European Prosthodontic Association

ההסתדרות לרפואת שיניים בישראל
ISRAEL DENTAL ASSOCIATION

THE 49th ANNUAL EPA CONGRESS IN COLLABORATION WITH THE ISRAELI SOCIETY OF PROSTHODONTICS (ISP)

SEPTEMBER 2–4, 2026 • Tel-Aviv, Israel, The David Intercontinental Hotel

PROGRAM & ABSTRACTS

SPHERA CONFERENCES LTD.
ספֵרה כנסים בע"מ

Organizing committee:

Prof. Eitan Mijiritsky (Chairman)
Prof. Rui Falacho (Portugal)
Dr. Nicole Winitsky (Sweden)
Dr. Ohad Sharon
Dr. Michal Dekel-Steinkeller
Dr. Ilana Engel
Dr. Eyal Tarazi

Scientific committee:

Prof. Eitan Mijiritsky (Chairman)
Prof. Marco Ferrari (Italy)
Prof. Phophi Kamposiora (Greece)
Prof. Rafael Martinez de Fuentes (Spain)
Dr. Asher Zabrovsky
Dr. Hilit Bar-On
Dr. Adi Arieli
Dr. Eyal Tarazi

Oral presentation committee:

Prof. Rui Falacho
Dr. Nicole Winitsky
Dr. Ben Zion Laufer
Dr. Akiva Elad

Posters prize committee:

Dr. Michal Dekel-Steinkeller
Dr. Gil Asafrana
Dr. Farncesco Grande

Wednesday, September 2, 2026

08:00-08:45 Registration & visit to the dental exhibition

08:45-10:05 **Session 1** — **Hall B+C**
Moderators: Dr. Eyal Tarazi, Dr. Ohad Sharon

08:45-08:55 Opening remarks
Case presentations – Prosthodontics residency centers
Dr. Eyal Tarazi

08:55-09:30 **Case presentation 1**
Dr. Naseem Bsoul, Tel Aviv University
Full-Mouth rehabilitation of the severely worn dentition:
Managing combined bruxism and erosive tooth wear

09:30-10:05 **Case presentation 2**
Dr. Tahel Oguen-Alon, Rambam Health care campus, Haifa
Multidisciplinary rehabilitation of a periodontally compromised dentition

10:05-10:30 **Coffee Break**

10:30-12:15 **Session 2** — **Hall B+C**

10:30-11:05 **Case presentation 3**
Dr. Marina Korektor-Rubinstein, Sheba medical center, Tel Hashomer
Functional and esthetic rehabilitation of a case of Amelogenesis Imperfecta complicated by tooth–jaw size discrepancies, skeletal and dental class II malocclusion, and excessive horizontal and vertical overlap

11:05-11:40 **Case Presentation 4**
Dr. Netanel Shooraki, Galilee medical center, Nahariya
Rethinking the complete denture workflow with digital tools

11:40-12:15 **Case Presentation 5**
Dr. Etti Goman, Hadassah medical center, Ein Kerem
Full-Mouth rehabilitation of severe erosive and bio-corrosive tooth wear: Clinical strategies for VDO elevation and long-term durability of direct and indirect restorations

12:15-13:30 **Lunch Break**

ISP Annual Meeting (during lunch) ISP Members only — **Hall A**

13:30-14:00 **EPA 2026 opening ceremony**
Welcome and opening remarks:
His Excellency, Mr. Isaac Herzog, the President of the State of Israel
Prof. Eitan Mijiritsky, President of the EPA
Dr. Lior Katsap, President of the Israeli Dental Association

14:00-15:00 **Workshop** — **Meeting 6**

Align | Mohammed Elal
Discover exocad with iTero design suite:
From scan to crown in under 7 minutes

14:00-16:00 **Session 3** — **Hall B+C**
Moderators: Prof. Guillermo Pradies, Prof. Rui Falacho

14:00-14:45 
Prof. Francesco Mangano
Artificial intelligence & mixed reality in implant dentistry

