good oro-dental health care. Patients diagnosed as diabetic since more than one year, more than 40 years of age and having at least 10 teeth were included in this study. Selected using convenient sampling technique, one hundred type II diabetic patient attending Diabetes Clinic of a tertiary care Hospital filled this questionnaire. Exclusion criteria were gestational diabetes, smokers, and alcoholic. Percentage and proportions were used as statistical methods.

**Results:** A total 118 diabetics attended the diabetic clinic during study as 18 patients did not qualify inclusion criteria

so were excluded from the study. Out of 100 participants sixty (60%) of the respondents were male and 40(40%) were female. The mean age of the participants' was  $55.5 \pm 8.99$  years. The mean duration of the participants' diabetes was  $7.16 \pm 6.03$  years. The majority of the participants 70(70%) complained about bleeding from gums during brushing, while (63)63% reported swollen red-coloured gums, 64 (64%) had bad breath and 42(42%) had shaky teeth. Twenty four (24%) have been educated about importance of oral health in diabetes by their treating physician. Twenty six (26%) were aware that there may be a relation between their oral health problems and their diabetic status. Sixteen (16%) recognized that treatment of their current oral problems can affect their glycaemia level positively. Only 30(30%) were aware that they need to visit a dentist at least once in three months. Only 28(28%) respondents reported brushing their teeth twice daily, 9(9%) reportedly changed their tooth brush once in three months, two (2%) used dental floss, 33(33%) had visited a dental clinic within the last one year and 21(21%) reminded their dentist that are diabetic.

**Conclusion:** Level of awareness and practices regarding periodontal disease risk associated with diabetes was low among diabetics. More co-ordination between the physicians and dentists is recommended for creating more awareness and better management of diabetes and periodontal disease.

### Keywords:

Knowledge, Practices, Relationship, Periodontal disease, Diabetes, Diabetic







## Review on Nanoparticles used in 3D Dental Resins

**Dr. Puja Harie Priya M.S**

SRM Dental College, Ramapuram, India

**Dr. B. Muthukumar**

SRM Dental College, Ramapuram, India

### Abstract:

In recent decades nanomaterial have acquired a very good technological improvements because of there physical, chemical and biological properties. The nanoparticles were divided based on the origin, composition of the material and shape. These nanoparticles methods of synthesizing, have various properties such has antifungal, antimicrobial, anti-inflammatory etc. they also increase the mechanical properties when used in both medical and engineering. Now a days drug delivery system using nanoparticles, nanotubes as a physical approach to inorder to improve the pharmacokinetic and pharmacodynamic properties of various types of drug. Few polymers were also used in the process of manufacturing nanoparticles Hence this review is on history, classification, synthesis, properties and overall view on synthetically and naturally occurring nanoparticles and various NPs used in the field of prosthetics.

### Keywords:

Nanomaterial, Denture resins, Zinc oxide, Porosphere, Titanium oxide



## Efficacy of Folic Acid Containing Mouthrinse in Treatment of Chronic Periodontitis

### Dr. C. R. Aashik

SRM Kattankulathur Dental College and Hospital, SRM Institute of Science and Technology, India

### Dr. Rajapandian. K

SRM Kattankulathur Dental College and Hospital, SRM Institute of Science and Technology, India

### Dr. Gayathri. K\*

SRM Kattankulathur Dental College and Hospital, SRM Institute of Science and Technology, India

### Dr. P. L. Ravishankar

SRM Kattankulathur Dental College and Hospital, SRM Institute of Science and Technology, India

### Dr. Kalaivani.V

SRM Kattankulathur Dental College and hospital, SRM Institute of Science and Technology, India

### Abstract:

**Background:** The invasion of pathogenic bacterial species of dental plaque into the supporting tissues marks the beginning of periodontal disease. The gold standard agent used for chemical plaque control is chlorhexidine (CHX). Recent research is now being focused on exploring other medicinal substitutes that may have beneficial effect on control of inflammation and tissue healing. Folic acid is an important nutrient which increases the ability of oral epithelial cells to resist local irritants and inflammation, if supplemented either systemically and locally.

**Aim:** The study aimed to evaluate the efficacy of folic acid in addition to mechanical debridement for treating patients with chronic periodontitis.

**Methods:** In this study, 32 individuals with chronic periodontitis were divided into two groups. Participants in the first group received mouthwash containing folic acid, whereas those in the second received mouthwash containing

chlorhexidine. At baseline and four weeks following scaling and root planing, periodontal parameters including Plaque Index (PI), Gingival Index (GI), Probing Pocket Depth (PPD) and Healing Index (HI) were measured.

**Results and Conclusion:** Following nonsurgical periodontal therapy, clinical measures like PI, GI, PPD and HI showed a statistically significant reduction in patients using both Folic acid containing mouth rinse and chlorhexidine. Hence it can be concluded that folic acid mouthrinse can be used as an adjunct to mechanical therapy in periodontitis patients.

### Keywords:

Chronic Periodontitis, Folic Acid, Chlorhexidine, Mouthrinse





## Emerging Advances in Pediatric Dentistry

**Deepika. S**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

Pediatric dentistry as a profession has reformed immensely, largely owing to advances in technology, materials, and disease knowledge. There is plenty to smile about!. When we see the current trending practice, the future seems even more exciting. I am happy to give out an insight into the practical trends through this poster. As pediatric dental practice can be broadly divided into preventive and restorative aspect. when we look into the preventive aspect, which undeniably is the more neglected one in our country, many nonfluoride - based technologies and materials come into picture. Silver diamine fluoride, nano silver fluoride are some other silver bullet which certainly a long way to go. when we look into restorative aspect, esthetic restoration on primary teeth have long been a challenge for pediatrics dentist, although there are various restorative option using full coverage are available for primary teeth such as SCC, Polycarbonate crown, resin strip crown, The most obvious advantage of using zirconia crown is their excellent esthetic, which is far superior to other pediatrics crown option. An another emerging technology is using lasers, we will see their uses in caries, prevention, early diagnosis, cavity restoration, management of minor surgical procedure in this posters.

### Keywords:

Silver Diamine Fluoride, Zirconia Crown, Laser



## Benefits of Tissue Adhesives Over Suturing in Treating Skin Laceration for Paediatric Patients

**Boomica R**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

Skin laceration repair is an important skill when it comes to facial lacerations. Sutures, tissue adhesives, staples, and skin-closure tapes are various options available for treating patient. Although suturing is the preferred method for laceration repair, tissue adhesives are similar in patient satisfaction, infection rates, and scarring risk in low skin-tension areas and may be more cost-effective. Although skin adhesives have been used for decades to treat paediatric skin lacerations, uncertainty remains about long-term results and complications. Adhesives are more cost-effective, and its application is less time-consuming; moreover tissue adhesives offer considerable advantages when used appropriately. This paper aims to provide a glimpse on the benefits of tissue adhesives over suturing in facial lacerations of paediatric patients.

### Keywords:

Tissue adhesives, Suturing, Facial lacerations





## TMPS System -A New Venture in Diagnosis and Management of TMJ Dysfunction in Malocclusion Patients

**Dr. Ravisankar**

Adhiparasakthi Dental College and Hospital, India

**Jeya Priya. B. M**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

**Introduction:** The TMPSS will record the pressure and load exerted on TM.J by the Teeth in centric occlusion. Variation in TMJ pressure in specific Mal occlusions can be compared with normal values, that aids in diagnosing and evaluating treatment outcome in Malocclusion associated TMJ Dysfunction. Clinical dental practitioners can use this system as a Routine diagnostic and therapeutic tool in their clinical practice for managing TMJ Dysfunction associated with Malocclusions.

### Objectives:

1. To develop a Pressure Sensor system which accurately measures the load on TMJ during centric occlusion in malocclusion patients.
2. To check the use of TMPS System in diagnosing severity of TMJ dysfunction in malocclusion patients.
3. To validate the use of TMPSS in management of TMJ pain by assessing the pressure load on TMJ.

**Advantages:** Bite force plays a major role in dental health related to Temporomandibular joint and orthodontic procedures. An irregular pattern or bite force can cause serious problems to TMJ respectfully. Improper pressure exerted within the upper and lower jaws can cause deformation of TMJ leading to severe pain and joint degeneration.

**Novelty:** The TMPSS records the maximum intercuspation load accurately in various malocclusion conditions which

can be compared to the normal occlusal forces exerted by the dentition. The specific ideology is to delineate the substantial damage caused in the TMJ due to the malocclusion condition and know the veracity in it. This system helps us to identify as well serves as a tool for the planning and management for the specific TMJ dysfunctions caused clinically.

### Keywords:

Temporomandibular joint, Centric occlusion, Orthodontic treatment, Pressure sensor system



## Lesion Sterilization and Tissue Repair

**Hindujha Magendran**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

Premature loss of primary teeth can cause many problems such as ectopic eruption, disturbance of eruption sequence, drifting of adjacent teeth and space loss for erupting succedaneous permanent teeth. It is therefore very important to maintain the primary dentition in a healthy and disease-free state. Dental Caries is one of the most common problems in primary dentition. When left untreated, this can lead to pulpal infections which cause pain and discomfort. These teeth can be treated with conventional endodontic treatment. However, these techniques cannot be used in teeth which show a presence of external or internal root resorption or extensive periapical / furcation radiolucency. If these teeth are lost, it causes problems in space management and development of occlusion. A novel approach to retain these teeth in a healthy and functional state until exfoliation is Lesion Sterilization Tissue Repair (LSTR) or Non Instrumentation Endodontic Treatment (NIET) which is a great success. Some drugs used in this procedure may cause discoloration of teeth, which are now replaced by newer combinations of drugs.

### Keywords:

LSTR, Periapical Lesion, Dental Caries, Endodontic Treatment





## Evaluation of Shear Bond Strength, Microleakage and Degree of Conversion between Preheated and Non-preheated Resin Cements – An In-vitro Study

**Kiruthiga D**

Adhiparasakthi Dental College, India

**Prakash P**

Adhiparasakthi Dental College, India

### Abstract:

Resin cements are widely used in indirect restoration and the impact of different storage temperatures is not well understood. The effect of pre-heating resin cement was evaluated for shear bond strength, micro leakage and degree of conversion between A Total of 24 extracted non-carious human central incisors were used for laminate veneer preparation. Lithium disilicate disc was fabricated. specimens were divided into 2 groups, 12 in each group. The test group (n=12) was preheated to temperature of 50<sup>o</sup>c and compared with control group(n=12) (non-preheated) and cemented according to the following groups. After luting, all specimens were subjected to Shear bond strength test using universal testing machine, Microleakage test with basic fushin dye and Degree of conversion with fourier transform infrared spectroscopy. Result shows preheating resin cement had better shear bond strength decreases microleakage higher degree of conversion than non-preheated.

### Keywords:

Resin cement, Shear bond strength, Micro leakage, Degree of conversion





## Comparison and Evaluation of Clinical Success of Zirconia Crowns and Glass Fiber Reinforced Composite Crowns in Primary Molars – An In Vivo Study

Zirconia crown, Figaro crown, Aesthetic restoration

**Dr. S Preethi Archana**

Adhiparasakthi Dental College and Hospital, India

**Dr. A Vasanthakumari**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

**Purpose:** The purpose of this clinical trial was to compare and evaluate the clinical success of zirconia crowns and Glass Fiber-Reinforced Composite Crown (GFRC) in primary molar teeth.

**Methods:** This trial was designed as a split-mouth study, clinical trial. A total of 60 crowns were placed in 30 children, ages four to nine years. Assessment of the clinical performance was done at one week and at 1,3,6 months. Several criteria, such as marginal adaptation, crown retention and gingival health were evaluated.

**Result:** At 6 months, 60 crowns were analysed: 30 ZR crowns and 30 GFRC crowns. There was a statistically significant difference ( $P < 0.05$ ) between gingival health, marginal integrity, retentivity between groups at 6 months with the zirconia crowns Excelling the GFRC crowns in all those categories. The only areas where GFRC crowns performed better than ZR crowns were the marginal integrity.

**Conclusion:** Glass fiber-reinforced composite crowns exhibited a notable partial loss of crown structure and poor gingival health after 6 months compared to the evaluated zirconia crowns. Zirconia crowns demonstrated outstanding clinical performance and parental satisfaction over the 6-months period than GFRC crowns.

### Keywords:



9 789392 106460



## Comparative Evaluation of Clinical and Radiographic Success of Biodentine as a Pulpal Medicament After Conventional and Laser Pulpotomy in Primary Molars

**Dr. A Selvabalaji**

Adhiparasakthi Dental College and Hospital, India.

**Dr. A Vasanthakumari**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

**Background:** The pulpotomy therapy is to maintain a carious primary tooth until natural exfoliation by removing the coronal portion of the infected pulp while preserving the uninfected radicular tissue.

**Aim:** To assess the clinical and radiographic success of biodentine as a pulpal medicament after conventional and laser pulpotomy in primary molars.

**Materials & Methodology:** Totally 20 primary molars indicated for pulpotomy is included in the study. This technique consists of two groups: Group I- conventional pulpotomy with biodentine (n=10), and Group II- laser pulpotomy with biodentine (n=10). The children were recalled for clinical and radiographic follow-up at 1 and 3 months. The success of the procedure was assessed based on clinical and radiographic scoring criteria based on Zurn & Seale (2008). The Independent t-test was used to compare the differences between the groups.

**Result & Observations:** There was statistical difference between two groups. P value is <0.005

**Conclusion:** The study concludes that biodentine with laser pulpotomy has high success rate than biodentine with conventional pulpotomy.

### Keywords:

Pulpotomy, Deciduous molars, Laser



## Comparative Evaluation of Obturation Quality, Instrumentation Time, With Different File System After Pulpectomy in Primary Molars: A Randomised Control Trail

**Dr. A Vasanthakumari**

Adhiparasakthi Dental College and Hospital, India

**Dr. A Selvabalaji**

Adhiparasakthi Dental College and Hospital, India

### Abstract:

**Background:** Pulpectomy has been a treatment of choice in all necrotic primary teeth. Advancing technology has brought the rotary system to reduce the manual dexterity and improve the quality of treatment for pulpectomy.

**Aim:** To compare the obturation quality, instrumentation time with K-file, Kedo S+ file and Protaper next file in primary mandibular molars.

**Materials & Methodology:** A randomized control trial where pulpectomy was performed on 21 primary molars equally distributed for instrumentation with K-file, rotary Protaper next file, rotary Kedo-S+ files, respectively. The subjects were randomly assigned to all the 3 groups, local anesthesia will be given followed by rubber dam application, access cavity preparation and working length was determined. Then according to each group, the Biomechanical preparation was done using respective file system and instrumentation timing was noted using a stopwatch and after obturation, the quality of obturation was assessed using Coll and Sardinian criteria (1996).

**Result & Observations:** Kedo S+ files showed least instrumentation time with the mean time of (50 seconds +/- 5 seconds), both protaper next file and Kedo S+ file showed better obturation quality compared to the control group (P<0.001).

**Conclusion:** Pediatric rotary files have good obturation quality with lesser instrumentation Timing.

### Keywords:

Obturation quality, Instrumentation time, Pediatric endodontics





## The Elusive Smile - Art in Darkness

**Dr. Hemavarshini Shanmugalingham**

Saveetha Dental College/ Saveetha University, India

**Dr. Subash Sharma**

Saveetha Dental College / Saveetha University, India

### Abstract:

"Minimal Invasive Dentistry" - we are evolving into this phase of dentistry. Aggressive cutting to no preparation, and this makes us step into Adhesive dentistry. This case summarises the application of lithium disilicate in the space closure. High mechanical properties of lithium disilicate make the veneer look thin and highly aesthetic. This discussion covers historical development of veneers, tracing their evolution from early prototypes to modern day advancements. Also delves into clinical consideration of placing veneers, patient selection and preparation techniques and adhesive bonding protocol.

### Keywords:

Minimal Intervention For Space Closures, Aesthetic Treatment



## LL-37 Gene Expression Shifts Post-Scaling and Root Planing in Chronic Periodontitis Patients

peptide, PCR, Subgingival curettage

### Dr. Sunanda Rao K

Assistant Professor, Dept of Periodontology, SRM Kattankulathur Dental College, SRMIST, India

#### Abstract:

**Introduction:** Periodontitis involves microbial dental plaque influenced by genetic and environmental factors. Neutrophils are involved in direct killing of periodontal microorganisms by antimicrobial peptides like LL-37. It has also been shown to regulate inflammatory processes like periodontitis.

#### Objectives:

- To assess the changes in LL-37 gene expression following scaling and root planing (SRP)
- To evaluate changes in clinical parameters such as Probing Pocket Depth, Clinical attachment loss and Bleeding index following SRP

**Methodology:** 30 chronic periodontitis patients were selected and divided into two groups each of moderate and severe. Sub-gingival tissue samples obtained from them before SRP and one month after treatment. Clinical parameters were recorded at baseline and after one month. The tissue samples were then subjected to Real time PCR assay and subjected to statistical analysis.

**Results:** All clinical parameters (mSBI, PPD, CAL) showed significant decrease following phase I therapy. The levels of LL-37 were found to increase over the duration of one month.

**Conclusion:** LL-37 expression in tissues is higher in chronic periodontitis patients after non surgical periodontal therapy which could imply its protective function.

#### Keywords:

Chronic periodontitis, LL-37, Neutrophil antimicrobial



9 789392 106460



## Non- Surgical Endodontic Management of Minimolar

**Dr. Deebah Choudhary**

Institute of Dental Sciences, India

### Abstract:

A detailed knowledge of the pulp canal anatomy and variations in individual tooth is important to effectively. An accurate diagnosis of the morphology of the root canal system is a prerequisite for successful root canal treatment. Some reports reveal a very rare occurrence of variations in tooth morphology of premolar teeth. Diagnostic tools such as preoperative radiography and examination of the pulp chamber floor facilitate the location of root canal orifices. The occurrence of three roots in maxillary first molar is unusual. It resembles a maxillary molar so it is also called as minimolar. This case report the identification and management of maxillary first premolar with aberrant root and root canal system.

### Keywords:

Minimolar, Pulp Canal Anatomy



## Investigating the Effects of EDTA, Citric Acid, Phosphoric Acid, and polyacrylic acid on Enamel, Dentin, and Cementum

### Ashmi S

III BDS, AB Shetty Memorial Institute Of Dental Science, Karnataka, India

### Ashlita Manola Tellis

III BDS, AB Shetty Memorial Institute Of Dental Science, Karnataka, India

### Abstract:

This research program explores the effects of EDTA, citric acid, and phosphoric acid on dental hard tissues—enamel, dentin, and cementum. These acids are commonly used in dentistry for various purposes, including enamel etching, root canal preparation and various restorative procedures. Understanding their actions on dental tissues is crucial for optimizing their clinical applications and minimizing potential adverse effects. This program will investigate and review the effect of these material's Effect on bond strength, Biocompatibility, microstructural analysis, clinical application and a complete comparative study using ex vivo experiments. The findings will contribute to the knowledge base of dental professionals, helping them make informed decisions regarding the use of these acids in clinical practice now and in future.

