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*Message from the
President, IDA, Head Office
Dr. Manoj Srivastava*

As President of the Indian Dental Association Head Office, Mumbai, and being deeply connected to the cultural and academic roots of Varanasi, I am pleased to share that the forthcoming issue of the Journal of the Indian Dental Association Uttar Pradesh State Branch will focus on informative scientific knowledge and the latest material research in dentistry.

This special issue aims to bring together contemporary advancements, evidence-based clinical practices, and innovative research relevant to modern dental professionals. Topics will include recent developments in restorative and esthetic materials, implantology, prosthodontics, digital dentistry, biomaterials, and emerging technologies influencing present-day dental care.

Our objective is to provide clinicians, academicians, researchers, and students with meaningful academic content that enhances clinical understanding, encourages scientific thinking, and supports excellence in patient care and professional growth in dentistry.

Dr Manoj Srivastava
President IDA, HO



Message from the
Hon. Secretary, IDA, Head Office
Dr. Ashok Dhoble

It brings us great joy to know that IDA U.P. State Branch will be releasing a journal. I believe a lot of effort has gone into collating all the news etc covering the various programmes, Oral Health activities, Scientific articles, Interviews, Awards and celebrations etc. This requires dedicated team effort and I am sure the journal will appeal and benefit the members.

I am sure IDA U.P. State branch will maintain high standards of quality and IDA Members, members from the scientific community and the dental trade industry should be encouraged to contribute content matter to ensure continued success of the journal. I wish the collective contribution of all of them will take your journal on a long journey to success and greater heights.

Wishing you all the success in your endeavours.

Best wishes,

Dr Ashok Dhoble
Hon. Secretary General
IDA, HO



*Message from the
National Vice President, IDA Head Office*
Prof T P Chaturvedi

I would like to congratulate the Editor U.P. State Dental Journal. It gives me immense pleasure and is a matter of great pride about publication of Ist issue of volume 6 of U.P. State Dental Journal Hopefully scientific articles published in the journal will be helpful for academicians, dental practitioners, and dental students. I congratulate you and the entire editorial team members for it and wish for the success of the journal.

Thanking You.

Prof T P Chaturvedi
National Vice President, IDA Head Office



*Message from the
President, IDA Uttar Pradesh*
Dr Sudhakar Singh

It gives me immense pleasure to see that you have fulfilled the responsibility entrusted to you in an excellent manner. For this, I extend my heartfelt gratitude to you.

Along with this, I would also like to thank the former President of IDA Uttar Pradesh, Prof. T P Chaturvedi Sir. He provided invaluable support to the editorial board in reviving the publication of the UP State Dental Journal, which had been discontinued for several years. As Chairman of the Editorial Board, I am committed to supporting and carrying forward the important work initiated by him.

I once again express my sincere thanks to the Chairman of the Editorial Board and to the former President of Uttar Pradesh, Prof. T P Chaturvedi Sir. I will diligently carry forward the work started by you.

With sincere regards, Thank you.

Dr Sudhakar Singh
President, IDA Uttar Pradesh



Message from the
Hon. Secretary, IDA UP State
Dr. Sachin Prakash

I extend my heartfelt congratulations to the Editor and his dedicated team for their commendable effort in compiling this edition of the journal. The comprehensive documentation of events from 2026, along with well-curated articles, reflects a strong commitment to academic excellence and professional growth.

The clinical content and case-based discussions presented will undoubtedly serve as a valuable reference for practitioners in managing complex cases.

I hope such initiatives continue in the future, further strengthening the knowledge base and unity of our dental community.

I hope, Doctors join IDA, and make our organisation even more strong and we rise to higher levels.

With best wishes.

Dr. Sachin Prakash
Hon. State Secretary
IDA – Uttar Pradesh



*Message from the
President Elect. IDA UP State
Dr Sandeep Shukla.*

Education imparts humility — with this very commitment to humility and the dissemination of knowledge, the IDA Uttar Pradesh journal continues to move steadily forward on the path of progress. As an active professional organization, it is our responsibility not only to keep our members united but also to keep them acquainted with new horizons of knowledge.

This issue is specifically dedicated to our young colleagues who are beginning their professional journeys. When the experience of senior doctors meets the modern perspective of the youth, new milestones are achieved in the medical world. The pages of this journal are a testament to the fact that there is no dearth of talent in our state; the only thing needed is a proper platform, which the IDA is continuously providing.

I congratulate all the authors and researchers who have enriched this issue with their invaluable time and knowledge. Come, let us all work together to build an Uttar Pradesh where every citizen possesses a healthy and confident smile.

Dr Sandeep Shukla
President Elect. IDA UP State



Message from the
Hon. Editor, IDA UP State
Dr Vivek Shah

Dear Readers,

It is with great pride that I present this edition of the Uttar Pradesh Dental Journal, capturing the dynamic developments in dentistry across the state this year.

A key milestone was the successful Annual State Dental Conference held in Noida, which served as a hub of knowledge exchange, innovation, and professional networking. Additionally, State CDE programs in Deoria and Lucknow enriched clinical insight and encouraged academic collaboration across specialties.

Our presence at the month-long Dental Awareness Camp during the Mahakumbh Mela in Prayagraj was a defining moment—bringing preventive oral healthcare to thousands and reinforcing our commitment to community service.

Equally inspiring was the UP State Dental Sports Conclave held in Meerut, which brought together professionals and students in the true spirit of sportsmanship and unity.

This issue features a wide spectrum of scholarly articles—from original research to rare clinical case studies—reflecting the rich diversity of our profession. I extend sincere thanks to all authors, reviewers, and the editorial team for their unwavering dedication.

May this journal continue to serve as a platform for academic excellence and collaborative growth.

Warm regards.

Dr Vivek Shah
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Digital Habits and Oral Wellness in Children: A Narrative Review on Screen Time as an Emerging Behavioural Risk Factor

Running title: Screen Time and Pediatric Oral Health

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ABSTRACT:

Background: Childhood digital media exposure has risen sharply in the past decade. While its systemic health implications have been well-documented, its connection to oral health outcomes in pediatric populations requires investigation.

Aim: To establish the relationship between screen time and oral health determinants in children, with a focus on dietary patterns, oral hygiene practices, sleep behavior, and dental caries prevalence.

Materials and Methods:

A comprehensive narrative review was conducted through electronic databases including PubMed, Scopus, Web of Science, and Google Scholar. Articles published between 2015 and 2025 were retrieved using terms encompassing digital media use, screen exposure, cariogenic diet, sleep disruption, and pediatric dentistry.

Results:

Children with extended screen engagement demonstrated a statistically higher susceptibility for cariogenic dietary behavior, compromised oral hygiene routines, disrupted sleep cycle, and increased dental caries indices. These outcomes were mediated through behavioral pathways including increased sugar consumption, diminished parental oversight.

Conclusion:

Screen time functions as a compounding, modifiable lifestyle variable with measurable consequences for pediatric oral health. Integration of digital behavior counseling within pediatric dental consultations is recommended.

Keywords:

Screen time; digital media; dental caries; oral hygiene; dietary habits; Pediatric oral health; early childhood caries

INTRODUCTION

Over the past two decades, digital technology has become an integral part of every aspect

of childhood. Smartphones, tablets, smart televisions, and gaming platforms now constitute an important feature of how children learn, play, and communicate. According to data compiled by the World Health Organization (WHO), a significant proportion of children aged two to five years exceed the daily screen exposure thresholds recommended by pediatric health authorities worldwide.(1)

While the implications of prolonged screen exposure on neurodevelopment, physical activity, and cardiometabolic health have been extensively studied, its influence on oral health has received comparatively limited attention. Oral diseases, particularly dental caries, remain among the most prevalent noncommunicable disease affecting children globally. The WHO Global Oral Health Status Report of 2022 estimated that approximately 2.3 billion individuals suffer from untreated caries in permanent dentition, with children representing the most affected.(2)

The etiological model of dental caries has evolved from a purely microbial perspective toward a broader bio-behavioural framework. Lifestyle determinants such as dietary choices, oral hygiene behaviours, and sleep quality are now recognized as primary modulators of caries susceptibility.(3) Given that each of these determinants is demonstrably influenced by the patterns of digital media consumption, there exists a compelling rationale for investigating screen time as an upstream risk factor for childhood oral disease.