14:45-15:15 
Prof. Esi Sharon-Sagie
Amelogenesis Imperfecta: From diagnosis to full-mouth rehabilitation

15:15-16:00 
Prof. Fernando Zarone
Digital Game-Changers and materials of today: A perfect synergy

16:00-16:30 **Coffee Break**

16:30-18:00 **Workshop** — **Meeting 6**

MDT & NDM | Dr. Mario Dawud
Mastering partial crowns:
The complete workflow - From preparation to cementation

16:30-18:30 **Session 4** — **Hall B+C**
Moderators: Prof. Rafael Martínez De Fuentes, Dr. Snjezana Pohl

16:30-17:15 
Prof. Phophi Kamposiora
From pixels to prostheses: Precision, predictability, and patient-centered care (3P's concept)

17:15-18:00 
Dr. Tommaso Weinstein — Sponsored by
Digital planning of ortho-restorative rehabilitation:
Unlocking minimally invasive restorations

18:00-18:30 
Dr. Linda Greenwall
The role of tooth bleaching in prosthodontics

18:30-19:30 **Gala Dinner** — **Pool**

Thursday, September 3, 2026

08:00-08:45 Registration & visit the dental exhibition

08:45-10:30 — **Session 5** — Hall B+C
Moderators: Prof. George Papavasiliuo, Prof. Izchak Barzilay

08:45-09:15 
Prof. Martin Gross
Prosthodontics and temporomandibular disorders

09:15-10:00 
Dr. Snjezana Pohl
To preserve or not to preserve the ridge?
Practical guidelines for favorable prosthetic outcomes

10:00-10:30 
Prof. Nitzan Bichacho
Managing challenges in smile-zone implant restorations

09:00-10:30 — **Workshop** — Meeting 6

Surcam | Dr. Ferdman Oren & Dr. Barsheshet Shiran - Prosthodontists
Dental implants and immediate loading - From theory and clinical principles into practice

10:30-11:15 **Coffee Break**

11:15-13:15 — **Session 6** — Hall B+C
Moderators: Prof. Fernando Zarone, Dr. Kenneth Serota

11:15-12:00 
Prof. Vygandas Rutkūnas
So you made perfect digital impression? Now the game begins

12:00-12:45 
Dr. Oscar Gonzales
Fundamentals in perio-prostho treatment in the aesthetic area

12:45-13:15 
Dr. Yuval Wind Sponsored by solventum
Adhesion and cementation – Essential tools for minimally invasive oral rehabilitation: Current status 2026

11:15-13:15 — **Session 7** — Hall A
Oral presentation

11:15-11:24 Opening remarks

11:24-11:36 Magnet-assisted retention of a large obturator prosthesis following total maxillectomy in an edentulous patient
Mark Penn OMFS Department, Tel-Aviv Medical Center, Israel

11:36-11:48 Centric and dynamic Mandibular/Maxillary reference positions: Analog and digital
Emilio Carlos Zanattaen, Brazil

11:48-12:00 Redefining "Lost Cases": State-of-the-Art endodontic foundations for advancing interdisciplinary prosthodontics
Boaz Shay, Department of Endodontics, Hadassah Medical Center, Jerusalem, Israel

12:00-12:12 QASi-containing bonding agent kills bacteria before biofilm initiation
Omer Enoch, Naor Sagy, Daniel Z. Bar, Department of Oral Biology, School of Dental Medicine, Tel Aviv University, Tel Aviv, Israel

12:12-12:24 The impact of non-surgical periodontal therapy on the frequency and intensity of sleep bruxism assessed by surface electromyography. A pre-post quasi-experimental study
Ovidiu Ionut Saracutu, Isabella De Rubertis, Nicola Discepoli, Edoardo Ferrari Cagidiaco, Marco Ferrari, Daniele Manfredini
Department of Medical Biotechnologies, University of Siena, Italy