### Keywords:

EDTA, Citric acid, Phosphoric acid, Polyacrylic acid, Dental procedure, Bond strength, Dental hard tissue, Enamel etching







## Evaluation of Madhumukthi Kudineer Chooranum for Its Anti-Diabetic Properties using Alpha-amylase and Alpha-glucosidase Enzyme Inhibition Assay in vitro

**Dr. Baskar Rajamanickam**

Lecturer II, Department of Gunapadam (Pharmacology),  
Govt. Siddha Medical College, Chennai, India

### Abstract:

Due to screening for phytochemicals that may slow or delay glucose absorption, there is great interest in discovering alternative therapies for type 2 diabetes. By showing in vitro evidence of possible inhibition of alpha-glucosidase and alpha-amylase enzymes and then conducting confirming in vivo research on rats, the current work attempts to bolster the biochemical case for more investigation. By suppressing alpha-glucosidase and alpha-amylase, two enzymes that break down carbs, patients with type 2 diabetes and those at risk of the condition may better control their blood glucose levels.

**Objective:**  $\alpha$ -Glucosidase and alpha-amylase Enzyme Inhibition Research conducted in vitro.

**Methodology:** The necessary bark and roots are collected from their native habitats on the slopes of Yelagiri and Jolarpettai. The pharmacognosy department of Siddha Central Research Institute, Chennai-106 is verifying the raw medications. Use the mentioned amounts after grinding these healing herbs to a coarse powder. Six grams of powder should be added to 240 milliliters of water, which should then be brought to a boil and reduced to 60 milliliters. (1/4)

**Dosage:** 60 milliliters BDS (taken in the morning and evening on an empty stomach)

**Results:** With an IC50 value of 525.5 $\pm$ 100  $\mu$ g/ml, the study shows that the MKC formulation effectively inhibits the alpha-amylase enzyme, with a peak inhibition of around 52.42%. At the same time, the alpha-glucosidase enzyme

was significantly suppressed by traditional acarbose, with an IC50 value of 33.17 $\pm$ 17  $\mu$ g/ml and a maximal inhibition of around 98.47 $\pm$ 1.86%.

**Conclusion:** According to the study's findings, the MKC formulation significantly inhibited the glucosidase enzyme, with an IC50 of 591.1 $\pm$ 232.2  $\mu$ g/ml and a maximal inhibition of around 46.83 $\pm$ 15.95%. In contrast, the alpha-amylase enzyme activity was significantly reduced by conventional acarbose, with a maximal inhibition of 99.16 $\pm$ 0.3852% and an IC50 value of 24.97 $\pm$ 5.389  $\mu$ g/ml.

### Keywords:

The Spectrophotometric Assay Method, Madhumukthi Kudineer Chooranum (MKC)



## Microneedle and Nanodrug Delivery for Oral Mucosal Lesions – A Systematic Review and Meta Analysis

**Narmadha Chandran**

Senior lecturer, Department of Oral Medicine and Radiology, Department of Dentistry, Adhiparasakthi Dental College and Hospital, Melmaruvathur, India

### Abstract:

**Background:** Oral mucosal lesions present a diverse range of diseases requiring comprehensive diagnostic approaches and therapeutic interventions. Managing these lesions is challenging due to the critical functions of the oral cavity. Managing these lesions is challenging due to the critical functions of the oral cavity. Microneedle patches, with needles smaller than 1 mm, and nano patches, featuring nanoscale needles, represent innovative approaches to transdermal drug delivery.

**Objective:** The objectives of this systematic review were to assess the efficacy of Microneedle patches, with needles smaller than 1 mm, and nanopatches, featuring nanoscale needles, represent innovative approaches to transdermal drug delivery for the treatment of oral mucosal lesions and oral cancer.

**Methods:** Papers published in the Medline database, EMBASE, and the Cochrane Library before January 2024 will be included. This systematic review focuses on topical microneedling therapy and nano-formulations for oral mucosal lesions, emphasizing applications in conditions like oral candidiasis, oral cancer, and oral ulcers. Various studies explore the effectiveness of these delivery systems, showcasing advancements in targeted drug delivery, mucoadhesive fibers, and nanoparticulate platforms for treating oral lesions.

### Keywords:

Oral Mucosal Lesions, Nanodrug Delivery, Microneedles, Nano Mucoadhesive Patches, Drug Delivery Systems





## Non-Pharmacological Management of Orthodontic Pain Using Traditional Acupressure Technique- An *In-Vivo* Study

**Kavichithra Jothy**

Assistant Professor, Department of Orthodontics,  
Adhiparasakthi Dental College and Hospital,  
Dr.MGR University, India

### Abstract:

Orthodontic pain is the most common sequelae of orthodontic tooth movement (OTM). Pain and discomfort are considered to be subjective and exhibits significant individual variability. It may vary based on age, gender, pain threshold of an individual, duration and magnitude of orthodontic force applied. The common orthodontic procedures like placement of orthodontic separators, placement of archwire after bonding or elastics, E-chain activation, debonding and upgrading to bigger dimension wires, result in a painful experience for almost all patients. The most common group of medications used in orthodontics for pain relief are non-steroidal antiinflammatory drugs (NSAIDs). But these drugs can cause side effects and are also said to decelerate OTM. In order to reduce pain without affecting tooth movement, few nonpharmacological treatment modalities like low-level laser therapy and micro-pulse vibratory devices have been introduced, but are considered to cause side effects such as root resorption, gingival inflammation. One other traditional, non-pharmacological method that can be used to reduce dental pain is acupressure. Therefore, this study is aimed to evaluate the perception of reduction in the intensity of pain in patients undergoing orthodontic treatment by applying acupressure after orthodontic procedures.

### Keywords:

Acupressure, Orthodontic tooth movement, Orthodontic Pain, Non-pharmacological



## A Study on Association between Sella Turcica Bridging and Palatally Impacted Maxillary Canine amongst North Kerala Cohort

**Dr. V. Santhosh Kumar**

Senior Lecturer, Department of Orthodontics,  
Adhiparasakthi Dental College and Hospital. India

### Abstract:

Maxillary canine impaction is a dental anomaly found in 1% to 2% of clinical situations. Palatally displaced maxillary canine causes numerous clinical problems such as midline shift, root resorption and malocclusion. The Anterior contour of Sella is useful in predicting patient growth and in assessing craniofacial morphology. Studies have linked the Sella Turcica bridging to multiple hereditary development syndromes affecting the craniofacial region and various systemic disorders. It has been discovered that many dental anomalies such as tooth transposition, hypodontia, canine impactions and missing second premolars have association with Sella Turcica bridging.

The aim of this study was to determine if an association exists between Sella Turcica bridging and palatally impacted maxillary canines in North Kerala population. The study was conducted on a sample of 30 patients, aged 14-30 years with maxillary palatal canine impactions. The control group had 70 subjects with normally erupted canines, aged 14-30 years. The Sella parameters like Length, Diameter, and length to 3/4th of diameter was assessed in normal patients without canine impaction and patients with palatally impacted maxillary canine. It was found that there was a significant difference of Sella parameters between subjects and controls.

The mean dimensions of Sella were relatively short in patients with palatally impacted maxillary canine than the control group patients. Then the same parameters were evaluated between males and females. It was found that there was no significant difference in Length, Diameter,

and length to 3/4th of diameter of Sella between males and females of both subjects and the control group. Thus, Sella bridging highlights the risk of future palatal canine impactions, especially in children with a history of canine impaction in their parents or siblings and who are undergoing phase 1 orthodontic treatment

### Keywords:

Sella Turcica, Palatally Impacted Canine, Length, Diameter, Orthodontics





## Artificial Intelligence i.e., Neural Networking in Endodontics \ Pedodontics

### Dr. Chhaya Sharma

Senior Lecturer, Department of Pedodontics & Preventive Dentistry Kothiwal Dental College, Moradabad, India

#### Abstract:

**Introduction:** Artificial intelligence (AI) technology has mostly been used by dental practitioners to diagnose problems, plan treatments, make clinical judgments, and predict outcomes.

**Materials & Methods:** In endodontics, convolutional neural networks and artificial neural networks, two types of (AI) models, have been used to study the anatomy of the root canal system, measure the length of root canal, identify periapical pathology and root fractures, prediction of success of retreatment procedures, and dental pulp stem cells viability. Objective of study: The goal of this review is to assess AI's role in conservative dentistry and endodontics.

**Result:** Artificial intelligence plays a vital role in treatment of root canals and diagnosing dental related problems like hypersensitivity and undermined caries.

#### Keywords:

Artificial Intelligence; Artificial Neural Networks; Convolutional Neural Networks; Deep Learning; Machine Learning



## Influence of Different Implant Abutment Connection and Abutment Material on Stress Distribution in Maxillary First Premolar—A Three Dimensional Finite Element Analysis

**Shaikh Saleha Taranum Ilyas**

PG Student, Department of Prosthodontics, Aditya Dental College, Beed, India

**Ashwini Vilas Bharsakle**

Senior Lecturer, Department of Pedodontics & Preventive Dentistry Kothiwal Dental College, Moradabad, India

### Abstract:

#### Introduction:

- The replacement of missing teeth with dental implants is well documented as a feasible treatment with high success rates.
- Implant abutment connection plays an important role in long term success of dental implant.
- A key factor for success or failure of a dental implant is the manner in which stresses are transferred to the surrounding bone and depends on the type of loading, bone-implant interface, the shape and characteristics of the implant surface and the quality and quantity of the surrounding bone.
- Implant connections have been developed with different mechanical, biological, and esthetic characteristics.
- Two basic geometries are available: internal and external connections.
- External connections usually have an external hexagon on the implant platform, whereas internal connections can be divided into internal hexagons, internal octagons, and Morse taper connections

**Methodology:** Three dimensional models were obtained from decomposition of computerised tomography (sagittal

section) of the maxillary posterior region. Virtual geometry model (VGM) will be constructed using software. Once the VGM has been obtained, it will be processed by another software in order to generate the finite element mesh. The mesh which will be generated includes bone, implant and different implant abutment connection with two different material.

The Implants of maxillary first premolar having three implant abutment connection with two different material will be consider to complete the models for study will use under specific load. The stress levels were calculated as von Mises. Stresses

- The von Mises equivalent stress (MPa) at the implant bone interface will computed using FEA software.
- All computations were performed on both the 3-D implant models and the values of maximum von Mises equivalent stress on the implant and the bone will obtained and were tabulated and analyze for computation of the results.

### Keywords:

Dental Implants, Implant Abutment





## Newer Approaches to Pain Control and Anxiety Reduction in Children

**Haritha V G**

Intern, Paediatric and preventive dentistry, Adhiparasakthi Dental College and Hospital, Tamil Nadu, India

### Abstract:

Painless treatment procedure pave the way with cooperative and anxiety less situation especially in pediatrics.As a pediatric concern aspirating syringes may resemble as a symbol of fear and pain to them. If may led to the negative attitude of the child towards the treatment approach.The newer techniques which includes pharmacologically such as intranasal spray,centbucridine,jet injector techniques and non pharmacological measures as Low Level Laser Therapy (LLLT),Buzzy devices and cryoanesthesia will also diminish the pain and anxiety reduction of the patient which may insist the positive attitude of pediatric aspect.it will surely be a good interactive treatment manner between child and dentist. and also it makes the patient more comfortable in the clinic.this painless procedure makes the parents believe that their child is safe and encourage for further dental procedures.

### Keywords:

Painless procedure, LLLT, Anxiety reduction





## Evaluation of Nasopalatine Canal for Dental Implants- A CBCT Study

### Dr. Sandeep Kumar Bains

Professor & Head, Department of Oral Medicine & Radiology, Surrendera Dental College & RI, Sriganganagar, India

### Dr. Archana Bhatia

Professor, Department of Periodontics, Surrendera Dental College & RI, Sriganganagar, Rajasthan, India

#### Abstract:

**Background:** The nasopalatine canal plays a significant role in dental implant insertion. An incorrect assessment of the canal's placement could result in injury and perforation, which would traumatise the nerves and blood vessels and cause paresthesia in the premaxilla. Therefore, the anatomy and size of the nasopalatine canal should be carefully assessed before placing dental implants. This study assessed nasopalatine canal for dental implants in maxillary anterior region using CBCT.

**Methodology:** 56 patients requiring dental implants in maxillary anterior region aged between 18 to 60 years were selected and were subjected to CBCT scan using Newtom Giano CBCT machine. For assessment of implant site at maxillary anterior region, alveolar bone width in anterior region of canal at upper, middle and lower third, incisive foramen diameter, nasopalatine canal length, canal diameter in the floor of the nasal fossa and nasopalatine canal morphology were determined.

**Results:** Out of 56 patients, males comprised 30 and females 26. The mean bone height in 11 region was  $15.6 \pm 3.9$ , in 12 was  $16.2 \pm 2.7$  mm, in 13 was  $15.5 \pm 2.4$  mm, in 21 was  $13.7 \pm 4.2$  mm, in 22 was  $14.7 \pm 3.6$  mm, in 23 was  $16.7 \pm 1.5$  mm. A non-significant difference was observed when comparing the bone height at different implant sites ( $P > 0.05$ ). The mean bone width at 3 mm and 6 mm from alveolar crest in 11 region was 4.3 mm and 5.3 mm, in 12 was 5.7 mm and 6.2 mm, in 13 was 3.7 mm and 4.6 mm, in 21 region was 4.1 mm and 5.5 mm,

in 22 region was 4.6 mm and 5.7 mm and in 23 region was 4.0 mm and 4.9 mm respectively. A significant difference was observed when comparing the bone width at 3 mm and 6 mm at different implant sites ( $P < 0.05$ ). Nasopalatine canal type was A in 42, B in 13 and C in 1 patient. The mean alveolar bone width in anterior region of canal at upper third was 10.1 mm, at middle third was 7.4 mm and at lower third was 5.2 mm. The mean incisive foramen diameter (IFD) was 4.6 mm, nasopalatine canal length (NPCL) was 13.5 mm and canal diameter in the floor of the nasal fossa (CDNF) was 3.8 mm. A significant difference was observed on comparing nasopalatine canal type ( $P < 0.05$ ).

**Conclusion:** For the clinician to assess implant placement in the maxillary esthetic zone, CBCT imaging of the NPC is crucial. It is possible to prevent intraoperative and postoperative complications such as hemorrhage, sensory impairment, etc.

#### Keywords:

Cone Beam Computed Tomography, Dental Implant, Nasopalatine Canal





## Role of Cytokines in Biomolecular Transitional Axis of Oral Potentially Malignant Disorders into Oral Malignancies-A Review

**Dr. M. Srinath**

Post Graduate, Department of Oral Maxillofacial Pathology and Microbiology, Adiparasakthi Dental College and Hospital/Dr.MGR Medical University, India

**Dr. Shamala. S**

Professor and Head of the Department, Department of Oral Maxillofacial Pathology and Microbiology, Adiparasakthi Dental College and Hospital/Dr.MGR Medical University, India

### Abstract:

Cytokines play a major role in day to day activities upto most dangerous malignant conditions of the oral cavity. Among them IL-1 beta is the initiator of any inflammatory process and the most destructive due to release of several enzymes that destroys the surrounding oral microenvironment. Premalignant conditions act as a intermittent condition between the physiological and pathological conditions of the oral cavity. It mainly act as the coordinator in the carcinogenesis of oral cavity. Often Premalignant conditions goes un noticed as a result there will be lack of treatment intervention and leads to malignant transformation with poor prognosis. Most often the premalignant disorders mainly occurs due to the use of chewable forms of tobacco. Hence the molecular mechanical axis revolves around cytokines. The role of chemokines goes often unnoticed. The type of chemokines released mainly depends upon the receptor binding sites. CXCR5 is the most important for the process of chemotaxis which occurs to prevent the further chaos in the oral environment. The levels of cytokines increases by 7 to 10 times in premalignant conditions which may differ according to the site, size and type of lesion occurred. Although the unhealthy habits like smoking and use of other forms of tobacco have been proved to be the

risk factor in the run through process of carcinogenesis. The earliest biomarkers change known to occur is rise in serum and salivary cytokines levels which act as a transitional axis for the development of cacinomas of oral cavity. This levels also alters the salivary microbiome and creates a favourable micro environment for the carcinogenic transition. IL-6 IL-8 and TNF-alpha are the most crucial biomarkers that has a huge role in the transition of premalignant conditions into malignant ones. As a result inially the salivary pH gets altered which opens the gates for disbyosis in the oral environment. Initial changes of any potentially malignant conditions starts with the blanching of oral mucosa, followed by irritation while eating, reduced salivary flow and atlast the keratin gets deposited in an attempt to counter the pathological changes in the oral environment which results in restricted mouth opening. The mechanism beyond fibroblast activation is due to the existence of fibroblasts in human-derived vocal fold leukoplakia (VFL). The autocrine loop within VFL fibroblasts to self-stimulate by secreting IL-6, TGF- $\beta$  through the IL-6/JAK2/STAT3 pathway. Nuclear Factor  $\kappa$ B(NF- $\kappa$ B)-dependent overproduction of certain cytokines is similarly observed in patients with OPMD. The HOTTIP genes which acts as an antagonist of Homeobox genes is observed in the pathogenesis of Oral Submucous Fibrosis. This prevents the normal differentiation of oral mucous membrane cells by blocking the transcriptory pathways which leads to nonsense mutations in the cell cycle. This presentation is an attempt to describe the role of cytokines in potential malignant disorders of oral cavity in transition to malignancy.

### Keywords:

Cytokines, Biomarkers, Carcinogenesis, Premalignant conditions, Transitional axis. Micro environment, JAK /STAT pathway, CXCCR5 receptors, HOTTIP genes, Nuclear Factor kappa beta, Vocal fold leukoplakia



## Salivary Proteomics - An emerging Diagnostic Tool

**Shivapriya. P**

UG Student, Department of Oral Pathology & Microbiology,  
Adiparasakthi Dental College and Hospital, India

### Abstract:

The diagnostic use of saliva has attracted the attention of numerous investigators because of non-invasive nature and relative simplicity of collection. The main reason for using saliva as a diagnostic tool is in fact it contains serum constituents. Advances in molecular biology, genomics & proteomics have revealed the importance of in detection of many diseases. The salivary proteomics have proven to be a novel approach in search for protein biomarkers for detection of different local & systemic diseases, currently more than 1400 salivary proteins have been identified. These proteins were analysed in human saliva by means of High Performance Liquid Chromatography Electrospray Ionization Mass Spectrometry (HPLC-ESI MS). In conclusion, salivary proteome analysis represents an important field both for diagnosis and monitoring of various diseases and could be considered a novel approach to prevention of various pathological conditions.

### Keywords:

Saliva, Salivary Gland, Proteomics, HPLC-ESI-MS,  
Biomarkers



## Importance of Molecular Techniques in Oral Pathology

**Savaniya. K**

UG Student, Oral Pathology , Adiparasakthi Dental College and Hospital, India

### Abstract:

The Practice of pathology is currently undergoing significant change, in large part due to our advances in the analysis of DNA, RNA and Proteins in tissue. These advances have permitted improved biologic insights into many developmental, inflammatory, metabolic, infections, and neoplastic diseases. Moreover molecular analysis has also led to improvements in accuracy of disease diagnosis. This will go a long way in providing a more precise diagnosis which in turn will give the patient a risk free treatment protocol tailored for his individual needs. For clinicians involved in the diagnosis and care of patients with OSCC, OPMD, understanding of commonly used molecular diagnostic techniques is imperative to gain useful insight from the expanding literature investigating the development of OSCC and the relationship with the clinical presentations which encompass OPMDs. It is likely that, in the future, these methods will increasingly enter into the day-to-day diagnosis and management of patients. Current risk stratification of individuals for the development of oral squamous cell carcinoma (OSCC), including those with oral potentially malignant disorders (OPMD) remains based upon clinical detection of visibly abnormal mucosa and tissue biopsy with with histological assessment for the presence of OSCC or oral epithelial dysplasia. Recent years have seen continuous developments in molecular detection technology, which has a higher sensitivity and specificity, shorter detection time and increased automation, and performs an important role in the early and rapid detection of infectious disease pathogens.