This narrative review synthesizes current evidence across four intersecting domains: 1) screen time and cariogenic dietary behaviour 2) screen time and oral hygiene compliance 3) sleep disruption mediated by screen exposure and its oral health consequences and 4) the epidemiological association between screen time and caries prevalence. The review further discusses clinical implications for pediatric dental practitioners and offers directions for future research.

MATERIALS AND METHODS

Study Design

This review follows the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines. The research question was structured using the PICO framework, P(Population): Children, especially school-age children and adolescents. I (Intervention): Excessive screen time or high digital device use. C (Comparison): Low or limited screen time, or children without excessive digital exposure. O (Outcome): Oral health effects such as dental caries, plaque accumulation, gingival inflammation, poor oral hygiene habits, and unhealthy dietary behaviours

Search Strategy

To conduct a comprehensive search for this systematic review, a literature search was performed using PubMed, Scopus, Web of Science, and Google Scholar were searched systematically. The search was conducted using following Medical Subject Headings (MeSH) and free-text terms: "screen time," "digital media," "television," "tablet use," "sedentary behavior," "dental caries," "early childhood caries," "oral hygiene," "sugar consumption," "sleep duration," "melatonin," and "pediatric dentistry." All searches were conducted for the period January 2015 to March 2025.

Inclusion Criteria

- Articles published in English
- Articles involved children aged 0 to 18 years as study participants or the primary

population of interest

- Examined digital media exposure or screen time as an independent
- Reported outcomes related to oral health, dietary behavior, sleep, or dental caries. Review articles, cross-sectional studies, cohort studies, and randomized trials were all considered eligible.

Exclusion Criteria

- Articles published in languages other than English without available translation
- Articles examined adult population only
- Articles that did not report measurable oral health outcomes
- Any conference abstracts, editorials, or grey literature without peer review.

Data Extraction

Following duplicate removal, titles and abstracts were screened independently. Full texts of potentially relevant articles were retrieved and reviewed. Key data extracted from each article included study design, sample demographics, screen time measurement methodology, oral health outcome measures, and principal findings. Due to heterogeneity in study designs and outcome definitions, results are presented in a narrative synthesis organized by thematic domains

RESULTS

1. Screen Time and Cariogenic Dietary Behaviour

One of the most consistently documented associations in the reviewed literature is that between excessive screen exposure and unfavourable dietary patterns. Children who engage in prolonged digital media use exhibit higher rates of consumption of sugarsweetened beverages, ultraprocessed snack foods, and caloriendense items consumed between meals.(4)(5)

A systematic review by Rossato et al. (2021) found that screen time was positively associated with the frequency of sugar intake across various countries, with the relationship persisting after adjustment for socioeconomic confounders.(6) The mechanisms underlying this association are multifactorial. First, digital advertising particularly that targeting children promotes brand recognition and preference for energy-dense, nutrient-poor food products. Second, screen-based eating, in which food consumption occurs alongside digital media use, attenuates satiety signalling, thereby increasing total food intake and meal duration.(7)

The cariogenic potential of this dietary shift is substantial. Frequent exposure of dental surfaces to fermentable carbohydrates particularly in the form of betweenmeal snacking creates an acidogenic oral environment that promotes demineralization of enamel and dentin.(8) Children who snack repeatedly during screen use may thus experience sustained periods of reduced salivary pH, increasing overall caries risk.

2. Screen Time and Oral Hygiene Behaviour

Oral hygiene maintenance in children is mainly dependent on parental involvement, behavioural routine, and the consistent allocation of time for hygiene activities. Each of these prerequisites may be undermined by prolonged digital device use.

Several studies included in this review reported that excessive screen engagement particularly evening and pre-sleep use was associated with irregular or omitted toothbrushing routines.(9)(10) Children who use screens before bedtime are more likely to fall asleep without

completing standard oral hygiene procedures, as attention and motivation are redirected toward the digital activity. This finding has been correlated by parental surveys, which indicate that screen use is a main reason cited by caregivers for children bypassing pre-sleep brushing.(11)

Reduced parental oversight during screen use is an additional contributing factor. When children engage with digital devices independently, opportunities for supervised oral hygiene are diminished. This is particularly significant for younger children who lack the manual dexterity and cognitive development to perform effective self-directed brushing.(12) As a result, plaque accumulation particularly in approximal and cervical regions may proceed unchecked, establishing conditions favorable to cariogenic microbial colonization.

3. Sleep Disruption and Its Oral Health Consequences

The relationship between screen use and sleep quality represents a well-established pathway through which digital media exposure may exert systemic and oral health effects. The blue-light spectrum emitted by digital screens exerts a suppressive effect on melatonin secretion, thereby delaying circadian phase onset, prolonging sleep latency, and reducing total sleep duration.(13)

From an oral health perspective, sleep disruption produces several clinically relevant consequences. First, late-onset and shortened sleep is associated with increased nocturnal feeding behavior, particularly among younger children. Night feeds involving fermentable carbohydrates especially in infants and toddlers represent a principal etiological factor for early childhood caries (ECC), given the reduced salivary flow rates characteristic of sleep.(14)

Second, chronic sleep insufficiency has been linked to dysregulation of immune responses and heightened systemic inflammatory states. These physiological changes may impair the oral mucosal barrier function and alter the composition of the salivary proteome, thereby reducing the protective capacity of saliva against cariogenic microorganisms.(15) Third, sleep-disordered breathing including bruxism has been associated with screen-related sleep disturbances, contributing to dental wear and temporomandibular joint stress in susceptible children.(16)

4. Epidemiological Association Between Screen Time and Dental Caries

A growing body of cross-sectional and longitudinal evidence supports a direct statistical association between elevated screen time and higher caries prevalence in children. Alshunaiber et al. (2021) reported that children who spent more than two hours daily in front of screens had a significantly higher decayed-missing-filled teeth (dmft/DMFT) score compared with their peers with restricted screen access.(17)

A study conducted during the COVID-19 pandemic period by Nagata et al. (2022) found that children's screen use increased by an average of 52% during lockdown periods, coinciding with a reported rise in pandemic-associated dental caries in several national surveys.(18) While causality cannot be established from cross-sectional designs alone, the temporal alignment of these trends strengthens the plausibility of a screen time caries relationship mediated through behavioural pathways.

Importantly, screen time does not operate as an isolated variable. Its influence on oral health is modulated by sociodemographic factors including household income, parental education, dental attendance patterns, and access to fluoridated water supplies. Children from lower socioeconomic backgrounds may be disproportionately exposed to unsupervised and

unrestricted screen use, compounding existing disparities in oral health outcomes.(19)

DISCUSSION

This narrative review integrates evidence from multiple lines of inquiry to characterize screen time as a behaviorally mediated, modifiable upstream determinant of pediatric oral health. The findings suggest that the mechanisms through which screen exposure influences oral disease are not direct but rather operate through a cascade of behavioral intermediaries dietary choices, oral hygiene routines, and sleep patterns each of which independently elevates caries risk, and which may act synergistically when co-occurring.

The dietary pathway represents perhaps the most extensively documented of these mechanisms. The convergence of advertising exposure, distracted eating, and snack accessibility during screen use creates a microenvironment that systematically increases cariogenic substrate delivery to tooth surfaces. Pediatric dentists would benefit from routinely assessing screen-associated snacking behaviour during dietary counselling sessions.

The oral hygiene pathway, though less studied, carries significant clinical relevance. Behavioural routines including pre-sleep hygiene are particularly vulnerable to disruption by screen use, as the absorptive nature of digital content competes effectively for attention that might otherwise be directed toward health-maintenance behaviours. Recommending structured "screen-off" periods preceding bedtime as part of oral health promotion messaging may represent a simple, actionable intervention.

The sleep disruption pathway highlights a systemic dimension to the screen time-oral health relationship. The bidirectional nature of the connection between sleep, immune function, and salivary protection underscores the importance of viewing oral health within a broader lifestyle context. Pediatric dentists, as trusted healthcare contacts for many children, are well-positioned to screen for sleep-related symptoms and provide appropriate guidance or referral.

Limitations of this review include the heterogeneity of screen time measurement tools across studies (ranging from accelerometry to self-report questionnaires), the predominantly cross-sectional study designs that include definitive causal inference, and the limited representation of lower-income countries in the reviewed literature. Future research utilizing prospective cohort designs, standardized screen time metrics, and objective oral health assessments would substantially strengthen the evidence base.