12:24-12:36 Clinical performance of implant-supported restorations on titanium-base abutments with different restorative materials and bonding protocols: A systematic review and meta-analysis
Athanasios Stratos, Athina Niakou Savvas Kamalakidis, Dimitrios Tortopidis, Polychronis Michalakis, Dimitra Vasilaki, Alexander Tsouknidas, Argirios Pisiotis
Department of Prosthodontics, Faculty of Dentistry, School of Health Sciences, Aristotle University of Thessaloniki, Thessaloniki, Greece

12:36-12:48 From pixels to smiles:
Digital full-arch implant rehabilitation and quality of life
Livnat Atar Froyman, Lorian medical-clinic for maxillofacial surgery and oral rehabilitation clinic, Israel

12:48-13:00 Evaluating CAD/CAM Implant-Crown misfit across different platforms
Amir Gazmawe, Department of Peosthodontics and Maxillofacial Rehabilitation, Rambam Medical Center, Haifa, Israel

13:00-13:15 Peri-implant strain distribution in the posterior maxilla supporting a full-arch prosthesis: Influence of implant marco-design
Ameer Biadsee, Eden Shlomi, Zeev Ormianer
Department of Oral Rehabilitation, School of Dental Medicine, Tel Aviv University, Tel Aviv, Israel

11:15-13:15 — **Workshop** — Meeting 6

GC | Dr. Alon Amit
Chairside synchronous restorations:
Single-visit 3D-printed partial crowns

13:15-14:00 **Lunch Break**

14:00-16:00 — **Session 8** — Hall B+C
Moderators: Prof Kohavi David, Dr. Ricardo Mitrani

14:00-14:45 
Prof. Márton Kivovics
Implant-supported overdentures in the management of the elderly patient

14:45-15:15 
Prof. Yael Houri-Haddad
Losing teeth or losing your mind? The emerging link between dental implants, inflammation, and cognitive decline

15:15-16:00 
Dr. Francesco Grande
Predictable workflows for managing complete digital dentures

14:00-16:00 — **Workshop** — Meeting 6

Shining 3D Dental & Cocoon
The digital patient:
A complete digital workflow for advanced restorative dentistry

14:00-16:00 — **Session 9** — Hall A
Oral presentation

14:00-14:12 Scanning electron microscopy evaluation of diamond bur wear
Sara Alfonso, Giulia Verniani, Edoardo Ferrari Cagidiaco
Department of Medical Biotechnologies, Division of Fixed Prosthodontics and Dental Materials, University of Siena, Siena, Italy

14:12-14:24 Mechanisms of Neutrophil-Driven breakdown of resin composites and dentin
Yuval Peled[1], Cameron A. Stewart[1,2], Michael Glogauer[1,3], Yoav Finer[1,2] *
[1]Faculty of Dentistry, [2]Institute of Biomedical Engineering, [3]Department of Dental Oncology, University of Toronto, Toronto, Canada

14:24-14:36 The Visio Logic methodology for treatment plan formulating
Eyal Tagari, Private practice, Tel Aviv, Israel

14:36-14:48 Survival and complications of Resin-Bonded fixed prostheses: 10 year retrospective study
Mor Levi Ben Sira[1], Avraham Zini[2], Mor Shlezinger[1]
[1]Department of Prosthodontics, [2]Department of Community Dentistry, Hebrew University-Hadassah School of Dental Medicine, Jerusalem, Israel

14:48-15:00 Biomechanical assessment of endocrown versus fiber post and conventional crown
Athina Niako[1], Konstantinos Krommydas[2], Athanasios Stratos[3], Dimitra Vasilaki[4], Savvas Kamalakidis[5], Argirios Pissiotis[6], Dimitrios Tortopidis[7], Konstantinos Michalakis[8], Alexander Tsouknidas[9]
Faculty of Dentistry, School of HealtSciences, Aristotle University of Thessaloniki, Thessaloniki, Greece

15:00-15:12 Cross sectional evaluation of non-invasive veneers under USPHS criteria
Polykarpos Papanagiotou, Phophoi Kamposiora, George Papavasiliou,
Department of Prosthodontics, Dental School of Athens, Greece