The present study summarizes recent progress in molecular diagnostic technologies

such as PCR, Isothermal amplification, genechips and high

-throughput sequencing for the detection of infectious disease pathogens, and compares the technical principles, advantages and disadvantages, applicability and costs of these diagnostic techniques.

### Keywords:

Molecular, OPMD, Specificity



## Evaluation of Cytotoxicity, Antimicrobial activity and Shear Bond Strength of Orthodontic Adhesive Containing Green Synthesised Titanium, Silver and Zinc Nanoparticles-An In-Vitro Study

### Dr. D. Hemamalini

Assistant Professor, Sathyabama Dental College and Hospital, Orthodontics and Dentofacial Orthopedics, Sathyabama Institute of Science Technology, India

### Dr. K. M Shahul Hameed Faizee

Professor and Head of the Department, Sathyabama Dental College and Hospital, Orthodontics and Dentofacial Orthopedics, Sathyabama Institute of Science Technology, India

### Dr. Xavier Dhayanath. L

Associate Professor, Sathyabama Dental college and Hospital, Orthodontics and Dentofacial Orthopedics, Sathyabama Institute of Science Technology, India

### Abstract:

**Aim:** To Green synthesis Titanium Zinc and silver nanoparticles, subsume them into Orthodontic adhesive resin and evaluate their cytotoxicity, antimicrobial activity and shear bond strength.

**Materials and Methods** Green synthesis of Titanium Silver and zinc nanoparticles from Azadirachta Indica Light cure orthodontic adhesive (Transbond XT) was blended with Titanium (nanospheres 50 nm avg. part. size, 1 % w/w Sigma-Aldrich Biotechnology, St Louis, MO, USA) Using Vortex and IKA<sup>®</sup> T25 digital ULTRA-TURRAX<sup>®</sup> machine at 3400 rpm for 2 min in a dark room (Rotor stator mechanism). Characterisation done using FTIR, SEM and Antimicrobial activity evaluated using Disc diffusion method against five organisms Shear bond strength evaluated using Instron

universal testing machine. Cytotoxicity evaluated using Brine shrimp Lethality Assay.

**Results:** For S.Mutans microorganisms, Silver nano particles (11.00±0.845) had highest zone of inhibition followed by titanium dioxide (8.00±0.845) and Zinc (7.00±0.845) as compared to the control (0.00±0.00).

The maximum force for the control was 8.121±2.354, for titanium dioxide it was 8.217±2.829, for silver nano particles it was 7.011±1.733 and for the zinc nano particles it was 7.535±1.923. Silver nano particles had presented with the least load.

**Conclusion:** The study findings concluded Zinc and silver had exhibited better properties than Titanium nano particles when incorporated into orthodontic adhesive.

### Keywords:

Nanoparticles, Antimicrobial, Orthodontic adhesive, Shear Bond strength





## Unravelling the Hidden Potential of Natural Disinfectants

### Sathya R

Post Graduate Student, Department of Pediatric and Preventive Dentistry, AECS Maaruti College of Dental Sciences, Bangalore, Karnataka, India

### Konde S

Post Graduate Student, Department of Pediatric and Preventive Dentistry, AECS Maaruti College of Dental Sciences, Bangalore, Karnataka, India

### Abstract:

**Background:** Medicinal plants have been used traditionally to cure numerous diseases. Recently, there has been a sudden increase in the use of herbal extracts as an alternative approach to modern day medicines due to the advantages of being safe besides being affordable and ease of procurement. Garlic, Curcumin and Coconut oil possess antimicrobial properties against oral pathogens.

**Aim:** To evaluate the antimicrobial efficacy of:

Garlic, Curcumin, Virgin Coconut Oil (VCO) and four types of Cow urine (normal cow, pregnant cow, photo activated cow urine and Cow urine distillate) against oral pathogens.

To compare the antimicrobial efficacy of these extracts and Cow Urine with the standard antimicrobials Amoxycillin and Nystatin

**Methodology:** Cow urine samples from normal and full-term pregnant cow were collected using sterile container. Photo activated urine was prepared by keeping fresh cow urine in sunlight for 72 hours in glass sealed bottle. Cow urine distillate was procured. The fresh forms of Curcumin and garlic were powdered, and extracts were obtained by Soxhlet's extraction process. VCO was produced from fresh endosperm of coconut by wet extraction process. The antibacterial efficacy was assessed by broth dilution and disc diffusion assay.

**Results:** Garlic and Cow urine exhibited the maximum

antibacterial efficacy with the highest zone of inhibition against oral pathogens followed by curcumin and the difference between these were statistically significant. Irrigant and medicament was formulated which was tested invivo.

### Keywords:

Natural disinfectants, irrigants, garlic – curcumin

## Deciphering the Role of TLR3 Polymorphisms in Oral Squamous Cell Carcinoma Pathogenesis: A Case-Control Study

**Dr. Aproova Sharma**

Associate Professor, Oral and Maxillofacial Pathology and Microbiology, Sardar Patel Post Graduate Institute of Dental and Medical Sciences, Lucknow, India

### Abstract:

**Background:** Oral squamous cell carcinoma (OSCC) poses a significant global health burden, particularly prevalent in regions like India. Despite advancements in diagnostics, early detection of OSCC remains challenging, necessitating novel diagnostic modalities. Toll-like receptors (TLRs) and their polymorphisms have emerged as potential contributors to OSCC pathogenesis.

**Methods:** This retrospective case-control study examined 120 individuals, including 60 OSCC cases and 60 healthy controls. Genotyping of TLR3 single nucleotide polymorphisms (SNPs) rs3775290 and rs3775291 was conducted using TaqMan allelic discrimination real-time PCR. Functional consequence analysis and TLR3 expression profiling were performed to elucidate their role in OSCC pathogenesis.

**Results:** Significant associations were observed between TLR3 SNPs and OSCC susceptibility, particularly at loci rs3775290 and rs3775291. Functional consequence analysis revealed pathogenic mutations in TLR3 genes, potentially affecting protein structure and function. TLR3 overexpression was detected in OSCC lesions, implicating its involvement in disease progression.

**Conclusion:** TLR3 polymorphisms play a pivotal role in OSCC pathogenesis, offering potential biomarkers for diagnosis and prognosis. Targeting TLR3-mediated pathways may hold promise in personalized OSCC management. Further research is warranted to elucidate the precise

mechanisms underlying TLR3-mediated carcinogenesis in OSCC, facilitating the development of tailored therapeutic strategies.

### Keywords:

Oral Squamous Cell Carcinoma (OSCC), Toll-Like Receptors (TLRs)







## Phytochemical Analysis of the Herbal Formulation of Toothpaste in the Management of Dentinal Hypersensitivity

### Dr. V. Anitha

Professor and Head, Department of Periodontology,  
Chettinad Dental College and Research Institute, India

### Dr. S. Agila

Reader, Department of Periodontology, Chettinad Dental  
College and Research Institute, India

### Dr. C. Sugirtha

Senior Lecturer, Department of Periodontology, Chettinad  
Dental College and Research Institute, India

### Abstract:

Herbal toothpaste containing ingredients like clove, and cinnamon, have potential benefits in the management of dentinal hypersensitivity, but some gaps exist in knowledge about their long-term efficacy, safety, interactions, standardizations, and consumer perception. The novelty of this herbal desensitizing toothpaste is natural ingredients with minimal side effects. Methanol extracts of combinations of clove, and cinnamon, will be prepared. The phytochemical analysis such as anti-inflammatory, antioxidant, antimicrobial and antifungal, anticancer, and cytotoxicity of the formulation containing cloves, cinnamon was analyzed for fabrication of tooth paste.

### Keywords:

Herbal Toothpaste, Clove, Cinnamon, Herbal Desensitizing  
Toothpaste



## Analysing the Link between Fat Composition and Periodontal Status - A Cross-Sectional Study

**Dr. D. Smriti**

Senior Lecturer, Department of Periodontology, Chettinad Dental College and Research Institute, Chennai, India

### Abstract:

In recent years, research has increasingly highlighted the intricate connections between systemic health and oral health. Among these interrelations, the association between body fat percentage and periodontitis is emerging as a subject of significant interest and inquiry as the prevalence of obesity is growing exponentially across the globe. Periodontitis, a chronic inflammatory condition affecting the tissues supporting the teeth, has long been recognized as a multifactorial disease influenced by various systemic factors. Meanwhile, the role of adipose tissue, beyond its mechanical function, has been expanding, revealing its involvement in systemic inflammation and immune modulation. Adipocytes secrete multiple biologically active molecules, such as hormones and cytokines (known as adipokines). Abnormal adipokine secretion is observed in hypertrophied adipocytes. Infiltration of immune cells such as macrophages is enhanced in obese adipose tissue, and the interaction with adipocytes promotes abnormal secretion of adipokines. In periodontal disease, the virulence factors of periodontal pathogens, act on monocytes, macrophages, and gingival fibroblasts in the periodontal tissue. These cells induce an inflammatory response in the periodontal tissue via inflammatory mediators, such as IL1 $\beta$ , TNF $\alpha$ , prostaglandin E2(PGE2), and matrix metalloproteinases (MMPs), and tissue destruction progresses. This chronic periodontal inflammatory reaction leads to leakage of host- and microbial-derived factors into the bloodstream. Once in the systemic circulation, these factors could contribute to the pathophysiology of systemic diseases, either directly or indirectly.

**Materials and Methods:** An observational study was conducted on 100 participants aged 18-25 years. Body composition parameters such as subcutaneous fat, visceral fat, body fat percentage were measured using weighing scale with high precision sensors. Periodontal status was assessed through clinical examination, measuring probing depth, bleeding on probing and Periodontal inflammatory surface area (PISA) index.

**Results and Conclusion:** Participants with higher body fat percentage demonstrated an increased risk of periodontal disease, with a positive correlation observed between visceral, Subcutaneous fat and clinical parameters of periodontitis. This study provides evidence supporting an association between fat composition and periodontitis, highlighting the potential impact of obesity on oral health. Understanding these relationships may have implications for public health strategies aimed at promoting both systemic and oral health.

### Keywords:

Periodontitis, Periodontal Inflammation, Fat Percentage, Visceral Fat, Subcutaneous Fat, PISA





## Design and Development of Dentaltech (Mobile App) Platform using AI and Machine Learning for Diagnosis, Providing Treatment Plan and Educating People of Dental Care Deprived Region of India

Siddhika Rabade

Y.M.T. Dental College and Hospital, Navimumbai, India

### Abstract:

Currently, mobile phones are regularly used by people of all ages and from all the geographical areas. This could only be possible with the extensive availability of telecom and internet facilities in India. India has more than 700 million internet users, making it the second-largest online market after China. The Digital India program, launched in 2015, significantly enhanced the country's digital infrastructure. The use of smart phones has also proved its effectiveness in medicine to promote prevention and healthy behaviors, allowing everyone to access reliable information anytime and anywhere.

Dentistry is undergoing tremendous change, with the significant advances being made in both diagnosis and treatment of the disease due to digitalization. Smart phones can have its advantages in dentistry as it can be availed for video graphic learning, remote consultation, and sharing oral health information. 72.2% of the population of India resides in rural areas. There is large disparity in availability of dental services among rural and urban regions in India. The dentist to population ratio is one dentist for every 250,000 residents in rural areas, while the ratio is estimated as one dentist to every 10,000 in urban areas. The very low number of dentists in rural areas, a distribution perpetuated by the current landscape of professional oral health training, is a significant barrier to access dental care among rural residents.

This gap can be bridged by the use of technology which can raise the oral hygiene status in rural area by generating awareness about good oral hygiene practices and making use of video-consultation and tele-dentistry for preliminary dental management.

With the objective of improving oral health status in Indian population, we started working on project to develop an app to promote awareness about oral health, diagnose the disease and educate patient about oral hygiene practices and also to establish a good patient doctor communication through teledentistry. The project includes use of Machine learning and artificial intelligence to diagnose the oral disease and generate treatment plan for the dental care deprived regions of India. It also includes features like community building, anxiety management, FAQ, blog, video learning and dental treatment tracking options.

### Keywords:

Machine Learning, Artificial Intelligence, Dentaltech, Oral cancer, Precancerous lesions, Dental checkup



## Guardians of Oral Integrity: Exploring Ethical Boundaries in Dental AI Integration

**Dr. Ohm Nijandhan Kumar**

Associate Professor, Department of Conservative Dentistry and Endodontics, Adhiparasakthi Dental College and Hospital, India

### Abstract:

The integration of artificial intelligence (AI) into dentistry has ushered in a new era of technological advancements, promising improved diagnostic accuracy, treatment planning, and patient care. However, as this transformative wave sweeps through the dental healthcare landscape, the ethical dimensions of AI integration remain largely unexplored. This research, titled “Guardians of Oral Integrity,” endeavors to bridge this knowledge gap by delving into the intricate ethical boundaries surrounding the integration of AI in dental practice.

### Rationale/Gaps in Existing Knowledge:

The integration of AI in dentistry represents a groundbreaking paradigm shift, yet the ethical implications of this shift are not well-understood. Existing literature lacks a comprehensive exploration of the unique ethical considerations tied to AI applications in dentistry. This research seeks to address this gap, recognizing the pressing need for ethical guidelines as AI technologies become increasingly prevalent in dental healthcare.

**Novelty:** “Guardians of Oral Integrity” offers a novel perspective on the ethical dimensions of dental AI integration. By navigating uncharted territories where technology intersects with patient care, the research uncovers subtle ethical concerns specific to the dental field. The study contributes fresh insights that go beyond generic ethical frameworks, shedding light on the nuanced considerations that arise from the integration of AI into dental practice.

**Objectives:** The primary objective of this research is to systematically analyze and articulate the ethical considerations associated with AI integration in dentistry. The study aims to provide a robust framework for understanding, assessing, and mitigating ethical challenges. By doing so, it seeks to guide dental practitioners, policymakers, and technology developers through the evolving ethical landscape of AI implementation in dental healthcare.

**Methods:** This research employs a multidisciplinary approach, combining ethical analysis, stakeholder consultations, and case studies. Through qualitative data collection methods such as interviews and surveys, a diverse range of perspectives is gathered from dental professionals, AI developers, and patients. This ensures a comprehensive exploration of the ethical landscape surrounding AI in dentistry, capturing the intricacies and potential concerns associated with the integration of advanced technologies in oral healthcare.

**Expected Outcome:** Anticipated outcomes include the development of a robust ethical framework tailored to the challenges posed by AI integration in dentistry. This framework will serve as a guide for responsible and ethically sound implementation of AI technologies in dental practice. By contributing to the ongoing discourse on the responsible use of AI in healthcare, this study emphasizes the unique ethical considerations within the field of dentistry, positioning the dental community as guardians of oral integrity in the era of technological innovation.

### Keywords:

Dental AI Integration, Ethical Considerations, Oral Healthcare, Technology Ethics, Guardianship in Dentistry





## Prevalence of Styloid Process Elongation and the Type of Elongation Among Patients using Digital Orthopantomograph

**Archana Sriramulu**

Resident intern, Tagore Dental College and Hospital, The Tamil Nadu Dr. M.G.R. Medical University, Chennai, India

**Dr. Sindhu Poovannan**

Senior Lecturer, Oral Medicine and Radiology, Tagore Dental College and Hospital, The Tamil Nadu Dr. M.G.R. Medical University, Chennai, India

### Abstract:

**Aim:** To evaluate the prevalence of styloid process elongation and the type of elongation among patients in a tertiary care dental hospital in Chengalpattu district using digital Orthopantomograph (OPG).

**Objective:** The objective of this study was to measure the length of right and left styloid process; to assess for elongation; find the type of elongation based on Langlais classification; to understand the prevalence of unilateral / bilateral elongation of styloid process and also to evaluate any relationship between gender, age and styloid process elongation, using digital OPG.

**Materials and Methods:** A Cross sectional Prevalence study was performed at Tagore Dental College and Hospital in the Department of Oral Medicine and Radiology. Patients of age above 18 years were included. The apparent length of the styloid process was measured with the help of the measurement tools on the accompanying software (Villa sistemi, Rotograph EVO D, India).

**Results:** Elongation of styloid process was present among 25.2% of the study population. Bilateral elongation of styloid process is more than prevalent than unilateral elongation. Among unilateral elongation, right side showed more prevalence than left. Also, Langlais type I elongation is most prevalent followed by type II and III. No statistical

significance was found in relation to Styloid process elongation, gender and age.

**Conclusion:** Patients who present with complaints related to tonsillar pain / dental pain / ear pain should be approached from the perspective of styloid process elongation. Misinterpretation of patient symptoms can be definitely eliminated with the usage of digital orthopantomography.

### Keywords:

Styloid Process, Elongation, Orthopantomography, Langlais Classification

## Tag Free Early Oral Cancer Detection

**M. Charulatha**

UG-CRRI, Oral Medicine and Radiology, Tagore Dental College and Hospital, Chennai, India

### Abstract:

Prevalence of oral cancer is increased and it is considered the 16th most common cancer worldwide. For the early diagnosis of potentially malignant lesion, traditional approaches like biopsy are unlikable as it was an invasive procedure. Therefore, there is a need for development of non-invasive procedure to differentiate between non-malignant and potentially malignant lesions. Label free optical spectroscopy is a non-invasive tool that includes Raman, fluorescence and diffuse reflectance spectroscopy used for the diagnostic purpose. This approach is based on light interaction with biological matter, which further produces absorption, reflection, scattering and fluorescence of tissues. That provides information about physical, chemical and metabolic state of tissues. Merits of this technique over traditional approaches include cost, painlessness, speed and sensitivity. And therefore, a surgeon can effectively diagnose the cancer with minimal trauma to the surrounding healthy tissues.

### Keywords:

Oral Cancer, Label Free Optical Spectroscopy



## Estimating the Prevalence and Incidence of Bifid Mandibular Canal Using Digital Orthopantomography

Amaradeepika J

CRRI, Oral Medicine and Radiology, Tagore Dental College and Hospital, Chennai, India

### Abstract:

**Objective:** The bifid mandibular canal (BMC) is a significant anatomical variation that holds critical implications for dental surgery and local anesthesia administration. This study aims to estimate the prevalence and incidence of BMC using digital orthopantomograms (OPGs), thereby contributing to safer dental practices.

**Methods:** A retrospective analysis was conducted on digital OPGs obtained from patients over a two-year period at a dental radiology center. The images were reviewed independently by two oral radiologists for the presence of BMCs, with discrepancies resolved through consensus. Demographic data were correlated with the incidence of BMCs to identify potential risk factors.

**Results:** There Were 1000 OPGs Examined, Out of Which 450 Were of Women And 550 Were of Men. Bifid Mandibular Canals Were Observed In 73 Out Of 1000 Digital Panoramic Images. There Was No Statistically Significant Correlation Found with Regard to Age. Bifid Mandibular Canals were found with a male-To female ratio of 1:1.43. The most frequently encountered type of BMC Was Type I (72.6%) Followed By Type II (21.9%).