CONCLUSION

Screen time constitutes a meaningful and modifiable behavioural risk factor for pediatric oral disease. Its influence operates through three principal pathways dietary behaviour, oral hygiene compliance, and sleep architecture, all of which are recognized determinants of dental caries susceptibility. Given the growing prevalence of digital media use in early childhood, pediatric dental professionals are encouraged to incorporate screen time assessment into routine clinical history-taking and to develop culturally appropriate, evidence-based counselling protocols addressing healthy digital habits. Collaborative efforts involving dentists, pediatricians, and parents are essential to mitigate this emerging public health challenge.

CLINICAL RELEVANCE

This review highlights that screen time assessment should be incorporated into pediatric dental patient histories. Clinicians are advised to provide dietary counselling that addresses

screenassociated snacking, to recommend pre-sleep screen-free periods to protect oral hygiene routines, and to consider sleep history when evaluating children with unexplained caries progression or bruxism.

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Case Report: Aesthetic and Functional Rehabilitation of Grossly Mutilated Primary Anterior Teeth Using Modified Omega Loops and Strip Crowns:

Dr Neha Dubey

BDS, MDSPaediatric and preventive dentistry.

Keywords: Early Childhood Caries, Modified Omega Loop, Pulpectomy, Strip Crowns, Paediatric Aesthetic.

ABSTRACT:

Introduction: Extensive coronal loss in primary maxillary incisors due to Early Childhood Caries (ECC) poses a restorative challenge in paediatric dentistry.

Case Description: A 4-year-old patient presented with severely decayed maxillary anterior teeth. Following pulpectomy, modified omega loops made of 0.7mm stainless steel wire were used as intracanal retainers to provide support for composite resin strip crowns.

Results: The technique provided excellent retention and aesthetics, restoring the patient's masticatory function and self-esteem.

Conclusion: Modified omega loops are a cost-effective and reliable alternative to more expensive post systems for rehabilitating primary teeth with minimal structure.

1. INTRODUCTION

The management of severe decay in primary maxillary incisors is a critical aspect of paediatric dentistry. When decay leads to extensive destruction, it often results in two major clinical challenges: pulpal involvement and the complete loss of the clinical crown.

Primary Objectives of Treatment

Restoring these teeth is not merely aesthetic; it serves several vital developmental functions:

Arch Integrity: Maintaining the space required for future permanent teeth to prevent crowding or misalignment.

Speech Development: Ensuring the child can correctly articulate sounds that depend on the presence of front teeth (e.g., "f," "v," and "s" sounds).

Psychosocial Well-being: Preventing the potential negative psychological impact or loss of self-esteem a child may experience due to missing or severely disfigured front teeth.

The Challenge of Retention

Standard restorative crowns require a certain amount of healthy tooth structure to "grab" onto. In cases of Early Childhood Caries (ECC), the remaining tooth is often flush with the gum line, leaving insufficient surface area for traditional bonding or adhesive techniques.

The Modified Omega Loop Solution

To overcome the lack of external tooth structure, clinicians utilize intracanal posts. The Modified Omega Loop is a preferred choice in paediatric cases because:

Mechanical Retention: It creates an internal "anchor" within the canal, providing a sturdy foundation for the final composite or crown.

Physiological Compatibility: Unlike rigid adult posts, the loop is designed to be shallow. This

ensures it does not interfere with natural root resorption, allowing the baby tooth to shed normally as the permanent tooth erupts. The use of a modified omega loop followed by strip crown allows for the successful aesthetic and functional reconstruction of primary incisors that would otherwise require extraction.

2. CASE REPORT

2.1 Clinical Presentation

A 4-year-old male patient reported to the department with the chief complaint of decayed upper front teeth. Clinical examination revealed grossly decayed 51, 52, 61, and 62 (FDI notation). The teeth were non-vital upon testing, and radiographs confirmed pulp involvement with adequate root length for endodontic therapy.

2.2 Procedure

1. **Endodontics:** Pulpectomy was performed using a resorbable iodoform-based paste (Metapex).
2. **Post-Space:** 4 mm of the coronal obturation was removed. A base of Zinc Phosphate cement was placed.
3. **Omega Loop Fabrication:** 0.7 mm stainless steel wire was bent into an omega shape. The ends were placed into the canal, and the loop projected 3 mm incisally.
4. **Restoration:** The loop was luted with flowable composite. Celluloid strip crowns (3M ESPE) were filled with hybrid composite resin and cured over the loop.



Figure -1
Pre operative photograph



Figure -2
Modified omega loop has been placed



Figure -3
Strip crown has been placed

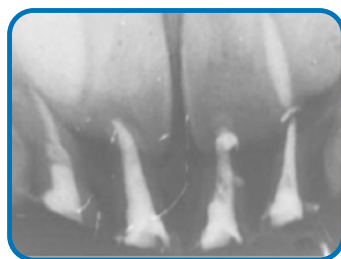


Figure -4
After pulpectomy

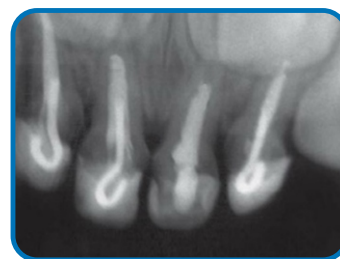


Figure -5
post placement x-ray of the Omega loop

3. DISCUSSION

The clinical management of primary teeth severely decayed by Early Childhood Caries (ECC) has long presented a challenge: how to provide enough structural retention for a crown without interfering with the tooth's natural shedding process. The traditional use of rigid, full-length cast posts—common in adult endodontics—is contraindicated in paediatric patients because these posts do not resorb. As the primary root shortens, a rigid post would eventually obstruct the erupting permanent successor, leading to ectopic eruption or impaction.

The modified omega loop has emerged as a strategic "middle ground" in this dilemma. By acting as a localized internal anchor, the loop provides the necessary surface area for resin attachment while adhering to the biological requirements of the primary dentition.

Biological Integration and Safety

The defining feature of the modified omega loop is its restriction to the cervical third of the root canal. By keeping the hardware shallow, clinicians ensure that the anchor remains entirely within the portion of the tooth that stays intact the longest. This design choice proactively addresses the physiological process of root resorption. Unlike a long post that would eventually "poke through" the receding root, the omega loop stays tucked within the coronal portion, allowing the permanent tooth to erupt safely and without mechanical interference.

Clinical Efficacy vs. Simple Bonding

The limitations of simple bonding in Early Childhood Caries(ECC) cases are well-documented. In teeth with minimal coronal structure, adhesive forces alone often fail to withstand the mechanical stresses of mastication. Research conducted by Aminabadi et al. highlights a significant shift in success rates when mechanical anchors are introduced. Their findings suggest that the survival rate of restorations is markedly improved when utilizing the modified omega loop compared to simple bonding.

This suggests that the "mechanical lock" created by the loop—where the restorative material flows through and around the wire—creates a far more resilient foundation than chemical adhesion to compromised dentin alone.

4. CONCLUSION

Rehabilitation using modified omega loops and strip crowns is a successful clinical approach for 4-year-old patients. It is a chair-side, economical, and minimally invasive technique that restores the "smile" and "function" of the paediatric patient effectively. The modified omega loop represents a shift toward "biologically guided" restorative dentistry. It respects the timeline of the developing occlusion while providing the mechanical durability required to maintain the primary tooth until its natural exfoliation. For practitioners treating aggressive ECC, this technique offers a evidence-based alternative to premature extractions, maintaining space and function without compromising the future permanent dentition

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ARTIFICIAL INTELLIGENCE IN DENTISTRY: TRANSFORMING DIAGNOSIS AND PATIENT CARE

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ABSTRACT:

Artificial Intelligence (AI) is transforming dentistry by enhancing diagnostic accuracy, improving treatment planning, and optimizing patient care. With the integration of machine learning, deep learning, and data-driven algorithms, dental professionals can now detect diseases earlier, improve workflow efficiency, and deliver personalized treatment. This article explores the applications, benefits, challenges, and future perspectives of artificial intelligence in dentistry, emphasizing its role in improving patient outcomes and advancing clinical practice.