15:12-15:24 Mandibular anterior tooth angulation is associated with gingival recession: A CBCT-Based Intra-Individual analysis of severity and morphological characteristics
Meizi Eliezer, Irina-Georgeta Sufaru, Gil Asafrana, Alla Belova, Moshe Cohen, Darian Rusul, Stefan Stratul
Tel Aviv University Victor Babes Medical University, Israel

15:24-15:36 The PATZI protocol and the STAR concept: A digital Decision-Making framework for prosthetic rehabilitation of maxillectomy defects
Amin Boukhari, Rambam Healthcare Campus - Haifa, Israel

15:36-15:48 Temporary implants and Allogenic Bone Blocks:
The bridge to permanent implants in complex cases
Benjamin Retzkin, Private Clinic, Israel

15:48-16:00 Influence of prosthesis contours on Non-Surgical Peri-Implant therapy: A randomized controlled trial
Isabella De Rubertis, Adriano Fratini, Francesco Gramegna, Arshia Moghadam, Marco Ferrari, Nicola Discepoli,
University of Siena, Siena, Italy

16:00-16:12 Facial epithesis as an alternative to surgical reconstruction
Riccardo Favero, Vittorio Favero, Adolfo di Fiore, Edoardo Stellin, Marcello Camalleri, University of Padova, Italy

16:12-16:22 Crafting Perfection: Ceramic Restorations and Predictable Aesthetics Through Digital Solutions
Prof. George Papavasiliou

16:00-16:30 **Coffee Break**

16:30-18:00 — **Session 10** — Hall B+C
Moderators: Prof. Vygandas Rutkūnas, Dr. Nicole Winitsky

16:30-17:15 
Prof. Marco Ferrari
Direct and indirect solutions for wear teeth

17:15-18:00 
Dr.Ricardo Mitrani
What went wrong... Analyzing collateral damage in interdisciplinary dentistry

16:30-18:00 — **Workshop** — Hall A

ZIA | Dr. Aiman Khoury
The power of conical IA in bone regeneration

18:00 **Cocktail** - Invitation only

Friday, September 4, 2026

08:00-08:45	Registration Desk open	
08:45-11:00	**Session 11** **Moderators: Dr. Asher Zabrovsky, Dr. Zvi Gutmacher**	**Hall B+C**
08:45-09:30	 **Prof. Kenneth A. Malament** An advanced perspective on lithium disilicate restorations in the age of zirconia	
09:30-10:15	 **Prof. Gil Alcoforado** Peri-implantitis seen by the prosthodontist	
10:15-11:00	 **Dr. Nicole Winitsky** Successful single implant treatment in young adults	
11:00-11:45	**Brunch**	
11:45-14:15	**Session 12** **Moderators: Dr. Michal Steinkeller-Dekel, Prof. Gil Alcoforado**	**Hall B+C**
11:45-12:15	 **Prof. Shifra Levartovsky** Fixed full-arch implant restorations: Clinical insights on treatment planning, digital vs. analog workflows, and long-term outcomes	
12:15-13:00	 **Dr. Tal Morr** Conventional restorative vs. true inter-disciplinary management of esthetic and functional dilemmas! Considerations, decision making and challenges	
13:00-13:30	 **Prof. Ami Smidt** IPTIC technique - Placing an implant in the presence of an impacted maxillary canine - Rationale and technique using a computer guiding software in a two stage procedure	
13:30-14:15	 **Prof. Izchak Barzilay** Rethinking implant design selection: Matching design to patient anatomy	
14:15	**EPA General Assembly ABM** **Closing remarks and farewell - Photo together**	**Hall A**

ORAL PRESENTATION

MAGNET-ASSISTED RETENTION OF A LARGE OBTURATOR PROSTHESIS FOLLOWING TOTAL MAXILLECTOMY IN AN EDENTULOUS PATIENT

Mark Penn

OMFS Department, Tel-Aviv Medical Center, Israel

Rehabilitation of extensive maxillary defects in edentulous patients remains a significant prosthetic challenge, particularly when achieving adequate retention, support, and stability of a large obturator prosthesis. While implants, bar attachments, and magnetic retention systems have been described individually for maxillofacial rehabilitation, their combined use may offer additional advantages in selected cases.