**Conclusion:** The study highlights the utility of digital OPGs in identifying BMCs, with a prevalence rate consistent with previous literature. The findings underscore the importance of recognizing this variation in the mandibular canal to avoid surgical complications and to enhance the efficacy of local anesthesia. Further studies are recommended to explore the clinical implications of BMCs in dental surgery and anesthesia.

### Keywords:

Bifid Mandibular Canal (BMC), Orthopantomograms (OPGs)



## Use of Dental Lasers among Teaching Faculty of Private Dental Colleges in Chennai-A Questionnaire Based Cross-Sectional Study

### Amirtha

CRRI, Department of Public Health Dentistry, Tagore Dental College and Hospital, Tamilnadu, India

### Dr. Vaishnavi

Professor & Head of the Department, Department of Public Health Dentistry, Tagore Dental College and Hospital, Tamilnadu, India

### Abstract:

Lasers were developed with the hope of overcoming some of the drawbacks posed by conventional methods of dental procedures.

The aim of the study was to assess the Knowledge, Attitude and Practices of lasers among teaching faculty of private dental colleges in Chennai.

The cross-sectional survey was conducted among teaching faculty of several private dental colleges in Chennai. The self-administered validated questionnaire consisting of 15 questions regarding the dental lasers were designed and answered by 150 teaching faculty. Pearson Chi-Square test was used for statistical analysis.

Overall 126(84%) responded that lasers should be the part of Undergraduate Curriculum and 131 (87.3%) felt that cost factor is the main reason for not using lasers in dentistry.

### Keywords:

Lasers, Light Amplification, Cross sectional study







## Impact of Oral Health on the Oral Health Related Quality of Life (OHRQoL) among Individuals with Intellectual Disabilities in Chennai

**Syed Althaf I**

BDS Intern, Department of Public Health Dentistry,  
Tagore Dental College and Hospital, Tamil Nadu, India

### Abstract:

**Introduction:** The risk of developing oral diseases is higher among individuals with disabilities relative to those who do not have any form of impairment or disability.

**Aim:** To assess the impact of oral health on the oral health related quality of life of patients with intellectual disabilities in Chennai.

**Methodology:** It was a Cross-sectional School-based study. The estimated sample size was 122. Oral Health Related Quality of Life of the Participants with intellectual disabilities was assessed using the short-form versions of the Parental- Caregivers Perceptions Questionnaire (P-CPQ) and impact of Oral health on the family life of participants with intellectual disabilities using Family Impact Scale (FIS) Clinical Examination of Oral Health Status using self-designed proforma based on the WHO Basic Oral Health Survey 2013

**Results:** Spearman Rho correlation coefficient was used to measure the extent of the association between oral health and P-CPQ scores. The results showed that most of the parents ( $2.98 \pm 0.918$ ) are concerned about their child's bad breath with regard to P-CPQ and with regard to the family impact scale most of the parents replied that their child needs more attention from them ( $2.93 \pm 0.89$ ) and sleep disturbances ( $2.80 \pm 0.49$ ) among parents. Most of them has decayed teeth 52 (42.6%) compared to filled 14 (11.5%) and missing teeth 17 (13.9%). Majority of the participant has fair oral hygiene 83 (68.1%) and mean modified gingival index score was higher among the moderately disabled children

(0.87).

**Conclusion:** There seems to be positive correlation between the oral symptoms of P-CPQ with the oral health status of the study population with stronger correlation recorded for oral hygiene.

### Keywords:

Disabled Children, Oral Health, Parental-Caregivers Perception Questionnaire, Family Impact Scale



## Weight of Tobacco Product Waste (TPW) Vs The Power of mHealth in Tobacco Control

### Swathi M

BDS Intern, Department of Public Health Dentistry,  
Tagore Dental College and Hospital, Tamil Nadu, India

#### Abstract:

**Introduction:** In the realm of public health and environmental consciousness, the escalating concern surrounding Tobacco Product Waste (TPW) stands at the intersection of global health challenges and environmental sustainability. As the deleterious effects of tobacco consumption persist, the consequential environmental impact of discarded tobacco products poses an alarming threat. By examining the weight of TPW and harnessing the power of mHealth, it seeks to illuminate innovative approaches that not only mitigate the environmental footprint of tobacco but also empower individuals and communities to combat tobacco-related health challenges through digital interventions.

**Aim:** The aim is to contribute valuable insights to the ongoing discourse on both environmental sustainability and public health, offering a comprehensive perspective that bridges the gap between the weight of TPW and the potential transformative power of mHealth in the context of tobacco control.

**Methods:** The methods of this mHealth technology includes Geotagging, Social networking, gaming, virtual worlds, population based cessation, Whistle blowers, manual development, Online mobile cessation training, etc. that are explained in the poster.

**Discussion:** Cigarette butts and other tobacco product wastes (TPW) are the most common items picked up in urban and beach cleanups worldwide. Cellulose acetate-based cigarette filter is considered the world's most littered form of plastic, that takes nearly 10 years to get degraded. With close to 4.5 trillion butts polluting the global environment, this form of litter accounts for close to 26,454 tonnes of

waste generated annually in India. TPW contains all the toxins, nicotine, and carcinogens found in tobacco products, along with the plastic nonbiodegradable filter attached to almost all cigarettes sold in the United States and in most countries worldwide. Though one of the neglected waste streams, Oceans Conservancy, an international advocacy group, categorised cigarette butts as second among the top three articles collected during beach clean-ups globally.

According to WHO, the use of mobile and wireless technologies to support the achievement of health objectives (mHealth) has the potential to transform the face of health service delivery across the globe. Mobile phones are currently used in connection with a wide range of public health initiatives and examples exist from both developing and developed countries. The advantages of mobile technologies are vast: availability, accessibility, innovation, cost effectiveness, real-time access to information, and portability are just a few.

**Conclusion:** The advantages of mHealth technologies are vast as availability, accessibility, innovation, cost-effectiveness and portability can be implemented for the control of TPW and several tobacco policies. This poster reviews on the toxicity of TPW and recommends several policy approaches to mitigation of this ubiquitous environmental blight through recent mHealth interventions, latest policies and programs.

#### Keywords:

Tobacco Products Waste, TPW, mHealth Technology, Cigarettes, Mobile Health Technology





## Plastic Free Dentistry – The Need of the Hour

**Sushmitha S**

BDS Intern, Department of Public Health Dentistry,  
Tagore Dental College and Hospital, Tamil Nadu, India

### Abstract:

**Introduction:** With the growing concern over environmental pollution, the dental industry is increasingly scrutinized for its contribution to plastic waste. The urgency and feasibility of transitioning towards plastic-free practices in dentistry. Traditional dental practices heavily rely on single-use plastic items such as disposable gloves, packaging, and equipment. However, the persistent nature of plastic waste poses significant environmental threats, including pollution of land and water bodies, endangering marine life, and contributing to climate change.

**Aim and Objectives:** This abstract aims to highlight the importance of adopting plastic-free alternatives in dentistry to mitigate environmental harm and promote sustainable healthcare practices

**Methods:** Review of existing literature, surveys, and case studies were conducted to evaluate current plastic usage in dental procedures and identify feasible alternatives.

**Discussion:** The Significant amounts of plastic waste are generated daily in dental clinics worldwide. However, promising alternatives such as biodegradable materials, reusable instruments, and eco-friendly packaging are available and increasingly adopted by progressive dental practices.

**Conclusion:** Transitioning towards plastic-free dentistry is imperative to reduce the environmental footprint of dental healthcare. By embracing sustainable alternatives, dental professionals can contribute to a healthier planet while maintaining high standards of patient care. However, further research and collective efforts are needed to facilitate widespread adoption and integration of plastic-free practices in the dental industry.

### Keywords:

Eco Friendly, Plastic Free Practice, Biodegradable, Green Dentistry, Aquatic Life

## Perception of Dental Practitioners Towards Oral Health Education Apps: A Cross-Sectional Survey in Chennai

**Swarnamalika S**

Public Health Dentistry, Tagore Dental College & Hospital, Tamil Nadu, India

### Abstract:

**Introduction:** In recent years, with the rise of smartphones, there's been a flood of mobile applications aiming to teach people about oral health development. These apps aim to enhance oral health awareness and promote preventive dental care practices. Understanding the perception of dental practitioners towards such apps is crucial in evaluating their potential impact on oral health education and practice. This study aimed to assess the perception of dental practitioners in Chennai towards oral health education apps.

**Methods:** A cross-sectional survey was conducted among 388 dental practitioners working in private clinics, medical centres, or hospitals with or without affiliated to dental colleges in Chennai and willing to participate in the survey using an online close-ended questionnaire. Pearson correlation performed to assess the correlation. The level of statistical significance of all tests is  $P < 0.05$ .

**Results:** Using Pearson correlation, we examined the relationship between perceptions of oral health education applications and clinical experience. The analysis indicated positive correlations for several questions, such as the perceived usefulness of the apps for dentists (0.06) and patients' acceptance of recommended apps (0.009). Additionally, questions related to patient acceptance of oral health education apps (0.069), potential reduction in dentist visits with app usage (0.008), ease of use of mobile oral health education apps (0.006), and the ability of patients to receive precise dental care instructions via smartphone to prevent worsening conditions (0.039) were positively

correlated with affiliation to a dental college.

**Conclusion:** The findings of this study shed light on the perception of dental practitioners towards oral health education apps in Chennai. While there is recognition of the potential benefits of these apps in enhancing oral health education, several challenges and concerns need to be addressed to optimize their integration into clinical practice effectively. Further research and development efforts are needed to create oral health apps that fit exactly what dentists and their patients want and need.

### Keywords:

Dental Practitioners, Oral Health Education Apps, Chennai



## A Revolutionized Era of Point of Care Testing (POCT) and Salivary Bio-Sensors

**Anushya R**

BDS Intern, Department of Public Health Dentistry,  
Tagore Dental College and Hospital, Tamil Nadu, India

### Abstract:

**Introduction:** Biosensors, crucial in chemical analysis, employ biological recognition for diverse applications, ranging from testing toxins to health diagnostics. Featuring a bio-sensitive layer, these devices stabilize biological components, converting them into electrical signals through an electro-enzymatic approach. Oral fluid-based biosensors, utilizing GCF and saliva, find applications in dentistry for conditions like dental caries and oral cancer. Biosensors are also explored for COVID-19 diagnostics, targeting host biomarkers such as lymphocyte count and CRP.

**Aim:** This research aims to investigate and elucidate the pivotal role of biosensors in dentistry, emphasizing their applications in disease diagnosis and monitoring.

**Objective:** The primary objective is to comprehensively explore biosensors in dentistry, reviewing principles, categorizing types, investigating applications, analysing relevance during the COVID-19 pandemic, evaluating advantages in dental contexts, and synthesizing findings to draw meaningful conclusions about their impact and future prospects.

**Methods:** Applications in dentistry, such as dental caries, periodontitis, oral cancer, and dental fluorosis, were explored. The potential use of biosensors during the COVID-19 pandemic, focusing on relevant biomarkers, was discussed.

**Conclusion:** Biosensors, especially using oral fluids, offer benefits like non-invasive sample collection and greater sensitivity, showcasing their potential in revolutionizing diagnostic and monitoring processes in various fields.

### Keywords:

Biosensors, Disease Diagnosis, Oral Health, Monitoring, Covid-19



## Newer Innovations in Treatment of Premalignant Condition

### R. Nirupama

Resident Intern, Department of Oral Pathology, Tagore Dental College and Hospital, Tamil Nadu, India

### D. Umamaheswari

Resident Intern, Department of Oral Pathology, Tagore Dental College and Hospital, Tamil Nadu, India

#### Abstract:

**Introduction:** Oral submucous fibrosis is a chronic, inflammatory and potentially malignant mucosal disease closely associated with habitual chewing of areca nut chewing. The typical clinical symptoms of oral submucous fibrosis include progressive bleaching, burning sensation, increased mucosal stiffness, and the presence of characteristic fibrous bands, which bring about restricted oral movements as well as strenuous chewing and swallowing. The incidence rate of oral submucous fibrosis has a steady climb in recent years.

Multiple administration methods are available including habit cessation, physical therapy, surgical procedure, and medical treatment. Medical treatment by local drug administration of triamcinolone is the most widely used corticosteroid in clinical practice. Local administration through topical application and submucosal injection have drawback of limited drug residence and osmotic barrier respectively. Microneedle system is considered as a promising drug delivery platform in transmucosal applications. Microneedles could not achieve sufficient adhesion with wet mucosal surfaces only by mechanical anchoring, so a microneedle patch with enhanced wet adhesion capacity was used for the treatment of oral submucous fibrosis.

Silk fibroin (SF) was selected as the substrate material for microneedles. The predominant advantages of SF are the remarkable cytocompatibility, robust mechanical properties, hypoallergenic features, and tunable biodegradation. But pure SF microneedle system lacks wet adhesion capacity.

Pyrogallol-rich tannic acid (TA) displays remarkable wet-resistant adhesion properties, antiinflammation and wide availability. A double-layered mucoadhesive microneedle drug delivery patch comprising a SF microneedle under-layer and a mucoadhesive SF-TA top-layer provides the promising treatment for oral submucous fibrosis.

#### Keywords:

Oral Submucous Fibrosis, Local Drug Administration, Double Layered Microneedle Patch, Silk Fibroin, pyrogallol-rich tannic acid



## Enhancing Confidence: The Psychological Impact of Dental Veneers

**Hariprath**

Post graduate, Dept of Aesthetic Dentistry, Saveetha Dental College, Chennai, India

### **Abstract:**

Veneer is one of the most revolutionary techniques developed over the past 25 years. When dental professionals realized that porcelain can bond onto the composite and therefore onto the tooth surface, it changed everyone's view. An attractive appearance with veneer has shown to increase people's self-confidence, personal relationship, and even the success in his or her career. Hence with veneer, it is possible to create amazing esthetic results and yet retain considerable solid tooth structure. Successful result depends not only on the clinical and laboratory technique used for veneer fabrication, but also on an understanding of scientific background of the procedure involved since the placement of porcelain is an irreversible procedure it requires conservative tooth preparation. Therefore, the criteria for porcelain veneer must be carefully reviewed before the procedure is undertaken for its long term success. The purpose of this case report is to present the most important parameters such as inclusion and exclusion criteria, shade selection, tooth preparation, veneer placement(cementation), patient maintenance for determining long-term success of porcelain veneers.

### **Keywords:**

Enamel Bonding, Esthetics, Porcelain Veneer





## Assessment of Parental Awareness on Premature Loss of Primary Teeth: A Cross-Sectional Study

**Sabreen Faseeha. A**

CRRI, Department of Pediatric and Preventive Dentistry, Tagore Dental College and Hospital, Tamilnadu, India

**Dr. Ahsana Asif**

Senior Lecturer, Department of Pediatric and Preventive Dentistry, Tagore Dental College and Hospital, Tamilnadu, India

**Dr. Kalpana**

Senior Lecturer, Department of Pediatric and Preventive Dentistry, Tagore Dental College and Hospital, Tamilnadu, India

### Abstract:

**Aim and Objectives:** The aim of the study was to assess the parental awareness on premature loss of primary teeth.

The objective of this study was to compare the parental awareness on premature loss of primary teeth based on parent's age, gender and different socio-economic status.

**Methods:** A cross-sectional study was conducted among 384 parents who reported to the department of Pediatric & preventive dentistry with their children between age of 4 and 10 years for their dental needs. A questionnaire consisting two sections was distributed. The first section had 8 questions concerning the descriptive data of parents & children. The second section had 10 questions regarding parental awareness. The parental awareness was then calculated using on 4point Likert scale.

**Statistical Analysis:** Statistical analysis was done using SPSS software version 27.0. Descriptive and inferential analysis was carried out. Chi-square test was used to test the association between socio-economic status, age, gender, awareness of parents on premature loss of primary teeth.

**Results:** Only 10.5% participants out of 384 agreed that primary teeth are essential. 51.6% participants thought that caries was the leading cause of premature loss. whereas 43% participants responded that teeth will erupt out of alignment when space is not preserved for the eruption of permanent teeth. Only 8.3% participants had knowledge about the appliance used after the premature loss of primary teeth. 7% participants thought child needs regular dental-check up

**Conclusion:** The results of this study show lack of awareness among parents on importance of primary teeth. Hence, educational programs on importance of primary teeth and various treatment modalities available for treating spaces after the premature loss of primary teeth will increase parent's knowledge to provide better oral health to their children.

### Keywords:

Premature Tooth Loss, Dental Caries, Parental Awareness, Space Maintainers







## A Questionnaire Based Study on Post mucormycosis Rehabilitation by Prosthodontists in Tamilnadu and Pondicherry

### Kanmani A

PG Student, Department of Prosthodontics, Tagore Dental College, Tamilnadu, India

### Jacob M Philip

Professor, Department of Prosthodontics, Tagore Dental College, Tamilnadu, India

### Helen Mary Abraham

Reader, Department of Prosthodontics, Tagore Dental College, Tamilnadu, India

### Abstract:

**Background:** Covid-19 pandemic during 2019 left high mortality rates with mucormycosis (black fungus) as its deadly complication. The spread of black fungus has become global; hence it's crucial to undertake necessary measures to prevent its spread. A multidisciplinary team would be best suited to handle early diagnosis and management of covid-19 associated mucormycosis due to difficulties and complexity involved. The diagnosis of mucormycosis is quite challenging. The treatment should start as quick as possible in order to decrease the death rates. Hence, the knowledge of clinical features and risk factors of mucormycosis is necessary for the prosthodontist in order to provide prompt treatment to the patient.

**Materials and Methods:** A cross-sectional questionnaire based online survey was undertaken amongst 183 Prosthodontists in Tamilnadu and Pondicherry. The questionnaire consisted of 15 questions which evaluated their practice related aspects towards management of postsurgical mucormycosis patients and the role of prosthodontists in the multidisciplinary management. Statistical analysis was done by using t-test, ANOVA, Pearson and correlation tests. The statistical significance

was defined at  $P < 0.05$ .

**Results:** 93% of the study participants were private practitioners in the age group of 25 – 45 years. 106 out of 183 participants had good knowledge about clinical features, prevalent conditions ( $n=106$ ) and its mode of spread ( $n=106$ ). They have reported using various prosthesis, grafts and obturators for management of post surgical mucormycosis defects.

**Conclusion:** Most of the participants were aware about mucormycosis, had reported cases of mucormycosis during Covid-19 and had also employed different methods for prosthetic rehabilitation of patients. However, due to the increase of mucormycosis cases during Covid-19, the practitioners have adopted various methods for rehabilitation. Hollow bulb obturators were found to be the popular mode of rehabilitation. Further research is necessary to develop a standardized protocol for management of post mucormycosis defects.

### Keywords:

Black Fungus, Covid-19, Mucormycosis, Obturators, Prosthodontists



## Use of Digital Technologies in Prosthodontic Clinical Practice among Prosthodontists in Tamilnadu and Pondicherry- A Questionnaire Survey

### Aswitha G

PG Student, Department of Prosthodontics, Tagore Dental College, Tamilnadu, India

### Jacob M Philip

Professor, Department of Prosthodontics, Tagore Dental College, Tamilnadu, India

### Helen Mary Abraham

Reader, Department of Prosthodontics, Tagore Dental College, Tamilnadu, India

### Abstract:

**Background:** Digital dentistry includes treatments performed by means of digital or computer-controlled components rather than using mechanical or electrical equipment. The advancement of digital technology and the commencement of Computer-Aided Design (CAD) and Computer-Aided Manufacturing (CAM) and 3D printing has brought large changes to the traditional manufacturing method, where manual work is carried out after oral impression taking.