Keywords: Artificial Intelligence, Dentistry, Machine Learning, Diagnosis, Digital Dentistry, Patient Care, Deep Learning

1. INTRODUCTION

AI refers to simulation of human intelligence in machines programmed to perform tasks such as learning, reasoning, and decision-making. Over the past decade, AI has significantly influenced various healthcare domains, including radiology, pathology, and cardiology. Dentistry is now witnessing a similar transformation. The integration of artificial intelligence in dentistry has the potential to enhance diagnostic accuracy, streamline administrative processes, and improve patient care. AI-powered tools analyze large datasets, detect patterns, and assist clinicians in making informed decisions. With the rise of digital dentistry, electronic health records, and imaging technologies, AI applications are becoming increasingly accessible to dental practitioners.

2. EVOLUTION OF ARTIFICIAL INTELLIGENCE IN DENTISTRY

The application of artificial intelligence in dentistry began with rule-based systems and expert systems. Early dental AI applications were limited in functionality and required manual input. However, advancements in machine learning and deep learning have enabled AI systems to analyze radiographs, intraoral images, and patient data automatically. The availability of digital radiography, CBCT imaging, and intraoral scanners has accelerated AI adoption in dentistry. These technologies provide large datasets that AI algorithms use to learn and improve diagnostic accuracy. Today, AI systems are capable of detecting dental caries, periodontal disease, periapical lesions, and oral cancer with remarkable precision.

3. APPLICATIONS OF ARTIFICIAL INTELLIGENCE IN DENTISTRY

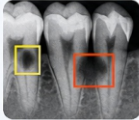
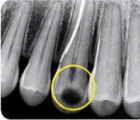
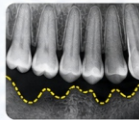
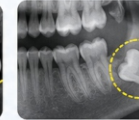
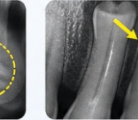
3.1 AI in Dental Diagnosis

AI plays a crucial role in improving diagnostic accuracy. Machine learning algorithms analyze radiographs and clinical images to detect abnormalities such as dental caries, periapical lesions, periodontal bone loss, impacted teeth, root fractures, and oral cancer or precancerous lesions. AI-powered software can detect early-stage lesions that may be overlooked by clinicians, reducing diagnostic errors and improving treatment outcomes.

AI in Dental Diagnosis

AI plays a crucial role in improving diagnostic accuracy. Machine learning algorithms analyze radiographs and clinical images to detect abnormalities such as dental caries, periapical lesions, periodontal bone loss, impacted teeth, root fractures, and oral cancer or precancerous lesions. AI-powered software can detect early-stage lesions that may be overlooked by clinicians, reducing diagnostic errors and improving treatment outcomes.

AI DETECTS A WIDE RANGE OF DENTAL ABNORMALITIES

DENTAL CARIES	PERIAPICAL LESIONS	PERIODONTAL BONE LOSS	IMPACTED TEETH	ROOT FRACTURES	ORAL CANCER OR PRECANCEROUS LESIONS
					
Detects early caries lesions that may be invisible to the eye.	Identifies periapical radiolucencies and infections.	Measures and detects alveolar bone loss in periodontal disease.	Accurately detects impacted teeth and their angulation.	Identifies root fractures and cracks that are difficult to see.	Analyzes oral soft tissue images to detect suspicious or precancerous lesions.

BENEFITS OF AI IN DENTAL DIAGNOSIS

 Improved Diagnostic Accuracy	 Early Detection of Lesions	 Reduced Diagnostic Errors	 Better Treatment Outcomes	 Saves Time & Improves Efficiency
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AI acts as an intelligent assistant to the dentist, not a replacement. It supports clinical decision-making and enhances patient care.



3. 2 AI in Radiology and Imaging

Dental radiology is one of the most significant areas where AI is making an impact. AI algorithms analyze digital radiographs and CBCT scans to identify anatomical structures and pathological conditions. Benefits include automatic detection of abnormalities, faster image interpretation, reduced diagnostic time, and improved treatment planning.

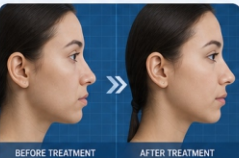
3. 3 AI in Orthodontics

Artificial intelligence is widely used in orthodontics for treatment planning and outcome prediction. AI assists in cephalometric analysis, simulation, aligner therapy planning, and predicting duration. AI improves precision and efficiency in orthodontic treatment planning.

AI in Orthodontics

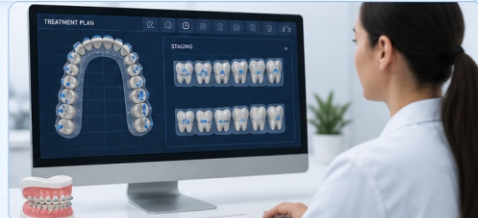
Artificial intelligence is widely used in orthodontics for treatment planning and outcome prediction. AI tools assist in cephalometric analysis, treatment simulation, aligner therapy planning, and predicting treatment duration. AI improves precision and efficiency in orthodontic treatment planning.

AI APPLICATIONS IN ORTHODONTICS

CEPHALOMETRIC ANALYSIS	TREATMENT SIMULATION	ALIGNER THERAPY PLANNING	PREDICTING TREATMENT DURATION
			
AI-powered cephalometric tracing and analysis for accurate diagnosis.	AI simulates treatment outcomes to help plan and visualize facial and dental changes.	AI designs and optimizes aligner movements for precise and efficient tooth alignment.	AI predicts treatment duration based on individual patient data for better planning and communication.

BENEFITS OF AI IN ORTHODONTICS

 Improved Treatment Precision	 Accurate Outcome Prediction	 Efficient Treatment Planning	 Personalized Patient Care	 Reduced Treatment Time & Costs
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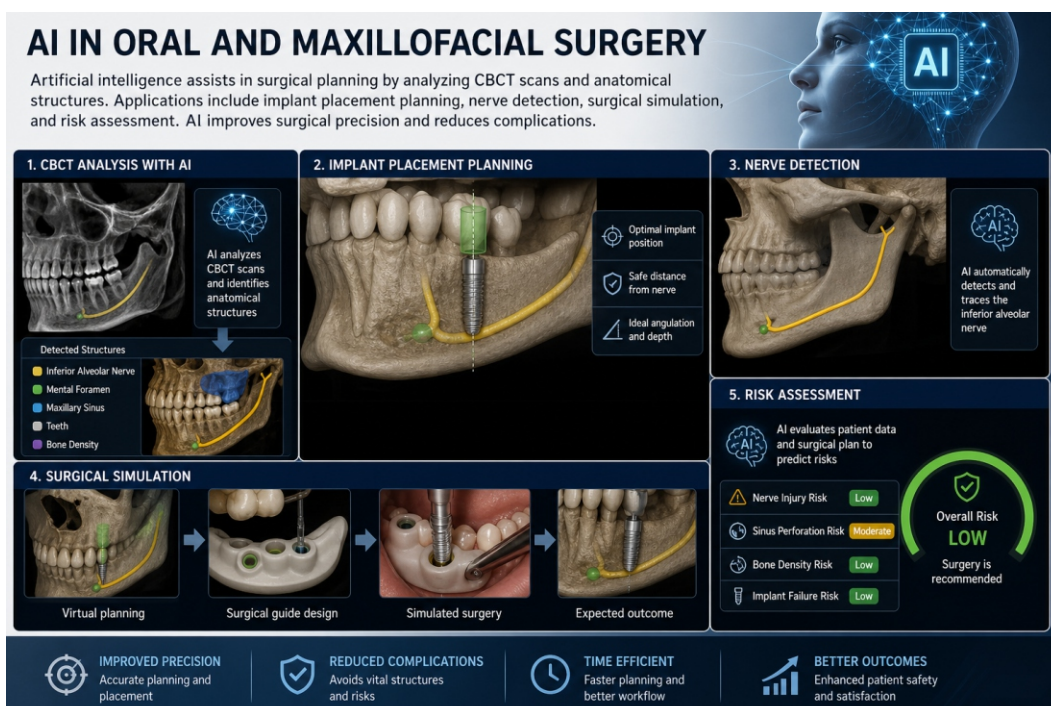
3.4 AI in Prosthodontics and Restorative Dentistry

AI supports digital workflows in prosthodontics and restorative dentistry, including CAD/CAM restorations, crown and bridge design, smile designing, and implant planning. AI helps in improving accuracy and reducing treatment time.



3.5 AI in Oral and Maxillofacial Surgery

Artificial intelligence assists in surgical planning by analyzing CBCT scans and anatomical structures. Applications include implant placement planning, nerve detection, surgical simulation, and risk assessment. AI improves surgical precision and reduces complications.