This presentation reports the rehabilitation of an elderly edentulous patient following total maxillectomy, in whom a large obturator prosthesis was successfully retained and supported by an implant-supported double-bar framework supplemented with magnetic attachments. The design concept and its clinical implications for improving prosthesis function will be presented.

CENTRIC AND DYNAMIC MANDIBULAR/MAXILLARY REFERENCE POSITIONS: ANALOG AND DIGITAL

Emilio Carlos Zanattaen

Brazil

Background:
Instrumentation is essential for locating, recording, and transferring the mandibular reference and therapeutic positions to an analog or digital articulator.

Aim:
This data will enable the study of occlusal contacts in different centric and eccentric positions of the mandible for the planning of oral rehabilitation.

Materials and Methods:
The combined use of the following resources will be presented: 1- MiniReg, an anterior analog device for obtaining Gysi's gothic arch and the interocclusal registration. 2- Wax occlusogram. 3- The use of Occlusense by Bausch (an electronic sensor that graphically records the intensity of occlusal load). 4- Scanning of the upper and lower dental arches, and 5- JMA - Optic by Zebris for electronic recording of condylar and dental trajectories.

Results:
A medical history, clinical examination, and radiographic evaluation, combined with the data obtained from these five clinical procedures, enabled the professional to effectively plan the stages of the occlusal splint and oral rehabilitation.

Conclusions:
1.The protocol established for the use of analog and digital clinical instruments helped to ensure and confirm data on the mandibular-maxillary relationship for application in oral rehabilitation.
2.Understanding the principles of dentistry applied to occlusion reduces the learning curve associated with the use of digital devices.

Oral presentation
2

REDEFINING “LOST CASES”: STATE-OF-THE-ART ENDODONTIC FOUNDATIONS FOR ADVANCING INTERDISCIPLINARY PROSTHODONTICS

Boaz Shay

Faculty of Dental Medicine, Hebrew University of Jerusalem,
Department of Endodontics, Hadassah Medical Center, Jerusalem,
Israel Private Clinic-Herzliya Israel

Aim:
To demonstrate the efficacy of modern endodontic protocols as a primary biological alternative to extraction in complex oral rehabilitation, shifting the clinical focus from tooth replacement to predictable salvage.

Materials and Methods:
A standardized interdisciplinary framework was applied, integrating prosthetic, periodontal, and endodontic diagnostic criteria alongside patient-specific values. Advanced diagnostic protocols used high-resolution, small-field-of-view (SFOV) 3D imaging to identify subtle structural defects and anatomical complexities that are invisible on conventional radiography. Management strategies involved high-magnification microsurgical and non-surgical interventions, using specialized instrumentation and advanced biomaterials to overcome intracanal obstructions and biological failures while preserving the maximum possible tooth structure.

Results:
The integration of precision technologies and a multi-dimensional assessment enabled the predictable retention of teeth previously deemed non-restorable. Clinical outcomes demonstrated significant rates of periapical healing and the restoration of physiological stability, allowing these teeth to serve as reliable foundations for comprehensive prosthetic restorations over long-term follow-up periods.

Conclusions:
Modern endodontics offers a significant paradigm shift in the management of compromised teeth. By combining technological precision with a patient-centered, interdisciplinary approach, clinicians can successfully preserve the natural dentition, upholding biological integrity and patient autonomy as guiding principles in oral rehabilitation.