**Aim:** To conduct a questionnaire survey on use of digital technology in prosthodontic clinical practice among Prosthodontists in Tamilnadu and Pondicherry.

**Materials and methods:** A cross-sectional questionnaire based online survey was undertaken amongst 183 Prosthodontists in Tamilnadu and Pondicherry (Group 1 - Both private practitioners and teaching faculty, Group 2 - Private practitioners, Group 3 - Teaching faculty). The questionnaire consisted of 21 questions which evaluated their awareness, knowledge and practices towards digital dentistry. Statistical analysis was done using Chi-square test in each group, using Statistical Package for the

Social Sciences (SPSS) version 23.0. The p-value 0.05 was considered significant.

**Results:** Majority of the study participants were private practitioners in the age group of 25 - 45 years(93%).Among the three groups private practitioners had good knowledge, practice and awareness about the application of digital technologies.

**Conclusion:** Most of the participants were aware about digital technology in dentistry. The private practitioners showed better understanding about the digital technology. However, to make them familiar with CAD/CAM, dental education programs, workshops and hands on program should be conducted which will enable an emerging dentist who will be well versed with digital dentistry.

### Keywords:

Computer-Aided Design Computer-Aided Manufacturing, Dental Practice, Digital Dentistry, Prosthodontists





## Assessment of Parental Awareness on Initial Decalcification and Practice of Oral Health Care of Children Aged 1-6 years in an Indian Population - A Cross-Sectional Study

### Nandhini. K

Resident Intern, Department of Pediatric and Preventive Dentistry, Tagore Dental College and Hospital, India

### Dr. Ahsana Asif

Senior Lecturer, Department of Pediatric and Preventive Dentistry, Tagore Dental College and Hospital, India

### Dr. Kalpana

Senior Lecturer, Department of Pediatric and Preventive Dentistry, Tagore Dental College and Hospital, India

### Abstract:

**Aim and Objective:** The aim of the study is to assess the parental awareness on initial decalcification and practice of oral health care of children aged 1-6 years in a south Indian population. The objective of this study is to assess and compare the parental awareness on initial decalcification, practice of oral health care in children among parents of different age groups, gender and socio economic status.

**Methods:** A cross-sectional questionnaire study was conducted among 384 parents who reported to the department of Pediatric & preventive dentistry with their children under the age of 1-6 for their dental needs. The questionnaire consisted of two sections. The first section had 8 questions concerning the descriptive data of parents & children. The second section had 14 questions, for awareness of initial decalcification and practice on oral health care of children, along with a laminated picture of initial decalcification. Sufficient time was given to fill the questionnaire and the questionnaire was collected back by the principal investigator. 4 point Likert scale was used to

score the parental practice.

**Statistical Analysis:** Data was entered in Microsoft excel sheet (version 2016) and subjected to statistical analysis in SPSS software version 27.0. Descriptive and inferential analysis was carried out. Chi-square test was used to test the association between socio-economic status, age, gender, awareness and practice of parents.

**Results:** Most of the parents identified initial decalcification as stains followed by decay. Many parents answered the reason for initial decalcification was attributed to the consumption of sweets and chocolates and also agreed that treatment was necessary, failure of which can worsen the condition resulting in pain. The results showed the mothers in age group 30 and above showed high awareness and good oral health practice, but overall awareness and practice was poor.

**Conclusion:** The results of this study show decreased awareness among parents on initial decalcification. Continuous awareness program/ educational program can be introduced to increase parent's awareness and to improve good oral hygiene practice irrespective of age, gender, socio economic classes.

### Keywords:

Decalcification, Oral health care, Primary Teeth



## Transfer of Guided Emergence Profile Developed using Customized Provisional Implant Restoration and Cemented with Abutment Replica Technique

### Nishaali MM

PG Student, Department of Prosthodontics, Tagore Dental College, Tamilnadu, India

### Jacob M Philip

Professor, Department of Prosthodontics, Tagore Dental College, Tamilnadu, India

### Helen Mary Abraham

Reader, Department of Prosthodontics, Tagore Dental College, Tamilnadu, India

#### Abstract:

Achieving optimal emergence profile is crucial for the aesthetic and functional success of implant-supported restorations. This abstract presents a novel technique for transferring a meticulously developed guided emergence profile from a customized provisional implant restoration to the definitive restoration using the abutment replica technique.

The methodology involves the fabrication of a customized provisional restoration, meticulously contoured to establish an ideal soft tissue emergence profile. Through this provisional restoration, the emergence profile is guided, ensuring proper contouring and support for the surrounding soft tissues. Once the desired emergence profile is achieved, an abutment replica is created, precisely replicating the contours and emergence profile of the provisional restoration.

During the final restoration phase, the abutment replica is utilized as a template for transferring the guided emergence profile to the definitive implant-supported prosthesis. By cementing the definitive prosthesis onto the abutment replica, the meticulously developed emergence profile is

accurately transferred, ensuring optimal aesthetics and function.

This technique offers several advantages, including enhanced predictability in achieving desired emergence profiles, improved soft tissue support, and simplified chairside procedures during the final restoration phase. Furthermore, by utilizing the abutment replica technique, clinicians can achieve consistent and reproducible results across various implant cases.

In conclusion, the transfer of guided emergence profile developed using customized provisional implant restoration and cemented with abutment replica technique represents a valuable addition to the armamentarium of implant dentistry. This innovative approach facilitates the attainment of optimal aesthetic outcomes and functional stability, ultimately enhancing patient satisfaction and long-term success of implant-supported restorations.

#### Keywords:

Implant, Abutment, Emergence Profile, Provisional Restoration, Excess Cement





## Digital Denture

### R. Janani

CRRI, Department of Prosthodontics, Tagore Dental College and Hospital, Tamil Nadu, India

### K. Kamali

CRRI, Department of Prosthodontics, Tagore Dental College and Hospital, Tamil Nadu, India

### Abstract:

Digital technology facilitates the manufacturing of complete dentures; Clinical efficiency was based on the Sato score for quantitative assessment of complete denture quality. the denture base compared to the conventional technique. Milling dentures from a PMMA puck eliminates the polymerization shrinkage inherent in the conventionally processed PMMA dentures digital dentures, which are at least supposed to be manufactured more rapidly and which avoid inconvenient and complex techniques. Digital dentures or digital prostheses arise from the workflow that involves scanning of conventional impressions of edentulous jaws and bite registrations, or previous dentures to obtain data for virtual tooth arrangement and denture base design (Computer-Aided Design-CAD) followed by machine processing (Computer-Aided Manufacturing-CAM). This is a solid foundation to further refine clinical research in prosthodontics with the overall aim of strengthening the clinical evidence supporting the use of digital dentures in edentulous patients.

### Keywords:

Conventional Denture, Digital Denture, Patient Related Outcomes, Prospective Clinical Study

## Digital Smile Designing

### N. Keerthana

CRRI, Department of Prosthodontics, Tagore Dental College and Hospital, Tamil Nadu, India

### J.M. Karpaga Priya

CRRI, Department of Prosthodontics, Tagore Dental College and Hospital, Tamil Nadu, India

#### Abstract:

The dental industry is changing like never before: Corporate entities are making it harder for small practices to complete. Technology is leading to drastic changes in the industry and in the way of dental practices. Digital smile design combines dentistry, psychology and technology to provide confidence smiles. We call it emotional dentistry, fusing tech innovation with human emotion. DSD technique is unique dental treatment planning tool that strengthens diagnostics vision, enhances predictability and improves communication between dental providers and patients. In essence the entire concept rests on analyze of the facial and dental proportions and by incorporating a preselected series of high quality digital photographs and videos into a systemic, effective communicative approach. That supports the evaluation, diagnostic, planning, implementation of treatment processes. Unique to the specific case. Simply DSD one can create a treatment plan which is unique to dental needs and will give the smile you deserve.

#### Keywords:

Dental Industry, Dental Practices, DSD Technique





## Evaluation of the Effect of Fixed Prosthodontic Treatment on the Gingival Status of Abutment Teeth

### Akilash Raviraaj

UG Student, Department of Prosthodontics, Tagore Dental College, Tamilnadu, India

### Helen Mary Abraham

Reader, Department of Prosthodontics, Tagore Dental College, Tamilnadu, India

### Jacob M Philip

Professor, Department of Prosthodontics, Tagore Dental College, Tamilnadu, India

### Abstract:

Fixed Partial Dentures are an excellent means of restoring endodontically treated teeth and rehabilitating partially edentulous arches. However, gingivitis associated with FPD is a major post- rehabilitation prosthetic treatment concern. Common post-rehabilitation complications are gingival inflammation, periodontal disease, pathological changes in subgingival restorations and creation of biofilm causing soft tissue inflammation. Gingival inflammation can be caused by various factors which may be patient related, operator related and prosthesis related . Patient related factors include poor maintenance of oral hygiene, weak dexterity, lack of use of additional aids for maintenance of oral hygiene like tufted brushes and dental floss. Prosthesis related factors like overhanging margins, irregular surface texture, over-contoured restorations and quality of ceramic also have been found to contribute to poor gingival health.

This study aimed at evaluating and comparing the gingival status of the abutment tooth with non-abutment teeth in patients having Fixed Partial Denture (FPD). 25 study participants were examined and evaluated using Sulcular Bleeding Index(SBI)and Simplified Oral Hygiene Index(OHI-S) for gingival health and overall oral hygiene respectively. Other parameters like age, gender, material and margin of the FPD were also recorded.

The SBI of abutment was found to be higher than that for non-abutment in both males and females, but was found to be significantly higher in females than males. OHI-S was found to have significant correlation with SBI of both abutment and non-abutment teeth.

### Keywords:

Fixed Prosthodontic Treatment, Gingival Status, Abutment Teeth



## Air Microbial Analysis during Implant Placement-Delve into the Microbial Realm

### Arsha Johny

UG Student, Department of Prosthodontics, Tagore Dental College, Tamilnadu, India

### Helen Mary Abraham

Reader, Department of Prosthodontics, Tagore Dental College, Tamilnadu, India

### Jacob M Philip

Professor, Department of Prosthodontics, Tagore Dental College, Tamilnadu, India

### Abstract:

The oral cavity harbors numerous microorganisms that might become airborne during various dental treatment procedures thus contaminating the air in the dental operatory.

**Aim and objectives:** This study aims to assess the microbial contamination of air in the dental clinic during implant placement.

**Materials and Methods:** Sampling of aerosols generated by implant placement in 20 patients was carried out using blood agar plates which were incubated at 37°C for 48 hours, calculated using colony-forming units (CFU), and the results were statistically analyzed.

**Results:** The results showed a significant difference in the presence of microbes within the dental operatory due to the aerosols generated during the implant placement ( $p < 0.01$ ). The mean CFU before implant placement was 0.020507498 CFU/cm<sup>2</sup>/h. and after implant placement was 0.05877 CFU/cm<sup>2</sup>/h.

**Conclusion:** It is concluded that there is microbial contamination of the air in the dental operatory during implant placement.

### Keywords:

Aerosol, Dental Implant, Dental Operatory, Microbial Contamination







## Comparative Evaluation of Stress Distribution Patterns and Location of Centre of Resistance During Temporary Anchorage Device Assisted Molar Intrusion with and Without Micro-Osteoperforation - A Three-Dimensional Finite Element Analysis

### Dr. S. Aswini Soundharya

Senior Lecturer, Orthodontics and Dentofacial Orthopaedics, Tagore Dental College and Hospital/ Tamilnadu Dr.M.G.R.Medical University, TamilNadu, India

### Dr. Sumanth Kumar Rangarajan

Professor, Orthodontics and Dentofacial Orthopaedics, Adhiparasakthi Dental College and Hospital/Tamilnadu Dr.M.G.R.Medical University, TamilNadu, India

### Abstract:

**Objective:** To evaluate and compare the stress distribution patterns, the position of the center of resistance, and the amount of molar intrusion in temporary anchorage device (TAD) assisted molar intrusion with Micro-Osteo Perforation (MOP) and TAD assisted molar intrusion without MOP using finite element method.

**Materials and Methods:** Using FEM, fixed orthodontic appliance was constructed with stainless steel metal brackets and molar bands. Full strap up with MBT prescription 0.022 slot was designed in the model. The simulation was to replicate and compare the clinical situation of a NiTi closed coil spring exerting a force of 1.96 newtons directed apically on the first molar under the influence of 6 micro-osteoperforations, using mini-implants as anchorage units with NiTi closed coil spring exerting a force of 1.96 newtons directed apically on the first molar without the influence of 6 micro-osteoperforations, using mini-implants as anchorage units.

**Results:** The amount of molar intrusion achieved was higher in MOP assisted molar intrusion. The centre of resistance of the molar on the MOP side has moved 0.4mm favourably when compared with that on the control side. The total Von Mises stress experienced by the molar during MOP assisted molar intrusion is lesser than the non MOP assisted molar intrusion.

**Conclusion:** The study revealed that MOP reduced the stress experienced and, reduced the resistance to tooth movement. The center of resistance shifted to a more favorable position. The displacement achieved was greater when Micro-Osteoperforation was done.

### Keywords:

Micro-Osteoperforation, Molar Intrusion, Finite Element Analysis, Centre of Resistance



## Resorbable Miniplates Vs Conventional Plates-Ease of Usage

### Sneha Mathialagan

CRRI, Department of Oral and Maxillofacial Surgery, Tagore  
Dental College and Hospital, Tamilnadu, India

### Dr. Israel Nathanael

Senior Lecturer, Department of Oral and Maxillofacial  
Surgery, Tagore Dental College and Hospital, Tamilnadu,  
India

### Dr. R. Riaz

Professor & Head of Department, Department of Oral and  
Maxillofacial Surgery, Tagore Dental College and Hospital,  
Tamilnadu, India

### Abstract:

Miniplates were introduced in the late 1960s and early 1970s as a significant advancement in oral and maxillofacial surgery. They were used in oral and maxillofacial surgery for direct fixation of fractured bones and stabilization during bone healing. These plates are typically thinner and smaller than conventional plates, allowing for less invasive surgical procedures and reduced soft tissue irritation. Initial research and development in the field of biomaterials led to the creation of resorbable materials suitable for medical implants, including plates and screw. Resorbable mini plates represent an innovative alternative to traditional fixation devices in oral and maxillofacial surgery, offering unique advantages and considerations depending on the specific clinical scenario and patient needs. Unlike traditional titanium or stainless steel plates, resorbable plates gradually degrade and are absorbed by the body over time. These plates are made from materials such as polylactic acid (PLA), polyglycolic acid (PGA), or their copolymers. In spite of having various superior properties, Resorbable plates are still not extensively used due to its limitation in mechanical strength and risk of premature degradation. In our study, we have compared the ease of usage in Resorbable miniplates vs Conventional plates in oral and maxillofacial reconstruction.

### Keywords:

Resorbable Miniplates, Maxillofacial Reconstruction



## A Study on Biggest Concern to the Society-Knowledge and Attitude regarding Third Hand Smoking among Non-smokers and Exploring Innovative Ways to Detect it

**Dr. Vaishnavi. S**

Reader and Head(I/C), Public Health Dentistry, Tagore Dental College and Hospital, TamilNadu, India

**Dr. Pallavi Ammu Thomas**

Senior Lecturer, Public Health Dentistry, Tagore Dental College and Hospital, TamilNadu, India

### Abstract:

**Background:** Thirdhand smoke is made up of the pollutants that settle indoors when tobacco is smoked. Thirdhand smoke poses a potential health hazard to non-smokers, especially children. Studies conducted regarding knowledge about Third hand smoking and its ill effects among the people are limited. Hence this study was attempted with an aim to assess the knowledge and attitude regarding third hand smoking among people attending dental outreach program in Chennai and to create awareness in future based on the results obtained.

**Materials and methods:** It was a Descriptive Cross - sectional survey conducted between the age group of 25-65 years with the estimated sample of 385 and convenience Sampling technique was used. The comparisons between the genders were performed using the Chi-square test. A significance value of  $p < 0.05$  was set as statistically significant.

**Results:** Statistically Significant difference were noted between the genders with regard to the questions such as smoking among pregnant women leading to low-birth-weight infant (0.001) and regarding the Smoke particles getting settled into furniture and walls (0.023).

**Conclusion:** Majority of the participants who attended the

outreach program had high knowledge and positive attitude regarding third hand smoking. Since third-hand smoke is a relatively new concept, there is no strict policy to ban THS and hence it is important and essential to protect people from long-term tobacco hazards.

### Keywords:

Third Hand Smoking, Smoke Particles, Outreach, Health Hazard



## Pleomorphic Adenoma – A Curious Case Report

### Sharon Sylvi Livingston

CRRI, Department of Oral and Maxillofacial Surgery, Tagore Dental College and Hospital, Tamilnadu, India

### Dr. Israel Nathanael

Senior Lecturer, Department of Oral and Maxillofacial Surgery, Tagore Dental College and Hospital, Tamilnadu, India

### Dr. R. Riaz

Professor & Head of Department, Department of Oral and Maxillofacial Surgery, Tagore Dental College and Hospital, Tamilnadu, India

### Abstract:

Pleomorphic Adenoma is the most common benign salivary gland neoplasm with various morphological patterns. It is a slow progressing tumor which when left untreated will cause morbidity and occasional death.

Pleomorphic adenoma accounts to about 40 – 70% of the tumors prevailing in major and minor salivary glands with hard palate being the commonest site subsequent to upper lip, buccal mucosa, tongue, floor of mouth, retromolar trigone.

Although pleomorphic adenoma is a benign tumor, appropriate care is required to prevent increasing enlargement of the mass, facial nerve impairment, risk of malignant degeneration, and recurrence after surgical resection.

The aim of this paper is to discuss the case report of a 37 year old woman with pleomorphic adenoma of the hard palate.

### Keywords:

Pleomorphic Adenoma, Hard palate, Salivary gland neoplasm





## Assessment of Oral Health Status and Salivary Parameters Among Smokers and Non-Smokers Aged Between 30 to 60 Years in South India: A Cross-Sectional Study

**Dr. Soundarya SP**

Senior Lecturer, Department-Public Health Dentistry,  
Tagore Dental College and Hospital, Tamilnadu, India

### Abstract:

**Aim:** To assess and compare the oral health status and salivary parameters among smokers and non-smokers aged between 30 to 60 years in South India.

**Methodology:** A descriptive cross sectional study was conducted among smokers and non-smokers aged between 30 to 60 years in South India. Oral hygiene was assessed by using Simplified Oral Hygiene Index (OHI-S). Saliva was collected for the evaluation of salivary pH, salivary flow rate, salivary buffering capacity and salivary lactate dehydrogenase. To compare continuous variables between the groups ANOVA was used. Chi square test was used to compare categorical variables between the groups. The level of significance was set at  $p < 0.05$ .

**Results:** Smokers had poor oral hygiene status when compared to non-smokers. The mean levels of salivary pH, flow rate and buffering capacity was significantly lower among smokers than non-smokers. The mean level of salivary lactate dehydrogenase was significantly higher among smokers than non-smokers.