3.6 AI in Periodontology

AI helps in detecting periodontal disease and bone loss. It also assists in monitoring disease progression, treatment planning, and predicting outcomes. AI enhances periodontal diagnosis and management.

AI IN PERIODONTOLOGY

AI helps in detecting periodontal disease and bone loss. It also assists in monitoring disease progression, treatment planning, and predicting outcomes. AI enhances periodontal diagnosis and management.

1. DISEASE DETECTION

AI analyzes radiographs and images to detect:

- Periodontal bone loss
- Reduced bone density
- Early signs of disease

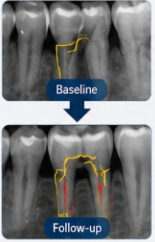


AI-detected bone loss

- High accuracy in detecting bone loss and periodontal defects

2. DISEASE MONITORING

AI tracks changes over time by comparing images to monitor disease progression.



Baseline
Follow-up

- Accurate assessment of disease progression

3. TREATMENT PLANNING

AI helps in personalized treatment planning based on disease severity and patient data.



- Identify target areas
- Determine treatment approach
- Optimize clinical outcomes

- Data-driven and customized treatment planning

4. OUTCOME PREDICTION

AI predicts treatment outcomes and risk of disease recurrence using patient and clinical data.



LOW RISK

- Predicts treatment success
- Risk assessment
- Supports better decisions

- Improved outcome prediction and patient satisfaction

5. ENHANCED MANAGEMENT

AI enhances overall periodontal diagnosis and management through automation and intelligent insights.



- Faster and more accurate diagnosis
- Efficient clinical workflow
- Better long-term oral health

- Better periodontal care and long-term oral health

AI EMPOWERS PERIODONTAL CARE WITH PRECISION, PREDICTION, AND BETTER OUTCOMES.

3.7 AI in Patient Management

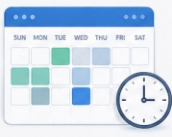
AI also improves administrative and patient management tasks such as appointment scheduling, patient communication, automated reminders, and clinical documentation. These applications improve clinic efficiency and patient satisfaction.

AI IN PATIENT MANAGEMENT

AI also improves administrative and patient management tasks such as appointment scheduling, patient communication, automated reminders, and clinical documentation. These applications improve clinic efficiency and patient satisfaction.

1. APPOINTMENT SCHEDULING

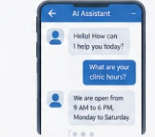
AI automates appointment scheduling by managing calendars, optimizing time slots, and reducing conflicts.



- Smart scheduling
- Reduced wait times
- Improved clinic productivity

2. PATIENT COMMUNICATION

AI-powered chatbots and virtual assistants provide instant responses to patient queries 24/7.

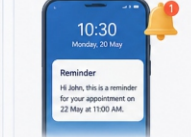


AI Assistant

- 24/7 availability
- Instant responses
- Better patient engagement

3. AUTOMATED REMINDERS

AI sends automated reminders for appointments, follow-ups, and medications via SMS, email, or WhatsApp.

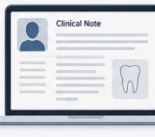


Reminder

- Fewer no-shows
- Timely follow-ups
- Better treatment compliance

4. CLINICAL DOCUMENTATION

AI assists in creating clinical notes, summaries, and reports by automatically capturing and organizing patient data.



Clinical Note

- Accurate documentation
- Saves time
- Reduced administrative burden

5. IMPROVED EFFICIENCY & SATISFACTION

By automating routine tasks, AI helps clinics run smoothly and delivers a better experience for both staff and patients.



- Streamlined workflows
- Happier patients
- Better clinical outcomes

AI EMPOWERS CLINICS TO WORK SMARTER, SERVE BETTER, AND GROW FASTER.

Saves Time

Reduces Workload

Improves Accuracy

Enhances Patient Experience

Drives Clinic Growth

4. BENEFITS OF ARTIFICIAL INTELLIGENCE IN DENTISTRY

- ◆ Improved Diagnostic Accuracy: AI reduces human errors and improves diagnostic precision by providing data-driven insights.
- ◆ Early Disease Detection: AI identifies early-stage diseases that may be clinically invisible, improving long-term treatment outcomes.
- ◆ Enhanced Treatment Planning: AI assists in creating highly personalized treatment plans tailored to individual patient anatomy.
- ◆ Increased Efficiency: AI reduces administrative and diagnostic workloads, significantly improving clinic productivity.
- ◆ Better Patient Experience: AI facilitates better clinician-patient communication and overall satisfaction through visualized outcomes.

5. CHALLENGES AND LIMITATIONS

Despite its benefits, AI in dentistry faces several challenges, including the high cost of implementation, data privacy concerns, the need for large datasets, limited awareness among dentists, and ethical considerations. Addressing these challenges is essential for wider adoption.

6. FUTURE OF ARTIFICIAL INTELLIGENCE IN DENTISTRY

The future of AI in dentistry is promising. Emerging technologies include AI-powered robotic dentistry, predictive analytics, personalized dentistry, and remote diagnosis and tele-dentistry. AI will continue to transform dental practice and improve patient outcomes.

FUTURE OF ARTIFICIAL INTELLIGENCE IN DENTISTRY

The future of AI in dentistry is promising. Emerging technologies include AI-powered robotic dentistry, predictive analytics, personalized dentistry, and remote diagnosis and tele-dentistry. AI will continue to transform dental practice and improve patient outcomes.



1 AI-POWERED ROBOTIC DENTISTRY



AI-driven robots assist in precise procedures, improving accuracy, consistency, and patient safety.

2 PREDICTIVE ANALYTICS



AI analyzes data to predict disease risk, treatment outcomes, and patient behavior for better decision-making.

3 PERSONALIZED DENTISTRY



AI enables customized treatment plans based on individual patient data, genetics, lifestyle, and preferences.

4 REMOTE DIAGNOSIS & TELE-DENTISTRY



AI supports remote consultations, real-time diagnosis, and monitoring, improving access to dental care anytime, anywhere.

5 CONTINUOUS LEARNING & INNOVATION



AI systems continuously learn and evolve, driving innovation and advancing the future of dentistry.

 **AI WILL CONTINUE TO TRANSFORM DENTAL PRACTICE AND IMPROVE PATIENT OUTCOMES.**

Dental Anthropology: A Tool for Understanding Human Variation, Evolution and Forensic Identification

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Dr. Sampada Pradhan

BDS, MDS

ABSTRACT:

Background: Dental anthropology studies human dentition to understand variation, evolution, and identification. Due to their durability, teeth are valuable in forensic and archaeological investigations.

Aim: To review the role of dental anthropology in human variation, evolution, and forensic applications. **Materials and Methods:** This narrative review is based on selected textbooks and research articles focusing on dental morphology, odontometrics, development, pathology, and forensic uses.

Results: Dental morphology and non-metric traits aid in assessing population variation and ancestry. Odontometric analysis supports sex determination, while dental anomalies serve as unique identifiers. Dental pathologies such as enamel hypoplasia reflect health status. Microwear analysis helps reconstruct dietary habits. Standardized systems like ASUDAS improve consistency and reliability in research.

Conclusion: Dental anthropology is an important interdisciplinary field with applications in forensic identification, bioarchaeology, and evolutionary studies, further enhanced by modern technological advancements.

Keywords: Dental anthropology, Dental morphology, Odontometrics, Forensic identification, Enamel hypoplasia, Microwear analysis, Human evolution, Dental anomalies.

INTRODUCTION

Dental anthropology is a specialized branch of physical anthropology that focuses on the study of human dentition in terms of morphology, development, variation, and pathology. Teeth are the most durable tissues in the human body and are highly resistant to postmortem changes, making them invaluable in forensic and archaeological investigations. This field provides critical insights into human evolution, dietary habits, health status, and population relationships.

Teeth serve as permanent biological records, preserving information about genetic inheritance, environmental influences, and cultural practices. Due to their resistance to remodelling and decomposition, they provide a stable and reliable source of biological data for long-term studies.

DENTAL ANATOMY AND STRUCTURAL CHARACTERISTICS

Teeth are composed of enamel, dentin, cementum, and pulp. Enamel is the most mineralized tissue and plays a vital role in preserving morphological details over time.

Structural variations in teeth reflect functional adaptations. For example, thicker enamel is associated with diets involving hard or abrasive foods. Root morphology and internal structures also contribute to identification and classification in anthropological studies.