Oral presentation
3

QASI-CONTAINING BONDING AGENT KILLS BACTERIA BEFORE BIOFILM INITIATION

Omer Enoch

Omer Enoch — Department of Oral Biology, Goldschleger School of Dental Medicine, Gray Faculty of Medical and Health Sciences, Tel Aviv University, 69978 Tel Aviv, Israel
Naor Sagy — Department of Oral Biology, Goldschleger School of Dental Medicine, Gray Faculty of Medical and Health Sciences, Tel Aviv University, 69978 Tel Aviv, Israel
Daniel Z. Bar — Department of Oral Biology, Goldschleger School of Dental Medicine, Gray Faculty of Medical and Health Sciences, Tel Aviv University, 69978 Tel Aviv, Israel

Aim:
Secondary caries at the tooth-restoration interface remains the leading cause of restoration failure. Previous studies evaluated a quaternary-ammonium-silica (QASi)-containing composite against oral bacteria. Here, we report the antibacterial efficacy and mechanism of action of QASi-containing bonding.

Materials and Methods:
The QASi-containing bonding agent (Infinix) was compared with the conventional adhesives Scotchbond Universal (3M) and All-Bond Universal (Bisco). Using whole-saliva bacteria, antibacterial efficacy was assessed by the Direct Contact Test (one-way ANOVA with Bonferroni post hoc). Biofilm formation was evaluated by scanning electron microscopy (SEM) on dentin surfaces. Bacterial membrane integrity was monitored in real-time by live confocal microscopy with propidium iodide (PI) fluorescence using fluorescent E. coli (n=30 QASi, n=25 control; Welch's t-test).

Results:
The QASi-containing bonding agent significantly inhibited salivary bacterial growth compared to Scotchbond Universal and All-Bond Universal ($p<0.001$). Using SEM, while conventional bonding agents developed dense biofilms, QASi-treated surfaces remained largely free of bacterial colonization. Confocal microscopy demonstrated rapid and progressive membrane permeabilization, with bacterial death occurring in less than 6 minutes after contact, well less than bacterial generation time ($p<0.0001$).

Conclusions:
QASi-containing restorative systems provide potent, contact-mediated antibacterial activity without releasing antimicrobial compounds, eliminating bacteria before biofilm initiation. This technology represents a promising strategy for reducing secondary caries at the tooth-restoration interface.

Oral presentation
4

THE IMPACT OF NON-SURGICAL PERIODONTAL THERAPY ON THE FREQUENCY AND INTENSITY OF SLEEP BRUXISM ASSESSED BY SURFACE ELECTROMYOGRAPHY. A PRE-POST QUASI-EXPERIMENTAL STUDY

Ovidiu Ionut Saracutu

Isabella De Rubertis, Nicola Discepoli, Edoardo Ferrari Cagidiaco,
Marco Ferrari, Daniele Manfredini
Department of Medical Biotechnologies, University of Siena, Italy

Background:
The present pre-post quasi-experimental study aims to evaluate whether non-surgical periodontal therapy (Step 1 and Step 2 of the EFP (European Federation of Periodontology)
S3-level clinical practice guidelines) significantly affects the frequency and intensity of both awake bruxism and sleep bruxism in patients with periodontitis and to compare these outcomes with those observed in periodontally healthy individuals undergoing professional mechanical plaque removal (PMPR).

Materials and Methods:
Periodontal clinical variables and instrumental assessment of bruxism were assessed at baseline and at the 3-month re-evaluation visit. For bruxism assessment, 24-hour surface electromyographic (EMG) activity of the left masseter muscle was recorded using a portable surface EMG device (dia-BRUXO, Biotech-Novations, Sanremo, Italy). The minimum required sample size was estimated at 15 participants per group for a desired statistical power of 80% ($\beta = 0.20$). A multivariate logistic regression model was constructed. Significance was set at $p<0.05$. The research protocol was registered on Clinicaltrials.gov (NCT07053878).

Results:
No significant changes were found in the whole cohort in the awake and sleep bruxism indexes between baseline and the 3-month follow-up. In addition, multivariate logistic regression showed a statistically significant correlation in patients with periodontitis between the sleep BTI and AL gain, with an Odds Ratio of 12.

Conclusions:
The present clinical trial suggests that periodontitis may be associated with a dampened expression of sleep bruxism, possibly through discomfort-related inhibitory mechanisms,
and that successful treatment is followed by sleep bruxism activity reaching a level representative of the patient's baseline neuromuscular behavior.