**Conclusion:** It was concluded that smokers had poor oral hygiene than non-smokers. Salivary lactate dehydrogenase levels were significantly higher among smokers than non-smokers. Salivary pH, Salivary flow rate and Salivary buffering capacity was lower among smokers than non-smokers.

### Keywords:

Oral Health Status, Smokers, Non-Smokers



## A Rare Case of Mandibular Third Molar Displaced into Submandibular Space: A Complication of Mandibular Third Molar Extraction

### Nirmal Kumar. R

CRRI, Department of Oral and Maxillofacial Surgery,  
Tagore Dental College and Hospital, Tamil nadu, India

### Dr. Israel Nathanael

Senior lecturer, Department of Oral and Maxillofacial  
Surgery, Tagore Dental College and Hospital, Tamil nadu,  
India

### Dr. R. Riaz

Professor & Head of Department, Department of Oral and  
Maxillofacial Surgery, Tagore Dental College and Hospital,  
Tamil nadu, India

### Abstract:

Archer in 1975 defined impaction of tooth as "A tooth which is completely or partially unerupted and is positioned against another tooth, bone or soft tissue so that its further eruption is unlikely, described according to its anatomic position". A likely cause for impaction to occur is the growth pattern as mentioned in the orthodontic theory by Durbeck.

Accidental displacement of mandibular third molars or their roots into neighboring anatomical spaces, notably the submandibular region, during extraction, is a rare but significant complication. Comprehensive preoperative assessment, meticulous surgical techniques, and precise radiographic imaging play pivotal roles in successful management. Adhering to established protocols is imperative to mitigate potential complications and ensure optimal outcomes.

This case report presents displaced mandibular third molar into submandibular space and its management.

### Keywords:

Impaction, SubmandibularRegion, Extraction



## Meliorism in Dentistry

**Shreya V**

CRRI, Department of Orthodontics and Dentofacial  
Orthopedics, Tagore Dental College and Hospital,  
Tamilnadu, India

### **Abstract:**

Why should dentistry be sustainable? An anthropogenic global warming, human act is causing irreversible damage to life on earth by increasing sea levels, ocean acidification and ecosystem destruction. With 1,80,000 dental professionals in India, 303 dental institutes and over 5,000 dental laboratories, everyday consumables and materials used at these places would contribute to environmental pollution. Sustainable dentistry is a topic often ignored among dental professionals. The FDI's project(2021) designed to educate public, Dental professional and Laboratory technicians is making sustainability a high priority using more environmentally friendly dental supplies and materials without compromising on patient safety & optimal care. Dentistry as a profession should integrate sustainable development goals into daily practice and support a shift to green economy in the pursuit of healthy lives and well-being. In this paper I will highlight on the current literature & evidence on efficient sustainable practices to achieve meliorism in dentistry.

### **Keywords:**

Sustainability In Orthodontics, Ecological Balance,  
Sustainability, Global Warming, Dental Waste



## Tele-Orthodontics- A Life Saver during Pandemic

### K Shrinithi

CRRI, Department of Orthodontics and Dentofacial Orthopedics, Tagore Dental College and Hospital, Tamilnadu, India

### Sneha R

CRRI, Department of Orthodontics and Dentofacial Orthopedics, Tagore Dental College and Hospital, Tamilnadu, India

#### Abstract:

**Introduction:** According to World Health Organization (WHO), telehealth (telemedicine, tele dentistry, etc.) is the provision of services related to health- care where the distance is a critical factor. Such services can be provided through the use of communication technologies, with the goal of continuing education, and necessary information exchanging to diagnose, treat, predict and prevent diseases

Patients receiving orthodontic treatment require multiple check-up visits to their orthodontist to regulate their appliances over an extended period that sometimes may take quite 2 years. Most of the orthodontic patients were not able to receive the care they needed during this pandemic and the closing of clinics that followed. In this study, the main objective is to evaluate the role of Telehealth and orthodontics in this constrained period of the pandemic for the follow-up of Orthodontic treatments.

**Materials and Methods:** Study design: Our study involves 30 patients in total, where 15 patients did not receive any further therapy and 15 patients had Tele-orthodontics treatment, with 10 patients receiving bonding treatment, 10 receiving mid-treatment, and 10 receiving retention appliances. The communication tools used in our study and proposed in our model of tele-orthodontics include an online questionnaire using google form once every 15 days, tele calling with google meet once a month and frontal, side profile and occlusal view (if possible) photos via WhatsApp

messenger.

**Results:** Tele-orthodontics proved to be the only option to complete some orthodontic tasks during the pandemic because it provided a means of communication between the dentist and the patient. Most of the patients who underwent bonding (66.7%), on retainer (96.7%) and during mid-treatment (93.3) maintained good oral hygiene during the course of treatment. 93.3% of the patient's appliance on retainer was holding tight in place with no discomfort and during the Mid treatment, 70% of the patients were comfortable while speaking and 63.3% noticed changes in their appearance. Overall, Tele orthodontics was more time saving and more desirable economically to both practitioners and patients.

**Conclusion:** Tele-Orthodontics is experiencing rapid growth and fierce competition. Most of the patients maintained good oral hygiene, and also had a positive perception of the use of Tele-Orthodontics.

**Acknowledgments:** We are thankful to the Department of Orthodontist and Dentofacial Orthopaedics from Tagore Dental College & Hospital, Tamil Nadu, India

#### Keywords:

Tele Orthodontist, Pandemic, Orthodontist, Treatment







## Effectiveness of Pharmacological Interventions for the Cessation of Smoking Tobacco Among Smokers Aged 18years and Above: A Systematic Review and Meta-Analysis

**Dr. Pallavi Ammu Thomas**

Senior Lecturer, Public Health Dentistry,  
Tagore Dental College and Hospital, Tamilnadu, India

**Dr. Vaishnavi. S**

Reader and Head (I/C), Public Health Dentistry,  
Tagore Dental College and Hospital, Tamilnadu, India

### Abstract:

**Background of the Study:** Pharmacological interventions have been evaluated for their success in achieving smoking discontinuation. The most commonly evaluated and used amongst these has been nicotine replacement therapy, but some people prefer a treatment that does not use nicotine. Varenicline was developed in 1997 and is described as a selective nicotinic receptor partial agonist. It was designed to selectively activate the nAChR, mimicking the action of nicotine and causing a moderate and sustained release of mesolimbic dopamine. Thus, it was suggested, should counteract withdrawal symptoms consequent upon low dopamine release during smoking cessation attempts. But limited studies are conducted to find the effectiveness of varenicline in smoking cessation which has turned out to be the need of this present systematic review and meta-analysis study.

### Aim of the Study:

- To assess the efficacy of Nicotine Replacement Therapy (NRT) when compared to Varenicline for the cessation of tobacco smoking among smokers aged 18 years and above
- To assess the efficacy of Bupropion when compared

to Varenicline for the cessation of tobacco smoking among smokers aged 18 years and above

### Methodology:

- The two investigators will independently perform the searches in following databases namely - Pubmed, The Cochrane Library, EBSCO, Ovid and Wiley's Online and CTRI ongoing trials with unique search strategies for each databases.
- No restrictions on publication date will be applied
- Only studies in English language will be taken
- The search strategy will be based on controlled vocabulary [Mesh Terms] of the Pubmed database along with free keywords that will be combined with the Boolean operators.
- Risk of Bias assessment is done for both individual and combined studies taken in the systematic review study
- Meta-Analysis using forest plot is done at the end for the effect size estimation of the studies taken for the systematic review.

### Result:

- The present Systematic review suggested that on comparing head to head between NRT and Varenicline, Varenicline efficacy ranged from 16.5% - 73.3% in comparison to NRT which ranged from 6.6% - 43.2% which meant Varenicline was approximately twice more effective than NRT.
- Similarly, When head to head comparison between Bupropion and Varenicline was seen, range of efficacy for varenicline was from 43.9% - 72.3% whereas for Bupropion it ranged from 29% - 57%.

### Conclusion:

- The existing evidence supports a role for Bupropion and Varenicline in smoking cessation in clinical practice.
- This review suggests that Varenicline proves to be more efficacious than both NRT and Bupropion at short term, whereas long term effectiveness is still needs to be more studied.

### Keywords:

Pharmacological Intervention, Tobacco, Meta-Analysis



## Delayed versus Simultaneous Implant Placement with Ramus Block Grafts: A Retrospective Cohort Study

### Senem Askin Ekinci

Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Marmara University, Istanbul, Turkey

### Ceren Kucuk

Department of Prosthodontics, Faculty of Dentistry, Marmara University, Istanbul, Turkey

### Gokhan Gocmen

Department of Oral and Maxillofacial Surgery, Faculty of Dentistry, Marmara University, Istanbul, Turkey

### Abstract:

**Purpose:** This study compared the graft stability and implant success of delayed implantation versus simultaneous implantation with autogenous grafts.

**Methods:** The study sample comprised a population of patients who underwent autogenous block bone grafting using the ramus of the mandible. Patients with data from 1 year of follow-up were divided into two groups according to implantation approach: delayed implantation and simultaneous implantation. Outcome variables were 3D volume changes (the bone graft volumes at post-implantation and 1-year follow-up, resorption volume, and resorption rate of the bone graft), 2D linear changes (the bone graft width at post-implantation and 1-year follow-up, 2D resorption amount, and resorption rate of the bone graft), marginal bone loss, and implant success.

**Results:** The final sample comprised 21 subjects, and 33 implants were investigated. In total, 51.5% (n=17) were placed with a simultaneous approach and 48.5% (n=16) with a delayed approach. The simultaneous approach resulted in a higher rate of graft resorption in both the 3D and 2D measurements compared to the delayed implantation (p=0.001 and p=0.014, respectively). There was no difference

between the two groups in terms of graft volume, graft width, marginal bone loss, or implant success at the 1-year follow-up (p=0.958, p=0.039, p=0.168, and p=1.000, respectively).

**Conclusions:** Although simultaneous implantation resulted in a higher resorption rate than delayed implantation, the graft volume and width, marginal bone loss, and implant success were similar at the 1-year follow-up.

### Keywords:

Delayed Implantation, Simultaneous Implantation, Alveolar Ridge Augmentation, Bone Grafting, Three-Dimensional Imaging, Volume Changes





## Everything to Know about Recovery of Infraorbital Nerve Injury – Post Complex Zygomatic Fractures (Unilateral ZMC Fractures – Rowe and Killey’s Type III, IV and V)

**Srishtika Mohana Ganesh Murthy**

CRRI, Department of Oral and Maxillofacial Surgery, Tagore Dental College and Hospital, Tamilnadu, India

**Dr. Israel Nathanael**

Senior Lecturer, Department of Oral and Maxillofacial Surgery, Tagore Dental College and Hospital, Tamilnadu, India

**Dr. R. Riaz**

Professor & Head of Department, Department of Oral and Maxillofacial Surgery, Tagore Dental College and Hospital, Tamilnadu, India

### Abstract:

**Background of the Study:** The temporal bone and the zygoma are the two pillars to the formation of zygomatic arch which places a major role in structural integrity of the mid-facial region along with its vital role in one’s aesthetic appearance. Along with the zygomatic arch the lateral orbital rim, inferior orbital rim and the anterior and posterior maxillary sinus walls comprises the zygomaticomaxillary complex (ZMC). Fractures of these structures are usually labelled as tripod or tri-malar fractures. Infraorbital nerve is the prominent nerve that shows neurosensory disturbances and paraesthesia following incidences of ZMC fractures as the nerve travels through the infraorbital foramen which is a significant anatomical landmark to be noted in the ZMC fractures. Hence, ZMC result in Sunderland’s grade I-III/mild nerve injury of the infraorbital nerve. [Shin J, Jung ER, Cho JT, Yoo G *et al*, *J Craniofac Surg.*]. The injury is calculated by skin mapping on the affected side and by detecting increase or decrease in pain sensations for further classification of

severity of pain. The following pilot study will help standardise the post-operative recovery time frame for patients after treatment by open reduction and internal fixation (ORIF) of type III, IV and V ZMC fractures.

### Keywords:

Infraorbital Nerve Injury, Zygomaticomaxillary Fracture, Skin Mapping



## Determination of Oral Health Status, Barriers in Achieving Oral Healthcare and Parents' Perception of Oral Health Locus among Preschool Children of Central India Population: A Cross Sectional Study

**Abhilasha Manker**

Associate Professor, Department of Pedodontics and Preventive Dentistry, Sri Aurobindo College of Dentistry, Sri Aurobindo University, Madhya Pradesh, India

**Amit Tripathi**

Associate Professor, Department of Orthodontics and Dento-facial Orthopedics, Sri Aurobindo College of Dentistry, Sri Aurobindo University, Madhya Pradesh, India

### Abstract:

The study aims to assess the oral health status of preschool children belonging to different socio-economic status, the barriers related to utilization of oral health care facilities by the children and parents and the parents' perception of oral health locus of control.

**Methods:** A descriptive cross-sectional study was conducted among 2300 children of age group 3-5 years. The examination was carried out in accordance with the WHO Oral Health Pro forma (2013). A self-administered questionnaire consisting a set of 12 questions assessed their parents' perception of their oral health using parental socio-dental impact locus of control scale was obtained. SPSS software (version 20) was used for statistical analysis. Chi-square test, Kruskal Wallis test, ANOVA test & Logistic regression analysis were performed. p value < 0.05 was considered statistically significant

**Results:** The prevalence of dental caries was found to be 52.7% of study population having deft and dt score>0. The gingival bleeding was found in 32.4% of the children.

When adjusted for age, gender and socioeconomic status (sociodemographics) and it was found that children whose parents presented with higher scores for locus of control had higher tendency to have intact teeth. A significant difference was observed between the various quintiles of locus of control scores and caries experience of the study population. About 98% of the children had never been to a dentist. The main barriers for not receiving oral health care for children were found to be there school timings followed by financial constraints and the perception that primary teeth would shed eventually and therefore did not need treatment.

### Keywords:

Oral Health Related Barriers In Pre-Schoolers, Parental Perception Of Oral Health Status, Parental Socio-Dental Impact Locus Of Control, Parental Oral Health Locus Of Control





## Masking the Black Diamond

**Dr. Swetha R K**

Department of Paediatric and Preventive Dentistry,  
Adhiparashakthi Dental College and Hospital,  
Melmaruvathur, India

### Abstract:

Silver Diamine Fluoride (SDF) used to arrest caries and prevent the caries progression. A major disadvantage of it is the blackish tooth discoloration which raises esthetic concern. To overcome this drawback adjuncts such as Potassium Iodide (KI), Glutathione, Hydrogen peroxide have been used.

**Aim:** To assess the effect of Potassium iodide, Glutathione, and Hydrogen peroxide on tooth discoloration with Silver Diamine Fluoride in primary molars.

### Materials & Methodology:

100 human primary molar tooth samples were grouped into 4 groups with 25 samples each;

Group A: Silver diamine fluoride (SDF)

Group B: Silver diamine fluoride (SDF) + Potassium iodide (KI)

Group C: Silver diamine fluoride (SDF) + Glutathione (GSH).

Group D: Silver diamine fluoride (SDF) + Hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>).

Samples were assessed for colour changes (UV-Vis spectrophotometer), structural and elemental changes (scanning electron microscope).

**Result & Observations:** Statistical analysis done using ANOVA test. Spectrophotometer results showed that Group -A exhibited blackish discoloration, Group B, C, D effectively combats the tooth discoloration. SEM analysis showed crystal formation. EDS analysis showed variations in the elemental compositions, Antimicrobial efficacy is impaired in Group B.

**Conclusion:** Potassium iodide (KI), Glutathione (GSH) and Hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>) can effectively combat the discoloration caused by silver diamine fluoride and the

efficacy of silver diamine fluoride not hindered, However the attempt to mask the color is just a temporary solution.

Re-application of reagents for masking the discoloration caused by SDF is necessary.

### Keywords:

Silver Diamine Fluoride, Caries Arrest, Blackish Discoloration

## Comparison of Different Layer Thickness of a 3D Printed Model based on Quality and Time

**Aswathi Selvaraj**

Orthodontics, Tagore Dental College and Hospital, India

### Abstract:

**Aim:** To determine the accuracy and time duration for 3D printing with different layers using the ELEGOO SATURN S-4K

**Materials and Methods:** To accomplish this goal the digital impression were taken for a patient using SHINING 3D intraoral scanner and STL files were generated. These files are printed into orthodontic model with help of ELEGOO SATURN S- 4K 3D printer. The orthodontic models were printed in four different layers 50 micron,100 microns, 200 micron, 300 micron and the duration of printing time for different layers 50 micron,100 microns, 200 micron, 300 micron were recorded. The printed 3D models were scanned with SHINING 3D scanner and each STL files were superimposed with initial patient STL files using MAESTRO -3D software to evaluate the accuracy

**Result:** The accuracy is insignificant in layers 50 micron,100 microns, 200 micron when compared with initial patient digital impression while accuracy is significant in 300 microns. the longest printing time duration is recorded in 50 micron about 1 hour 49 minutes and shortest time duration is 300 micron about 20 minutes

**Conclusion:** From the above study its been concluded that for aligner fabrication 3D model printed in LCD printer recommended layer thickness is from 50 micron to 200 micron.

### Keywords:

3D Printed Model, Quality, Time, ELEGOO SATURN S- 4K





## 'Three different Problems-But Same Solution - A Case Series

**Maria Subash Aaron Muthuraj**

Senior Lecturer, Department of Periodontics,  
Sri Ramakrishna Dental College and Hospital, Coimbatore,  
India

### **Abstract:**

Gingival hyperplasia occurs in a variety of conditions like pregnancy induced gingival enlargement, drug induced gingival enlargement, idiopathic gingival enlargement etc. Each and every type of hyperplasia is different in both etiology as well as in its characteristics and how they are getting treated. In my case series i am going to discuss about three types of gingival enlargement and how I managed non-surgically by Scaling, Root Planing and Curettage with Oral Azithromycin as an adjuvant.

### **Keywords:**

Azithromycin, Cilnidipine, Drug Induced Gingival  
Enlargement, Levetiracetam, Non-Surgical Periodontal  
Therapy, Scaling And Root Planing



## Evaluation of Salivary Levels of Cariogenic Bacteria in Patients during Orthodontic Treatment with fixed Appliance Versus Thermoplastic Aligners- An Observational Prospective Study

### Sneha S

CRRI, Department of Orthodontics and Dentofacial Orthopedics, Tagore Dental College and Hospital, Tamilnadu, India

### Sivaprasaath S

CRRI, Department of Orthodontics and Dentofacial Orthopedics, Tagore Dental College and Hospital, Tamilnadu, India

### Abstract:

**Aim:** The aim of the present prospective observational study was to compare the salivary levels of cariogenic bacteria and to access the periodontal health among adolescent patients treated with either thermoplastic aligners or fixed orthodontic appliances

**Methodology:** This is observational prospective study carried out in Tagore Dental College and Hospital. Whole stimulated saliva was collected from each patient. Each patient chewed a paraffin gum for 5 min and spitted into plastic cups. PCR test was done to identify the quantity of *S. mutans* in the salivary samples. Plaque index and gingival index were calculated after collecting the saliva samples every time.