DENTAL MORPHOLOGY AND POPULATION VARIATION

Dental morphology involves the study of tooth size, shape, and structural characteristics. Variations such as cusp patterns, grooves, shovel-shaped incisors, and Carabelli's cusp are genetically determined and differ among populations.

These variations are crucial in tracing migration patterns and understanding evolutionary relationships. Population-specific traits help anthropologists establish ancestry and biological affinities. Additionally, odontometric measurements such as crown dimensions provide quantitative data for population comparison.

STANDARDIZED METHODS: ASUDAS SYSTEM

The Arizona State University Dental Anthropology System (ASUDAS) provides a standardized approach for recording non-metric dental traits. It uses graded scoring systems and reference plaques to ensure consistency across studies.

This system reduces observer bias and enables accurate comparisons across populations. It is widely used in forensic anthropology and bioarchaeological research.

TOOTH DEVELOPMENT AND EVOLUTION

Tooth development is a complex process involving multiple stages regulated by genetic and molecular interactions. Evolutionary changes in dentition reflect dietary adaptations and cultural shifts.

FIGURE 1: STAGES OF TOOTH DEVELOPMENT (ODONTOGENESIS)

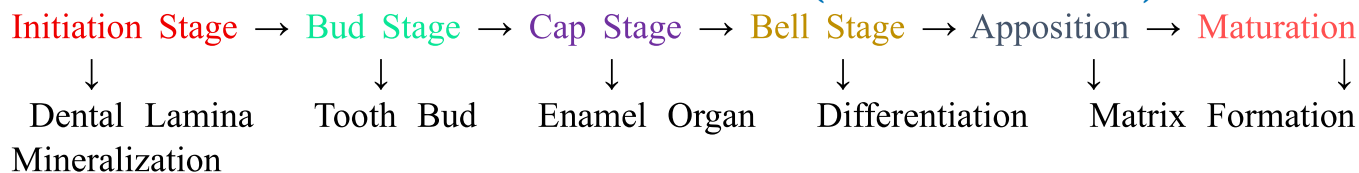


Figure 1 represents the sequential stages of tooth development highlighting structural and cellular changes.

Early humans had larger teeth adapted for coarse diets, while modern humans show reduced tooth size due to softer diets and food processing techniques. These changes highlight the relationship between environment, diet, and dental structure.

CONCEPTUAL IMPORTANCE OF DENTAL PATHOLOGY IN ANTHROPOLOGY

The study of dental pathology in anthropology is grounded in a biocultural framework that recognizes disease as the outcome of interactions between biology, environment, and culture. Dental diseases are not merely clinical conditions but reflections of subsistence strategies, food processing techniques, hygiene practices, and social organization. Dental anthropology emphasizes population-level patterns of pathology rather than individual diagnosis, enabling researchers to infer broader trends in health and adaptation. This approach positions dental pathology as a key indicator of lived experience in past human populations.

CULTURAL INFLUENCES ON DENTAL PATHOLOGY

Cultural practices strongly influence the prevalence and expression of dental pathology. Food processing techniques, habitual tooth use, and oral hygiene behaviours directly affect oral

health outcomes. For example, populations consuming refined carbohydrates show higher caries rates, while those using teeth as tools exhibit increased wear and fracture. Dental anthropology integrates cultural context to interpret pathological patterns accurately and avoid purely biological explanations.

DIETARY RECONSTRUCTION AND MICROWEAR ANALYSIS

Dental wear and microwear analysis help in understanding dietary habits. Microscopic scratches and pits on tooth surfaces indicate the type of food consumed.

These patterns provide direct evidence of dietary adaptations and are widely used in studying fossil hominins and ancient populations.

FORENSIC APPLICATIONS OF DENTAL ANTHROPOLOGY

Dental anthropology plays a significant role in forensic identification. Teeth can withstand extreme environmental conditions and often remain intact when other tissues are destroyed.

They provide essential information such as age, sex, ancestry, and individual identity. Dental records, restorations, and morphological traits serve as unique identifiers, making them invaluable in disaster victim identification and criminal investigations.

1. Sex Determination and Odontometrics

Sex determination is based on differences in tooth size and morphology. Males generally have larger teeth compared to females, especially in canines and molars.

Odontometric analysis involves measuring tooth dimensions and applying statistical methods for accurate identification. This approach is particularly useful when skeletal remains are incomplete.

2. Dental Anomalies as Forensic Markers

Dental anomalies include variations in number, size, and shape of teeth. These anomalies act as unique identifiers in forensic cases.

Conditions such as supernumerary teeth, microdontia, and enamel defects provide distinguishing features that aid in individual identification.

3. Dental Pathology in Forensic Contexts

Dental pathology, including caries, periodontal disease, and tooth loss, can contribute to forensic identification by providing individualized dental profiles. Patterns of dental treatment, restorations, and pathology may correspond with antemortem dental records, facilitating positive identification. In the absence of records, pathological patterns can still inform age, health status, and socioeconomic background, enhancing the overall forensic assessment.

4. Identification in Mass Disaster Scenarios

Forensic dental anthropology plays a critical role in mass disaster victim identification, where remains are often fragmented or commingled. Teeth and dental fragments are frequently recovered even when other skeletal elements are destroyed. Anthropological analysis of dental remains assists in sorting commingled remains, estimating demographic characteristics, and supporting odontological identification. The resilience of dental tissues makes them indispensable in disaster victim identification protocols.

COMPARISON OF DENTAL TRAITS IN ANTHROPOLOGY AND FORENSICS

<u>Parameter</u>	<u>Anthropological Use</u>	<u>Forensic Use</u>
Tooth morphology	Population variation and evolution	Individual identification
Tooth size (odontometrics)	Population comparison	Sex determination
Dental anomalies	Genetic and developmental studies	Unique personal identification
Enamel defects	Health and stress indicators	Age and life history estimation
Wear patterns	Dietary reconstruction	Lifestyle interpretation

RECENT ADVANCES AND CONTEMPORARY PERSPECTIVES

Recent advancements in dental anthropology include digital imaging, 3D morphometric analysis, and genetic studies. These technologies allow precise measurement and visualization of dental structures.

The integration of artificial intelligence and computational tools is enhancing accuracy in identification and classification. Modern research emphasizes interdisciplinary approaches combining morphology, genetics, and advanced imaging.

INTERDISCIPLINARY SIGNIFICANCE OF DENTAL ANTHROPOLOGY

Dental anthropology overlaps with multiple disciplines such as forensic science, archaeology, and medicine. It aids in reconstructing past human behaviour, identifying individuals, and understanding developmental disorders.

This interdisciplinary approach increases the relevance and application of dental anthropology in both academic and practical fields.

FUTURE DIRECTIONS IN DENTAL ANTHROPOLOGY

Future developments include the use of DNA analysis, isotopic studies, and digital modelling techniques. These advancements will improve the accuracy of population studies and forensic identification.

Global databases and collaborative research are expected to enhance comparative studies and expand the scope of dental anthropology.

Table 1: Scope and Applications of Dental Anthropology

<u>Area</u>	<u>Description</u>	<u>Application</u>
Dental Morphology	Study of tooth shape and traits	Population and ancestry studies
Dental Anatomy	Study of tooth structure	Functional and evolutionary analysis
Odontometrics	Measurement of tooth size	Sex determination
Forensic Dentistry	Application in identification	Criminal investigations
Dental Pathology	Study of dental diseases	Health assessment
Microwear Analysis	Study of wear patterns	Dietary reconstruction

Table 2:
Dental Features and Their Significance

Feature	Significance
Tooth size	Sex determination
Morphological traits	Ancestry estimation
Enamel hypoplasia	Health and stress indicator
Dental anomalies	Individual identification
Wear patterns	Dietary habits

Table 3:
Modern Techniques in Dental Anthropology

Technique	Application
3D Imaging	Morphological analysis
Digital Radiography	Internal structure evaluation
Microwear Analysis	Dietary reconstruction
Genetic Analysis	Evolutionary studies
AI-based Tools	Automated identification

SUMMARY

Dental anthropology is a multidisciplinary field that provides valuable insights into human evolution, health, diet, and identity. Its applications in forensic science, archaeology, and medicine highlight its significance in both research and practical contexts. The durability and uniqueness of dental structures make them indispensable tools for understanding human populations. With advancements in technology, dental anthropology continues to expand its scope and relevance.

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SINGLE-VISIT ENDODONTICS: EXPANDING THE BOUNDARIES TO THIRD MOLARS

Dr. Punit Srivastava Dr. Dipti Chadda Srivastava

BDS, MDS

BDS, MDS

ABSTRACT:

Introduction: Root canal treatment of mandibular third molars is frequently avoided in favour of extraction owing to anatomical variability, limited access, and difficulties in isolation.

Case Series: Three mandibular third molars with symptomatic irreversible pulpitis were treated endodontically in a single visit using rubber dam isolation, rotary NiTi instrumentation, and monocone obturation.

Results: All cases showed uneventful healing with resolution of symptoms and radiographic evidence of periapical health at follow-up.

Conclusion: With adherence to contemporary endodontic protocols, single-visit RCT of mandibular third molars can be a predictable and conservative alternative to extraction.

Keywords: Lower third molar, single-visit, root canal treatment, endodontic case series, tooth preservation

INTRODUCTION:

Single-visit endodontics (SVE) involves completing the entire root canal treatment — biomechanical preparation, disinfection, and obturation — in one appointment. Its appeal lies in enhanced patient comfort, reduced chairside time, cost-effectiveness, and minimizing interappointment contamination risks.

However, SVE is case-sensitive. Success hinges on favourable tooth anatomy, operator expertise, quality of armamentarium, and patient factors such as adequate mouth opening and cooperation. Contraindications include teeth with complex anomalies, severe canal calcifications, or inaccessible root canal systems.

Mandibular third molars epitomize these challenges. Restricted access, aberrant root canal morphology, curvature, and isolation difficulties often lead clinicians to favour extraction over preservation. Yet, when indications are met — restorable coronal structure, functional occlusal contact, strategic importance as an abutment, and accessible working field — endodontic therapy becomes a viable, tooth-preserving alternative.

The primary endodontic hurdle in third molars is canal curvature. Inadequate management during biomechanical preparation risks ledging, transportation, perforation, or blockage, compromising the outcome.

This case series demonstrates that with meticulous case selection, contemporary protocols, and attention to anatomical complexities, single-visit RCT in mandibular third molars is not only feasible but predictable. It challenges the extraction-first mindset and advocates for conservation where clinically justified.

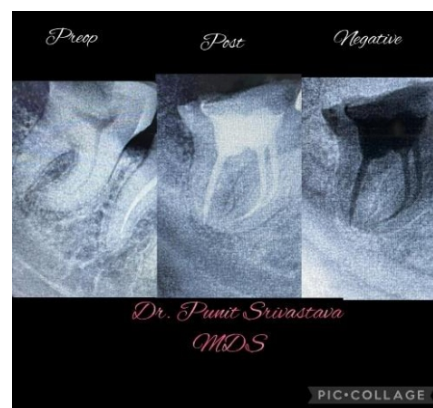
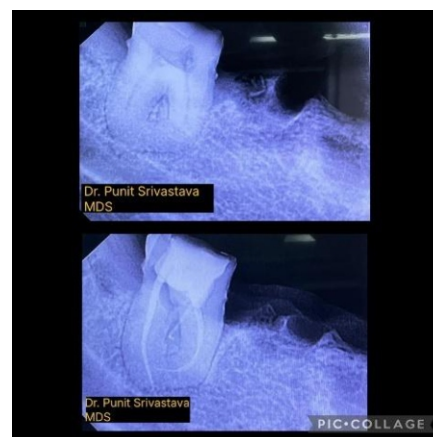
CASE SERIES:

CASE 1: 40-year-old male patient came to our clinic with the chief complaint of pain in the lower right back tooth during the night. Clinical examination of the tooth was done followed by radiographic examination. Diagnosis of irreversible pulpitis was made following vitality test and palpation test.

After the preparation of access cavity, glide path was achieved using Pro glider files by Dentsply. Then the canals were prepared using Pro Taper Next files. After the removal of pulp, the canals were irrigated with 2.5% sodium hypochlorite and dried by sterilized paper points. Monocone obturation technique was performed using 4% gutta percha points and AH Plus sealer. Post-endodontic restoration was done using Neo Spectra composite kit. Post operative radiograph was taken and post operative instructions given to the patient.

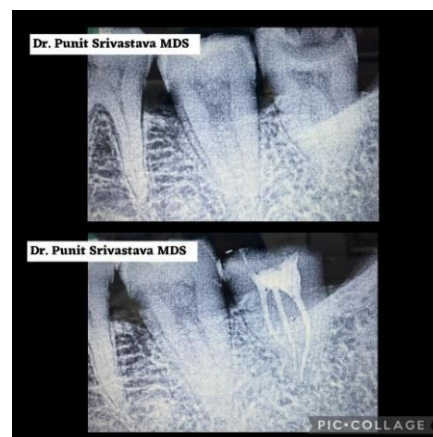
CASE 2: 30-year-old female patient came to our clinic with the chief complaint of severe pain on chewing in the lower right last tooth. After clinical and radiographic examination of the tooth was done, vitality testing was performed. Diagnosis of irreversible pulpitis was made.

Access cavity preparation was done using Endo access and Endo -Z burs. Glide path was achieved using VDW rotate files followed by cleaning & shaping with 25/04 VDW rotate files. Irrigation was done using 2.5% sodium hypochlorite followed by drying the canals with paper point. Obturation was done using the corresponding gutta percha points using monocone technique with AH Plus as sealer. Post endodontic restoration was done using Neo Spectra composite followed by post-operative radiograph.



CASE 3: 35-year-old female patient came with a dull, throbbing pain in relation to lower left back region in the last 1 week. Clinical examination of the teeth was performed followed by radiographic examination and vitality tests. A diagnosis of irreversible pulpitis was made.

After access cavity preparation, glide path was achieved using Hyflex EDM pathfiles followed by biomechanical preparation with 25/04 EDM file. Irrigation was done using 2.5% sodium hypochlorite. The canals were dried with paper point and obturation was done using 4% gutta percha points using AH Plus sealer. Post endodontic restoration was done using Neo Spectra composite by Dentsply. Post operative radiograph was taken for evaluation and post operative instructions were given to the patient.



DISCUSSION:

The endodontic management of mandibular third molars is dictated by their notorious anatomical variability. Pre-operative radiographic and CBCT assessment is therefore indispensable.

While root number ranges from 1 to 4, two roots are most prevalent (71–77%), followed by single roots (17–20%) and three roots (5–7%). Canal configurations are equally diverse, with 1 to 6 canals reported. The most common pattern is a two-rooted tooth with three canals (55%), though two-canal systems are also frequent (29%).

Morphologically, the mesial root typically harbours either two canals (49%) or a single canal (44%), whereas the distal root predominantly contains one canal (89%).

Significant curvature or dilaceration is a hallmark feature, severely complicating negotiation, shaping, and obturation. Additionally, C-shaped canal systems — more common in single rooted variants — present unique disinfection and obturation challenges.

This anatomical unpredictability, coupled with restricted posterior access and isolation difficulties, explains the historical preference for extraction. Yet, it also underscores the need for meticulous case selection and protocol-driven SVE when retention is indicated.

Conventionally, root canal treatment has been performed over multiple visits to ensure adequate disinfection, enhance patient comfort, and monitor periapical healing prior to obturation. However, the advent of contemporary endodontic techniques has shifted this paradigm.

Single-visit endodontics (SVE) offers distinct advantages: reduced treatment time, improved patient acceptance, and elimination of inter-appointment microbial recontamination through temporary restorations. With advancements in rotary instrumentation, enhanced irrigation protocols, and predictable obturation systems, SVE can achieve comparable disinfection and success rates to multi-visit treatment when case selection is appropriate.

This is particularly relevant for mandibular third molars, where multiple appointments compound the challenges of posterior access, isolation, and patient fatigue. A well-executed single-visit approach not only addresses these logistical hurdles but also aligns with modern patient expectations for efficient, definitive care.

CONCLUSION:

Single-visit root canal treatment of mandibular third molars is a predictable, conservative alternative to extraction when proper case selection and modern endodontic protocols are applied. Despite anatomical complexities and access challenges, favourable outcomes can be achieved, supporting tooth preservation over routine removal.

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SCIENTIFIC PROGRAMME



1st UP State CDE Programme held at Sultanpur 22nd Feb, 2026



2nd UP State CDE Programme being held at Rampur on 6th April, 2026



The President of U.P. State, Dr Sudhakar Singh, has taken a new initiative to start on line Free webinar programs for U.P. State, for the benefit of Practicing Dental Surgeons and Dental Students.