**Results:** Although patients treated with aligners had lower mean plaque scores and *S. mutans* counts throughout treatment compared to patients treated with fixed appliances they were not statistically significant. Whereas the gingival index at base line and after 1 month, between the fixed appliance and aligners groups were statistically significant.

**Conclusion:** Within the limitations of this study, there were no differences in the salivary counts of *S. mutans* among patients treated for 1 month with thermoplastic aligners or self-ligating appliances.

### Keywords:

Cariogenic Bacteria, Thermoplastic Aligner, Fixed Orthodontic Appliance, Streptococcus Mutans





## Adequacy of Different Resolutions of LCD 3D Printers for in House Aligners

**Daffy Jacentha S**

Orthodontics, Tagore Dental College and Hospital,  
Tamilnadu, India

### Abstract:

**Aim:** The primary aim of this investigation is to evaluate the accuracy of dental models manufactured by different 3D printers (ELEGOO SATURN S- 4K & CREALITY HALOT 2K).

**Methods:** 10 Models were printed in 100  $\mu$ m resolution in both 4K and 2K printers.

- The printed models were rescanned to create digital STL models and superimposed to the original scan in MAESTRO 3D & GEO MAGIC software.
- The whole deviation obtained to evaluate the displacement of the entire external surface and to generate an overall color map that quantitatively and qualitatively indicates the direction of deviation with blue and red colors indicating negative and positive deviations compared to the reference, respectively.

### Result:

- From the present study, the 3D printing of 2K dental models showed variations of 0.80mm in molar region and 0.35mm in canine region by comparing to original STL file.
- The 3D printing of 4K model showed variations of 0.42mm in molar region and 0.15mm in canine region by comparing to original STL file.
- Finally, When comparing 2K and 4K model, it shows variations of 0.51mm in molar region and 0.16mm in canine region which is acceptable according to RMS grading.

### Conclusion:

- 4K 3D printer is better in accuracy and precision, but printing 3D models in 2K 3D printer is clinically

acceptable in orthodontic field.

### Keywords:

LCD 3D Printers, House Aligners, ELEGOO SATURN S- 4K, CREALITY HALOT 2K



## Ameliorate Ridge Deficiency with Block Autograft

### Dr. B. Bhuvaneshwari

Professor & Head, Dept of Periodontics, Tagore Dental College & Hospital, Chennai, India

#### Abstract:

With the emergence of novelty regeneration techniques in the implant dentistry field, the professional may have some queries about which one to use in their daily practice

In day-to-day practice, it is common to deal with insufficient alveolar crests that may require surgical augmentation for placing implants in a correct position.

Within the wide range of different augmentation procedures, guided bone regeneration (GBR) and the use of autogenous bone blocks are the most common interventions in bone augmentation. These split bone blocks are obtained, either from the mandibular symphysis or ramus, using piezoelectric surgery or microsaws, obtaining a block that will later be divided into the two final thin laminae.

Approximately 65% cortical and 36% cancellous bone is found in an average symphysis graft which is enough to reconstruct a deficient ridge of 4-6 mm horizontal and 4mm vertical in dimension. This case report describes the use of an autogenous block graft from mandibular symphysis for a ridge augmentation procedure in the maxillary anterior region followed by successful implant placement.

#### Keywords:

Alveolar Ridge Augmentation, Block Autograft, Guided Bone Regeneration, Autogenous Bone Graft, Symphyseal Graft





## Root-End Resection

### Marliya Parveen S

Department of Oral and Maxillofacial Surgery, Tagore Dental College & Hospital, Tamil Nadu, India

### Dr. Riaz

Head of Department, Department of Oral and Maxillofacial Surgery, Tagore Dental College & Hospital, Tamil Nadu, India

### Dr. Israel Nathaneal

Professor, Department of Oral and maxillofacial Surgery, Tagore Dental College & Hospital, Tamil Nadu, India

#### Abstract:

The root end resection procedure stands as a cornerstone in periapical surgery, crucial for addressing persistent apical pathology and preserving dental integrity. In this poster, we explore different approaches and each is examined for its unique advantages and limitations, providing valuable insights into selecting the most appropriate technique for individual clinical contexts.

Central to the success of root end resection is the meticulous preoperative assessment and strategic surgical planning, emphasizing the significance of precise case selection to optimize outcomes. The integration of advanced imaging technologies, such as cone-beam computed tomography, emerges as pivotal in enhancing diagnostic precision and guiding treatment planning, thereby improving overall procedural efficacy.

Ultimately, the dissemination of knowledge through this poster presentation seeks to drive progress in clinical practice and elevate standards of care in periapical surgery.

#### Keywords:

Endodontic Surgery, Root-End Resection

## Centrifugation Protocol For Obtaining A-PRF, I-PRF & S-PRF- Our Experience

### Dr. R. Riaz

MDS, Research Scholar, Bharath Institute of Higher Education & Research, TamilNadu, India

### Dr. Mensudar Radhakrishnan

Guide, Sree Balaji Dental College & Hospital, TamilNadu, India

### Dr. P. Jeyavelu

Consultant Oral & Maxillofacial Surgeon, TamilNadu, India

#### Abstract:

**Background:** A second-generation platelet concentrate called platelet-rich fibrin (PRF) has been the subject of extensive research for the past two decades. The debate over relative centrifugal force (RCF), revolutions per minute (RPM), and relative time in the production process of various platelet concentrates has significantly complicated the topic during the last few years. The following factors need to be taken into account in order to produce the precise sub-type of PRF: Rotor angulation for the tube holder, Revolutions per minute (RPM), Relative centrifugal force (RCF), Rotor dimensions, Centrifugation model employed, Composition, size & form of used tubes.

**Objective:** The study's objective was to assess how these variables interacted to produce the three different subtypes of PRF (S-PRF, A-PRF, and I-PRF) solely by adjusting the RPM and Duration without altering the rotor's angulation or size.

**Materials and Methods:** Fifteen healthy volunteered patients for the study underwent surgical removal of impacted mandibular 3rd molars. Their peripheral blood was drawn and three sub types of PRF were produced using a tabletop centrifuge (REMI C-852) Conical end glass tube with rubber stopper & counterweight balance were used. S PRF, A-PRF, and I-PRF were obtained at 2700 rpm for 12 minutes, 1500 rpm for 14 minutes, and 700 rpm for 3 minutes, respectively. Statistical analysis was done using independent t-test in IBM

SPSS 26.0 software.

**Results and Conclusions:** The three sub types of PRF have their own indications in different fields of oral and maxillofacial surgeries. They have enriched growth factors for excellent wound healing & tissue regeneration.

#### Keywords:

Advanced Platelet-Rich Fibrin, Standard Platelet-Rich Fibrin, Injectable Platelet- Rich Fibrin, Centrifugation





## Your Personal Toothbrush: A Novel Design of a Pressure Sensitive Toothbrush

### Dr. Juala Catherine

Assistant Professor, Department of Periodontics, Tagore Dental College and Hospital, Tamil Nadu, India

#### Abstract:

Tooth brush has been the most commonly used aid for cleaning the teeth and maintaining oral hygiene. The current design of tooth brush has been in use since 1938. Over the period of many years the design of the tooth brush has undergone many changes. Currently powered tooth brush, sonic tooth brush and ultrasonic tooth brush have been designed and marketed. One of the disadvantage of a mechanical toothbrush is that the pressure applied to the teeth while brushing cannot be controlled. Studies have shown that the ideal brushing force is between 1.5 Newtons for normal calculus formers and 3 Newtons for heavy calculus formers. Using a brushing force above 3 Newtons over a period of time can cause mechanical wear of the tooth. This can lead to cervical abrasions, gingival recession and tooth sensitivity. Most of the people are unaware of the ideal pressure that has to be used for brushing.

Currently powered tooth brush with a pressure sensitive gauge is available commercially. But it allows the user to brush using only 1 pre-set pressure.

The foreground of this poster presentation is a design of a pressure sensitive tooth brush with an adjustable pressure gauge to allow 3 settings of brushing pressure.

The advantage of having 3 pressure settings is that the brushing pressure can be adjusted as per the patients requirement. For example, patients who have undergone periodontal surgery can set the brush to work at a pressure of 1 N soon after the surgery and increase the pressure to 1.5 N and above once healing is complete. This is a novel design is also cost effective when compared to a powered pressure tooth brushes available commercially.

#### Keywords:

Toothbrush, Novel design, Pressure Sensitive Toothbrush

## Non-Surgical Management of Skeletal Class III Malocclusion – A Case Report

**Subashree**

Orthodontics, Tagore Dental College and Hospital, Tamil Nadu, India

### Abstract:

Skeletal class III malocclusion is one of the most difficult problems for an orthodontist in their practice. When young patients and adolescents are diagnosed early with developing class III tendency, they can be treated easily with growth modification appliances like functional regulator-III, reverse twin block, chin-cup and reverse pull headgear. Patients whose growth potential is completed must be camouflaged by orthodontic tooth movement with fixed appliances or treated surgically. Camouflage treatment is the orthodontic tooth movement relative to their supporting basal bone to compensate for any jaw discrepancy. The camouflage technique to treat skeletal malocclusion was developed as an extraction treatment and introduced into orthodontics in the 1930s and 1940s. The camouflage technique to treat class III malocclusion usually involves proclination of the maxillary incisors and retroclination of the mandibular incisors to correct reverse/negative overjet. There are orthodontic literature documenting the possibility of overcoming anchorage limitations via the use of temporary anchorage devices—biocompatible devices fixed to bone for the purpose of moving teeth, with the devices being subsequently removed after treatment. A patient with Skeletal Class III malocclusion with concave profile, prognathic chin, Class III molar and canine relation was treated using Temporary anchorage devices (Buccal shelf).

### Keywords:

Class-III Malocclusion, Camouflage, Temporary Anchorage Devices





## Comparison of Biological Matrices on A Novel Gingival Advancement Technique

### Dr. Abirami. T

Reader, Periodontology and Oral Implantology, Tagore  
Dental College and Hospital, Tamil Nadu, India

#### Abstract:

**Aim:** The current study is a Randomized controlled clinical trial comparing two autologous biological matrices i.e., Connective Tissue Graft (CTG) and Platelet Rich Fibrin (PRF) in a novel gingival and papillary augmentation access.

**Methodology:** Thirty patients with gingival and papillary recession are recruited (15 patients in each group). The technique involves a pin hole incision in the attached gingiva, and undermining the gingiva from the alveolar base with a specialized custom-made tunneling instrument. After undermining, CTG is inserted in Group A (15 patients) and PRF is inserted in Group B (15 patients) and the gingiva is advanced and suspensory sutures are placed and secured with composite resin.

**Results:** The results are evaluated at 3 months and 6 months. Post treatment there was a significant improvement in recession depth reduction in both the groups.

**Conclusion:** The novel augmentation access is proved to be successful in the management of recession defects. The PRF is reported to provide a equivalent benefits with less patient morbidity compared to CTG.

#### Keywords:

Gingival augmentation, Papillary augmentation, Novel augmentation access, CTG, PRF



## Innovative Technique to Control Aerosol Contamination

### Hemavathy M

Intern, Periodontology, Tagore Dental College and Hospital, Tamilnadu, India

### Dr.B. Bhuvaneshwari

Head of the department, Periodontology, Tagore Dental College and Hospital, Tamilnadu, India

#### Abstract:

After the dental procedure, aerosols linger in the atmosphere for a considerable amount of time, raising the possibility of airway pollution. There is growing concern about aerosol contamination and decreased air quality in dental offices as the droplets evaporate, leaving behind very small particles that can carry bacteria or viruses and spread a variety of diseases like SARS, tuberculosis, staphylococcus infections, and the presence of other pathologic organisms with the potential for airborne transmission. show that for all clinical scenarios, a higher frequency of the scaling tip results in a higher contaminated surface. Aerosol and droplets are produced during ultrasonic dental treatments like scaling, which could potentially contaminate the patient and the medical staff. It has been shown that among dentists, respiratory diseases are becoming more common Saliva ejectors are useful for eliminating water accumulated on the oral cavity floor, however they are not effective in lessening the splatter and aerosol created by ultrasonic scaling. Redirecting and lowering coolant water could shrink the visual aerosol cloud to the point where an operator would think that spatter and aerosols have decreased. The low power detuned unit's moderate reduction in aerosol and spatter is also a contributing reason to the tip's decreased mobility. Detuning the device causes the tip to move less, which lowers the amount of aerosol and splatter produced. Before ultrasonic scaling, a mouthrinse with 0.2 percent chlorhexidine significantly decreased the amount of CFUs in the air. According to the literature, both big particles (splatter) and small particles (aerosols) have the potential

to be dangerous. Both large and small particles make up the material produced by ultrasonic scalers, and it has been demonstrated that blood and germs are frequently present in this aerosol and splatter. These smaller particles have a higher probability of staying in the air for extended periods of time, entering the nasal passages, and deeply entering the respiratory tree. The most likely carriers of respiratory bacteria, notably Mycobacterium tuberculosis, are droplet nuclei. the development of staphylococci and aerobic streptococci. The majority of both organisms are thought to be non-pathogenic, and both are frequently detected in the saliva of healthy patients. suggests reducing or eliminating the aerosols and splatter created when using ultrasonic scalers in a clinical setting. Utilizing a high-volume evacuator is advised by the ADA to reduce polluted aerosols and spatter. the use of an aerosol reduction tool that could reduce the necessity for a dental assistant during ultrasonic scaling operations by combining a high volume evacuator sheath with the ultrasonic scaler. Concurrent usage of a high volume evacuator with an ultrasonic sealer during the scaling phase is the most common approach for minimizing aerosols created by the sealer.

#### Keywords:

Ultrasonic Scaler, Aerosol, High Volume Evacuator, Examiner, Patient





## Muscular Neutralisation in Growth

**Dr. P Jeyaprakash**

Professor & Head, Dept of Pediatric Dentistry,  
Tagore Dental College and Hospital, Tamilnadu, India

### **Abstract:**

The majority of children in today's world exhibit some malocclusion and global demand for orthodontics without braces and extraction continues to grow. It is evident after much research that malocclusion is related to soft tissue dysfunction. Stable treatment results depend upon establishing a balanced neuromuscular function of the craniofacial muscles which support the structures at their optimal position. This paper will throw light on the fact that by simply fixing the teeth and jaws with braces alone, is potentially missing a huge piece of the puzzle at the expense of possible health gains and future orthodontic stability.

### **Keywords:**

Muscular Neutralisation



## Provisional Restoration in Implant Dentistry: A Crucial Tool for Gingival Architecture Restoration

**Narasimman M**

Professor, Department of Prosthodontics,  
Tagore Dental College, Tamilnadu, India

### Abstract:

Provisional restorations in implant dentistry play a pivotal role in the rehabilitation of gingival architecture following implant placement. This case report aims to summarize the clinical technique and considerations involved in utilizing provisional restorations to restore gingival architecture in implant dentistry.

Gingival architecture restoration is crucial for achieving optimal aesthetics, function, and long-term stability in implant-supported restorations. Provisional restorations serve as temporary solutions during the healing phase, guiding soft tissue healing and shaping the emergence profile around the implant abutment. These restorations are meticulously designed to mimic the natural contours of the soft tissue and promote gingival health.

Several techniques are employed in fabricating provisional restorations for gingival architecture restoration. These include customized chairside fabrication using provisional materials, computer-aided design and manufacturing (CAD/CAM) techniques, and prefabricated provisional restorations. Each technique offers unique advantages in terms of customization, efficiency, and accuracy.

During the provisionalization phase, clinicians carefully assess and adjust the provisional restoration to optimize soft tissue response and aesthetics. Regular follow-up appointments allow for monitoring of gingival healing and adjustment of the provisional restoration as necessary.

Furthermore, provisional restorations facilitate communication between clinicians, dental laboratories, and patients, aiding in the design and fabrication of the final implant-supported restoration. They serve as a template for

the final prosthesis, ensuring proper emergence profile, fit, and aesthetics.

In conclusion, provisional restoration techniques play a crucial role in restoring gingival architecture in implant dentistry. By guiding soft tissue healing, shaping emergence profiles, and facilitating communication, provisional restorations contribute to the success and longevity of implant-supported restorations. Further research and advancements in provisionalization techniques are warranted to enhance outcomes in implant dentistry.

### Keywords:

Provisional Restoration, Implant Dentistry, Gingival Architecture, Soft Tissue Healing, Aesthetic Outcome





## Aesthetic Transformation Using Laminate Veneers: A Case Report

### Rathinavel Pandiyan

Reader, Department of Prosthodontics,  
Tagore Dental College, Tamilnadu, India

### Narasimman

Professor, Department of Prosthodontics,  
Tagore Dental College, Tamilnadu, India

#### Abstract:

Laminate veneers have become a popular choice for achieving aesthetic improvements in dental patients. This case report presents the successful treatment of a patient with discolored and misaligned anterior teeth using laminate veneers.

This case report demonstrates the transformative potential of laminate veneers in addressing aesthetic concerns while preserving tooth structure and maintaining periodontal health. Moreover, it underscores the importance of meticulous treatment planning, interdisciplinary collaboration, and patient-centered care in achieving successful outcomes with minimally invasive techniques.

In conclusion, laminate veneers offer a conservative and predictable solution for enhancing dental aesthetics and improving patient satisfaction. Further studies and long-term follow-up are warranted to evaluate the longevity and clinical performance of laminate veneers in aesthetic dentistry.

#### Keywords:

Laminates, Smile Makeover, Minimally Invasive Dentistry,  
Veneer Bonding, Cosmetic Dentistry



## ***Syzygium Cumini* as a Root Canal Irrigant - Unveiling Its Antibacterial Activity !**

**Anbazhagan SD**

Post Graduate, Department of Conservative Dentistry and Endodontics, Tagore Dental College, Kancheepuram, Tamilnadu, India

### **Abstract:**

*E. faecalis* is one of the most prevalently isolated species from a failed/infected root canals of both primary and permanent teeth. Irrigants play a paramount in eliminating microorganisms. Sodium hypochlorite is the most popular endodontic irrigant, as it is a potent antimicrobial and has tissue dissolving properties. However, adverse effects of NaOCl have been reported, including unpleasant odour and taste, toxicity, an increase in coronal microleakage of adhesive restorations and many more. Such side effects have necessitated the need for herbal alternative agents due to their high biocompatibility, antimicrobial activity, and anti-oxidant anti-inflammatory properties.

*Syzygium cumini*, known as "black plum" presents various chemical constituents and phytochemical compounds such as tannins, alkaloids, steroids, flavonoids, terpenoids, fatty acids and vitamins. The leaves, seeds and flowers are rich in tannins and saponins (Ayyanar & Subash-Babu, 2012). They possess antimicrobial, anti-inflammatory, antidiabetic, hypotensive action, diuretic, astringent action, against constipation, anti-leucorrhoea, inhibitory action against HIV activity and antipyretic properties. The antimicrobial screening of ethanol extract of *Syzygium cumini* seeds proves it to be a very effective antimicrobial agent as tested against ten bacteria including *E. Faecalis* and was observed to have high zone of inhibition and low MIC values. (Wagner et al., 2021) This study aims to evaluate the effect of ethanolic extract of *Syzygium cumini* seed as an endodontic root canal irrigant using agar dilution assay.