**On behalf of U.P. State the program is conducted by
Dr Sumit Goel (Secretary), Dr Rahul Vaid (President)
of Meerut Cantt Branch.**

First webinar on Direct sinus lift in Implantology for General Practitioners

Speaker
Dr Mayur Kaushtik

Presented by
IDA UP State & IDA Meerut Cantt

Launching on
25th January 2026

Open for
All branches of IDA UP State

Hosted by:
IDA Meerut Cantt

IDA UP State Launches

WEDNESDAY WORDS OF WISDOM

Online webinar series

Hosted by:
IDA Meerut Cantt

Online Webinar on:
From uncertainty to clarity: Oral Medicine insights for your every day clinical practice

29th April 2026
8:30 PM onwards

Our speaker
Dr Adit

Hosted by:
IDA Meerut Cantt

Online Webinar on:
Becoming the Dental Management of your dental practice

28th February 2026
8:30 PM onwards

Our speaker
Dr Nikhil Srivastava

Hosted by:
IDA Meerut Cantt

Webinar on:
Not a Laser, A Need: The LASER Impulsive in modern Dentistry

Speaker
Dr Nikhil Karmali

Presented by
IDA UP State & IDA Meerut Cantt

Launching on
25th March 2026

Open for
All branches of IDA UP State

Hosted by:
IDA Meerut Cantt

IDA UP State

MONTHLY ONLINE WEBINAR SERIES 2026

WEDNESDAY WORDS OF WISDOM

Online webinar series

Hosted by:
IDA Meerut Cantt

The Indian Dental Association, Lucknow Branch successfully conducted the Oral Health Check-Up Camp 2026, during which approximately 400 patients were screened, including oral cancer screening and preventive oral health services. The camp was organised under the leadership of Dr. Arvinder Singh (President). Hon'ble Deputy Chief minister Brijesh Pathak ji honoured us with his gracious presence. The programme was coordinated by Dr. Ashwani Mishra (President-Elect), Dr. Pankaj Taneja (Vice President) and Dr. Naushaba Talha (Convener, CDH)



5th UP State Sports Conclave 2026 Organized by IDA, Meerut Cantt Branch, Meerut

The three-day 5th IDA UP State Conclave 2026, hosted by the Indian Dental Association Meerut Cantt Branch was organized from 3rd April to 5th April 2026. The event showcased exceptional talent and sportsmanship. More than 200 members over 16 branches of the Indian Dental Association across Uttar Pradesh like IDA Prayagraj, IDA Gorakhpur, IDA Sahjanwa, IDA Kanpur, IDA Kanpur Dehat, IDA Saharanpur, IDA Moradabad, IDA Lucknow, IDA Noida, IDA Ghaziabad, IDA Aligarh, IDA Lakhimpur, IDA Meerut Cantt, IDA Hapur, IDA Meerut City, etc. Over the three days, participants competed in a variety of sporting events (cricket, badminton, track race, carrom, chess, table tennis, swimming etc.)

Adding a historic dimension to the event, **Women's Cricket** was introduced for the first time. The initiative was taken by **Women Dental Council**.

The event was graced by the esteemed presence of several distinguished dignitaries from the IDA UP State leadership, including Dr. Sudhakar Singh (President IDA UP State), Dr. Sandeep Shukla (President-elect IDA UP State), Dr. Murari Sharma (Past Vice President, IDA Head Office) and Dr. Namita Katiyal (Chair person, Women Dental Council, IDA UP State).

The event also included the Marathon themed “**Quit Tobacco**”, promoting awareness about healthy living.

The finals of cricket match was played between Meerut Cantt and Prayagraj. In a thrilling finish, Prayagraj emerged victorious,

The event concluded with a felicitation ceremony, where the Chief Guest, Dr. Somendra Tomar (Minister of State, Government of Uttar Pradesh) felicitated the awardees.

The conclave witnessed grand success under the guidance of Dr. Nikhil Srivastava (Founder President, IDA Meerut Cantt and Principal and Dean, SDC), Dr. Rahul Vaid (President, IDA Meerut Cantt) and Dr. Sumit Goel (Secretary, IDA Meerut Cantt) and the dedicated organizing team, including dedicated student volunteers.



'Life Time Achievement Award'

Prof (Dr) S K Katharia of Agra branch Eminent Oral & Maxillo-facial Surgeon, Senior Professor of Dental Surgery at SN Medical College Agra, Past President IDA UP State & Past National Vice - President IDA Head Office and formerly Executive Committee Member of Dental Council of India has been conferred '**Life Time Achievement Award**' by Association of Oral & Maxillo-facial Surgeons of India in it's 49th Annual Conference held from 11-12th December 2025 at Visakhapatnam for out standing contributions in the field of Dental Education and Oral & Maxillo-facial Surgery



Dr N S Lodhi, has informed that he is going to start a journey of Tobacco Free India, by cycling from India to Mt.Kliminzaro; tallest mountain in world and will hoist the Indian Flag on the occasion of 15 th August 2026 This will give a healthy message to Society, explaining Harmful effects of Tobacco, which cause life threatening diseases like cancer.

It would take about 14 days to complete this mission.

Dr N S Lodhi
Secretary
IDA Agra Branch

Dr Yogesh Sharma
President
IDA Agra Branch



Women's Dental Council (WDC)

INTERNATIONAL WOMEN'S DAY WEBINAR 2026

The Women Dental Council (WDC), IDA UP State successfully organized an online program on 8th March 2026 to celebrate International Women's Day. The event was held from 8:50 a.m. to 10:00 a.m. and witnessed enthusiastic participation from dental professionals across the state.

The highlight of the program was an inspiring lecture by Dr. Vineeta Nikhil on "From Self Doubt to Self-Drive: The Inner Journey of a Woman Leader".

WEBINAR – WORLD ORAL HEALTH DAY 2026

On the occasion of World Oral Health Day 2026, the Women Dental Council, IDA UP State organized a webinar on 20th March 2026 at 8:30 PM on Zoom Platform. The theme of the program was "A Happy Mouth is... A Happy Life." The topic of the session was Oral Health in Women, delivered by Dr Shalu Bathla.

AWARENESS VIDEO – WORLD ORAL HEALTH DAY 2026

On the occasion of World Oral Health Day 2026, the Women Dental Council, IDA UP State successfully organized an awareness video initiative. The activity received an overwhelming response from members across the state.

A total of 16 branches and around 80 members actively participated by creating and sharing short awareness videos highlighting the importance of oral health. These videos focused on promoting good oral hygiene practices and spreading the message of a healthy mouth for a healthy life.

CRICKET MATCH REPORT (4th April 2026)

The Women Dental Council (WDC), IDA UP State, in association with IDA Meerut Cantt, organized a cricket match on 4th April 2026. The match was played between Zenith Queens and Future Titans and concluded in an exciting draw, with both teams displaying excellent performance and sportsmanship.

INDOOR SPORT MEETING

There were many indoor games played very enthusiastically by female members of our state.

WOMEN'S HEALTH TALK SERIES

The Women Dental Council of Indian Dental Association, Meerut Cantt branch, successfully organized a Women's Health Talk Series on 28th March at 8:30 PM via Zoom.

The session was delivered by Dr. Efmrti Gupta, Professor and Head of Obstetrics & Gynaecology at Subharti Medical College, Meerut, and an experienced laparoscopic surgeon.



Obituary

We sadly lost several respected colleagues and members of our extended IDA family, while many among us also endured the pain of losing their beloved family members.

The Indian Dental Association expresses its heartfelt condolences and pays humble tribute to all the departed souls through this journal.



Dr Dinesh Tripathi
(Pratapgarh)

1st Jan 1975 - 24th Dec. 2025



Late Shri Shree Prakash Srivastava

F/O Dr Sachin Prakash
(Hon State Secretary)

15th July 1948 - 20th Feb 2026



Late Smt Shiv Kumari Gupta

M/o Dr Shaileendra Branwal
(Prayagraj)

5th Sep 1953 - 29th March 2026



Smt. Shobha Verma

w/o Dr Vinod Kumar
(Prayagraj)

11th Jan, 1976 - 30th March 2026



Dr Ashish Tripathi

(Prayagraj)

1st Jan - 3rd May 2026

Thank You...