### **Keywords:**

*E faecalis*, Sodium Hypochlorite, *Syzygium cumini*, Antibacterial



9 789392 106460



## Mandibular Alveolar Ridge Split With Simultaneous Implant Placement: A Case Report

### Dr. B. Tamizhesai

Reader, Department of Prosthodontics and Crown & Bridge,  
Tagore Dental College and Hospital/ The TamilNadu Dr. MGR  
university, TamilNadu, India

### Dr. M. Navinbharathy

Senior Lecturer, Department of Prosthodontics and  
crown & bridge, Tagore Dental College and Hospital/ The  
TamilNadu Dr. MGR university, TamilNadu, India

### Abstract:

Dental implants have become an integral part of various treatment modalities for replacement of missing teeth. Availability of adequate amount of bone in terms of vertical as well as horizontal dimension is first requirement for a successful implant therapy, but it becomes difficult to place the implant when adequate amount of bone is not available. A major limitation for successful implant placement remains the problem of inadequate alveolar ridge width. Various techniques have been described in the literature to increase the bone volume which includes the autogenous or artificial bone grafting procedures, distraction osteogenesis, inferior alveolar nerve repositioning, sinus lift with bone grafts and guided bone regeneration. Dr. Hilt Tatum 1970s introduced a method of ridge splitting or bone spreading, which over a period have been used in implant dentistry for esthetic rehabilitation and implant site preparation in cases of deficient alveolar ridges to satisfy the basic ideal need of hard tissue augmentation for functional and esthetic outcome of implant. In this case report, we describe a case of horizontal ridge augmentation using ridge split and simultaneous implant placement.

### Keywords:

Dental Implant, Ridge Splitting, Bone Graft, Ridge Augmentation And Mandibular Alveolar Ridge



## Fracture Resistance of Endodontically Treated Teeth using Three Different Bioceramic Root Canal Sealers: An Invitro Study

**Pratheeba A.R**

Postgraduate student, Department of Conservative Dentistry & Endodontics, Tagore Dental College and Hospital, Tamilnadu, India

### Abstract:

Bioceramic sealer is a root canal sealer that exhibits a chemical bond to radicular dentin due to the production of hydroxyapatite throughout the setting, and its penetration into dentinal tubules is higher due to its very small (nanoparticle size) particle diameter (<2  $\mu\text{m}$ ). Cerafill RCS, which uses bioceramic technology, comes in injectable premixed paste form. It forms a chemical bond with the inorganic component of dentine and has a good adaptability to canal walls. A pre-mixed endodontic sealer called CeraSeal, a pure calcium silicate compound was synthesized. It has an antibacterial effect, high volumetric stability, and high flowability according to the manufacturer. BioActive RCS is a bioactive mineral root canal sealer based on innovative mineral micro-aggregate chemistry "Active Biosilicate Technology" that offers biocompatibility, an alkaline pH, hydroxyapatite formation at the tooth-sealer interface, and mineralization of dentinal structure. Endodontically treated teeth are widely considered to be more susceptible to fracture due to excessive widening of root canals, the dehydration of dentin after endodontic therapy, excessive pressure during obturation, and loss of collagen cross-linking. Stable adhesion and an elastic modulus similar to root canal dentin are two key factors for root filling material to improve fracture resistance of endodontically treated teeth. Thus, this study was undertaken to evaluate the fracture resistance of Ceraseal, Bioactive RCS, and Cerafill RCS bioceramic sealer of endodontically treated teeth when

they are subjected to vertical loads from a universal testing machine.

### Keywords:

Bioceramics, Fracture Resistance, Sealer, Ceraseal, Bioactive RCS, Cerafill RCS



9 789392 106460

## Diagnostic Wax up- A Decision Maker

Dr. Anand V

Dr. Lokesh S

### Abstract:

Diagnostic wax-up is waxing of intended restorative contours on dental cast to evaluate and plan the restoration. It has been a valuable tool in visualizing the final outcome of the restoration and communicating it to the patient. The need for a diagnostic wax up becomes even more important during the replacement of tooth in the esthetic zone as it provides precise information which will aid in deciding the need for extraction, need for intentional root canal treatment, designing the position and design of the pontic and occlusal scheme. This paper presents a case series to elaborate the use of diagnostic wax up as a decision maker in various clinical scenarios.

### Keywords:

Diagnostic Wax-Up, Dental Cast



## Intentional Replantation for the Management of Tooth with Separated Instrument Beyond the Apex: A Case Report

### Dr. Purusothaman A

Senior Lecturer, Department of Conservative Dentistry and Endodontics, Adhiparasakthi Dental College and Hospital, Melmaruvathur, India

#### Abstract:

Intentional replantation (IR) is a surgical approach consisting of a tooth's controlled extraction. The latter is repositioned in its original alveolar socket after being treated extra-orally. Intentional replantation is considered by many as a procedure of last resort when nonsurgical or surgical endodontics is contra-indicated. The separation of an endodontic instrument during a root canal procedure is one of the most common endodontic mishaps. A separated instrument (SI) poses major challenges, including the possibility of intracanal corrosion and limited or no accessibility for chemo-mechanical preparation of the canal. The position of the instrument in relation to the canal curvature, the depth of the instrument within the canal, the type of separated instrument and the size of the fragment all play a role in the successful removal of separated instruments. It is impossible to retrieve a broken instrument that is apical to canal curvature or beyond the apex of the root. This case report dealt with a successful removal of separated instrument that is overextended beyond the apex with the help of intentional replantation.

#### Keywords:

Intentional Replantation (IR), Tooth's Controlled Extraction, Original Alveolar Socket, Separated Instrument (SI)





## Solving the Challenge of Compromised Bone Volume with Khoury's Bone Plate Technique in Esthetic Zone

**Dr. Keerthivasan**

Tagore Dental College and Hospital, India

**Dr. Aarth**

Tagore Dental College and Hospital, India

### **Abstract:**

The success and long term stability of dental implants is directly related to the quality and quantity of supporting bone and surrounding soft tissue. When there is a lack of adequate bone volume for implant placement, a variety of bone augmentation procedures and materials are common to develop the site. Compared with other bone substitute, the superiority of autogenous bone has additional mechanical and osteogenic properties allowing early revascularization and functional remodeling with low complication rates that are unequalled by any other allograft, xenograft, or alloplastic material. Grafting with autogenous bone is considered the gold standard of grafting materials. The technique is also referred to as the 'Khoury's bone plate technique'. The main problem of xenograft and allografts especially in block form is their poor ability for revascularization offering to the material low resistance against the oral flora. Autograft have favorable Osseo-conductive properties, allowing bone to form on the surface and can exert osteogenic properties where the transplanted cells contribute to bone formation. The resorption of autografts releases growth factors that support graft consolidation.

### **Keywords:**

Dental Implants, Khoury's Bone Plate Technique

## Engineering Hydroxylapatite Nanoparticles for Biomedical Applications A Tailoring Approach via Annealing

Prem Blaisie Rajula

Assistant Professor, Periodontology, SRM Kattankulathur Dental College, India

### Abstract:

**Background:** The field of biomaterial technologies continually evolves, impacting healthcare, cell biology, and drug delivery. Hydroxyapatite (HA), a biomimetic calcium phosphate compound, has gained prominence for its biocompatibility and applications in orthopedics, dental implants, drug delivery, and tissue engineering. This work investigates the impact of annealing on chemically precipitated HA nanoparticles. The goal is to understand the relationship between synthesis parameters and material properties, contributing to biomaterial advancements.

**Materials & Methods:** High-purity reagents were used for wet chemical co-precipitation synthesis of HA nanoparticles. The samples, including as-prepared and those annealed at 200°C, 400°C, and 600°C, underwent comprehensive characterization using HRTEM, EDAX, XRD, and FTIR.

**Results:** The HRTEM analysis revealed rod-shaped nano hydroxyapatite crystals with agglomeration, and annealing led to increased particle proximity and rounding of crystal tips. EDAX confirmed the stoichiometric composition of Ca, P, and O without impurities. XRD analysis showed distinct peaks for as-prepared HA and enhanced crystallinity in annealed samples. FTIR identified characteristic vibrational modes, including  $\text{PO}_4^{3-}$  and carbonate ions, indicating high-purity hydroxyapatite.

**Conclusion:** Chemically precipitated HA nanoparticles were successfully synthesized and customized through annealing. The study provides insights into the nanocrystal morphology, elemental composition, crystallinity, and functional groups

of n-HA. The chemical co-precipitation method proves effective for producing crystalline HA nanostructures, emphasizing its potential in medical applications.

### Keywords:

Biomaterials, Hydroxyapatite, Nanoparticles, Annealing, Characterization, Biocompatibility





## Push Out Bond Strength of Three Different Bioceramic Sealers- A Comparative *In Vitro* Study

CeraSeal, BioActive RCS

### Richwana S.T.

Post Graduate, Department of Conservative Dentistry and Endodontics, Tagore Dental College and Hospital, Chennai, India

#### Abstract:

The objective of endodontic therapy is the successful treatment of root canal infection, cleaning and shaping of the root canals, filling the root canal space, thus preventing the coronal and apical microorganism and liquid penetration. The endodontic sealer is the one that stabilizes the solid cone and bonds to the dentin. Root canal filling materials should adhere to dentin to achieve tri-dimensional sealing and improve the long-term success of endodontic treatment. Endodontic sealers establish a connection between the dentin and the gutta-percha (GP) core and seal irregularities in root canals. Dislodgement resistance or push-out bond strength is a parameter used to assess interfacial bonding between the materials and intra radicular dentin. Bond strength of endodontic sealers to dentin is an essential property because it reduces the risk of disengagement of filling material from dentin and thus the clinical success of endodontic treatment. Bioceramic sealers show unique bioactivity, as they set and harden in the presence of moisture, finally forming hydroxyapatite at the interface and creating a bond to dentin. In the presence of moisture, phosphate partially reacts with Calcium silicate hydrogel and calcium hydroxide to form hydroxyapatite along the mineral infiltration zone. There are no literature evidence comparing the physical properties of the three bioceramic sealers- Cerafill RCS, CeraSeal and BioActive RCS. Hence this study aims to evaluate the push out bond strength of Cerafill RCS, CeraSeal and BioActive RCS.

#### Keywords:

Bioceramic Sealer, Push Out Bond Strength, Cerafill RCS,



## Influence of Social Media in Orthodontic Practice- A Questionnaire Study

**Shanthini Priya Arumugam**

Senior Lecturer, Tagore Dental College and Hospital, The Tamil Nadu Dr MGR Medical University, India

### Abstract:

**Aim:** The aim of this study is to evaluate the influence of digital marketing in orthodontic practice and to assess opinion about direct consumer aligner among the patients and orthodontist.

**Materials and Methods:** Study consists of two validated questionnaire one for the orthodontist and another for patients separately. A self-administered structured multiple-choice questionnaire was distributed to 180 orthodontist and 180 consenting patients through an online data collection platform.

**Results:** Both patients (98%) and orthodontist use social media platform (99%). Instagram is the most commonly used social media platform among both. Patients browse before their consultation with orthodontist (83.3%) Patient select the orthodontist based on their post in social media. But the number of patients increase following digital marketing through social media platform is only up to 0-25% among 57.4% of orthodontist. About 92% of patients contact the orthodontist through social media. About 96% of orthodontist use social media platform for creating awareness about orthodontic treatment. Fifty five percentage (55%) of patients feels at home aligners are not safe. Number of retreatment case following at home aligners have greatly increased among the orthodontic practice (86.2%).

**Conclusion:** The orthodontist and patient use the digital media platform to a greater extent. Instagram is the most commonly used social media platform among the patient as well as the orthodontist Orthodontist feel that patients are unaware about the deleterious effect of at home aligners.

But patients are aware about the deleterious effects of Direct-to-consumer aligners and wants to be treated by a specialist.

### Keywords:

Social Media, Orthodontic practice, Aligners





## Epidemiology of Malocclusions: A Global View

**Carla Martinez**

5<sup>th</sup> Undergraduate Student, Dental School, Catholic Portuguese University, Lisbon, Portugal

### **Abstract:**

Epidemiological studies are essential for determining health problems and once this important information is crossover we can develop health strategies.

An epidemiological study of the prevalence of malocclusions is a relevant topic considering that the OMS mentions malocclusion as a disabling dentofacial anomaly.

This condition impairs the quality of life of children/adults both aesthetically and functionally. According to the literature, anterior open bite is the most common malocclusion. Other studies report that Class I and II are the most common malocclusions. Also proving that the Europe would have the highest prevalence of Class II.

Malocclusions are in turn related to certain hereditary and/or environmental aspects. It is essential to intervene early in order to prevent their development, which has many other consequences such as bruxism.

On the other hand, there seems to be a connection between breastfeeding and reducing the risk of malocclusion which is possible in the way that it reduces the incidence of posterior crossbite, skeletal class II and dystocclusion in primary and mixed dentition.

### **Keywords:**

Epidemiology, Malocclusions



## Targeted Therapy in Cancer Management

### Dr. Elamparithi B

Senior Lecturer, Department of Oral Medicine and Radiology, Department of Dentistry, Adhiparasakthi Dental College and Hospital, Melmaruvathur, India

#### Abstract:

Cancer is a global health problem causing one in six deaths worldwide. Such a dreadful disease is treated by conventional treatment approaches, involving surgery, chemotherapy, and radiotherapy but with specific side effects. Apart from conventional therapies, there is a new mode of treatment approach known as Targeted therapy. Targeted cancer therapies also known as “molecularly targeted drugs,” “molecularly targeted therapies,” It is a foundation of “precision medicines, precisely acts by interfering with the growth molecules leading to inhibition of growth and spread of the cancer. They are broadly classified into small molecule drugs or monoclonal antibodies. Small molecule drugs are small protein molecules, that functions by interrupting cellular processes by interfering with the intracellular signalling of tyrosine kinases which leads to the inhibition of tyrosine kinase signalling and initiates a molecular cascade that can lead to the inhibition of cell growth, proliferation, migration, and angiogenesis in malignant tissues. Examples of small molecule inhibitors are Gefitinib, Erlotinib and Sorafenib. Monoclonal antibodies (mAb’s) are man-made proteins which acts by recruiting host immune functions to attack the target cell, binding to ligands or receptors thereby interrupting essential cancer cell processes, and carrying a lethal payload, such as radioisotope or toxin, to the target cell. Examples: Gemtuzumab, Ibritumomab. Thus, the Targeted or biologic therapy promise a better way to improve the quality of life for cancer patients. This poster presents the advanced treatment modality the “Targeted Therapy in Cancer Management”.

#### Keywords:

Oral Cancer, Targeted Therapy, Cancer Management





## Sleep Quality and Post Dental Surgical Pain: A Bidirectional Road?

**André Oliveira**

5<sup>th</sup> Undergraduate Student, Dental School, Catholic Portuguese University, Lisbon, Portugal

### **Abstract:**

The study aims to evaluate the relationship between odontogenic pain and sleep quality. Lack of sleep can increase sensitivity to pain. Several recent studies indicate that a night of restful sleep has a positive impact on pain control, on the contrary, several nights of poor sleep have an exacerbating impact on pain intensity. To evaluate the relationship between postoperative pain inherent to oral surgery and quality of sleep and its implications for patients' quality of life.

### **Keywords:**

Sleep Quality, Post Dental Surgical Pain



## Embracing The Colours: Omnichroma

### Arshavardhni R

Student, Department of Conservative Dentistry and Endodontics, AB Shetty Memorial Institute of Dental Sciences/ NITTE University, Karnataka, India

### Athira M

Student, Department of Conservative Dentistry and Endodontics, AB Shetty Memorial Institute of Dental Sciences/ NITTE University, Karnataka, India

### Abstract:

The world of restorative and esthetic dentistry evolves at a rapid rate when it comes to newer and better innovations. Omnichroma is a new promising product introduced into the world of Dentistry by Tokuyama Dental. In this article we would be looking into this material that would be meeting the demands of esthetic dentistry.

### Keywords:

Esthetics, Omnichroma, Composite







## Recent Systemic Links in Oral Health of Females

### S. Varsha

CRRI, Department of Oral and Maxillofacial Pathology,  
Tagore Dental College and Hospital, Tamilnadu, India

### B. Shanmuga Priya

CRRI, Department of Oral and Maxillofacial Pathology,  
Tagore Dental College and Hospital, Tamilnadu, India

### Dr. Jai Santhosh Manikandan

Reader, Department of Oral and Maxillofacial Pathology,  
Tagore Dental College and Hospital, Tamilnadu, India

### Abstract:

**Aim:** Bringing the recent knowledge about the link between PCOD and ORAL HEALTH OF FEMALES into practice.

**Background:** PCOD has become one of the most common diseases in women. About 1 in 5 Indian females are affected with PCOD. It is revealed in a meta-analysis that female suffering from PCOD has 28% more risk towards developing PERIODONTAL DISEASE. Due to CHRONIC SUBCLINICAL INFLAMMATION, oxidative stress, insulin resistance, ADVANCED GLYCATION END PRODUCTS, ALTERATION IN HORMONAL LEVELS influencing the SALIVARY LEVELS of putative periodontal pathogens, angiogenesis and capillary system- PCOD patients are more susceptible to develop periodontal disease. Previously present periodontal disease is also aggravated by PCOD in these patients. This knowledge by recent researches is not implemented into day to day practise yet. Many dentists are yet to be informed and an effective way to incorporate this knowledge into practise is the need of the hour.

**Conclusion:** Periodontal disease among PCOD patients being a predictable complication, creating AWARENESS among dentists regarding this systemic link is a necessity and would help them in diagnosis and further treatment planning while treating a female of reproductive age group.

### Keywords:

PCOD, Oral Health of Women, Periodontal Disease, Chronic Subclinical Inflammation, Advanced Glycation End Products, Alteration in Hormonal Levels, Salivary Levels, Awareness



## Management of Implant Fracture

### Harshini S A

PG Student, Department of Prosthodontics, Tagore Dental College, Tamilnadu, India

### Jacob M Philip

Professor, Department of Prosthodontics, Tagore Dental College, Tamilnadu, India

### Narasimman

Professor, Department of Prosthodontics, Tagore Dental College, Tamilnadu, India

#### Abstract:

Implant fracture presents a rare yet significant challenge in implant dentistry, necessitating prompt and appropriate management to ensure optimal clinical outcomes. This abstract provides a clinical management of implant fracture.

The etiology of implant fracture involves multifactorial causes, including excessive occlusal forces, implant design flaws, inadequate bone quality, and systemic factors. Early recognition of predisposing factors and careful evaluation of implant stability are paramount in preventing and minimizing the risk of implant fracture.

Management strategies for implant fracture encompass a range of approaches tailored to the specific clinical scenario. These may include conservative measures such as implant splinting, where feasible, to distribute occlusal forces and stabilize the fractured implant. Alternatively, more extensive interventions such as implant removal and replacement with larger-diameter or alternative implant designs may be required to address compromised structural integrity.

The choice of management strategy depends on various factors, including the extent of the fracture, implant location, bone quality, and patient-related considerations. Preservation of peri-implant tissues, restoration of function, and esthetic outcomes are key objectives guiding treatment decisions.

Furthermore, interdisciplinary collaboration between

prosthodontists, oral surgeons, periodontists, and dental laboratory technicians is essential for comprehensive treatment planning and execution.

In conclusion, the management of implant fracture requires a tailored approach based on careful assessment of clinical and radiographic findings, coupled with consideration of patient-specific factors.

#### Keywords:

Implant, Abutment, Implant Fracture, Periimplantitis, Trepine Bur