Oral presentation
5

CLINICAL PERFORMANCE OF IMPLANT-SUPPORTED RESTORATIONS ON TITANIUM-BASE ABUTMENTS WITH DIFFERENT RESTORATIVE MATERIALS AND BONDING PROTOCOLS: A SYSTEMATIC REVIEW AND META-ANALYSIS

Athanasios Stratos

Athanasios Stratos, Athina Niakou Savvas Kamalakidis, Dimitrios Tortopidis, Polychronis Michalakis, Dimitra Vasilaki, Alexander Tsouknidas, Argirios Pisiotis

Department of Prosthodontics, Faculty of Dentistry, School of Health Sciences, Aristotle University of Thessaloniki, Thessaloniki, Greece

Background:

Titanium-base abutments have become increasingly popular in implant prosthodontics because they offer CAD/CAM flexibility, favorable esthetics, and mechanical stability. However, evidence on how restorative materials and bonding protocols affect long-term clinical outcomes remains limited and heterogeneous.

Aim:

To systematically evaluate the clinical performance of implant-supported restorations on Ti-base abutments fabricated using different restorative materials and bonding protocols.

Materials and Methods:

A systematic review and meta-analysis were conducted in accordance with PRISMA guidelines and registered with PROSPERO (CRD420251078384). Electronic searches were conducted in PubMed/MEDLINE, Scopus, and Cochrane CENTRAL between 2013 and 2026. A total of 1,468 records were identified. After duplicate removal and title/abstract screening, 76 full-text articles were assessed for eligibility. Nineteen studies were included in the qualitative synthesis. Outcomes assessed included restoration survival, implant survival, marginal bone loss, technical and biological complications, and patient-reported outcomes.

Results:

Follow-up periods ranged from 3 to 7.5 years. Reported restoration survival rates ranged from 94.4% to 100%, and implant survival frequently reached 100%. Monolithic lithium disilicate and zirconia restorations showed favorable peri-implant tissue stability and high patient satisfaction. The most common technical complications included ceramic chipping, screw loosening, and occasional debonding.

Conclusions:

Implant-supported restorations on Ti-base abutments demonstrate predictable medium- and long-term clinical performance, with high survival rates and stable peri-implant tissues. Monolithic lithium disilicate and zirconia restorations appear particularly reliable, although restorative design and bonding protocols remain key determinants of the risk of technical complications.

Oral presentation
6

FROM PIXELS TO SMILES: DIGITAL FULL-ARCH IMPLANT REHABILITATION AND QUALITY OF LIFE

Livnat Atar Froyman, Prosthodontist
Lorian medical-clinic for maxillofacial surgery
and oral rehabilitation clinic, Israel

Objective:
The aim of this presentation is to demonstrate the clinical workflow and efficacy of a fully digital approach to full-arch implant rehabilitation. By showcasing clinical cases, we highlight how the transition from traditional analog methods to a streamlined digital protocol enhances prosthetic precision and significantly improves patient-reported quality of life (QoL).

Methods:
A series of clinical cases involving edentulous and terminal dentition patients were treated using a comprehensive digital workflow. The protocol integrated intraoral scanning, CBCT data, and facial scanning for virtual patient integration. CAD/CAM technology was utilized for the design and fabrication of both provisional and final monolithic zirconia restorations. Patient satisfaction and QoL improvements were assessed through clinical follow-ups and qualitative feedback regarding aesthetics, phonetics, and masticatory function.

Results:
The digital workflow allowed for high accuracy in the passive fit of the prostheses and reduced the number of clinical appointments compared to conventional methods. Patients reported immediate functional restoration and a rapid psychological transition. Significant improvements were observed in facial aesthetics and self-confidence. The “all-digital” approach minimized patient discomfort during the impression-taking stage and provided predictable, long-term aesthetic outcomes.

Conclusions:
Digital full-arch rehabilitation represents a paradigm shift in restorative dentistry. By leveraging end-to-end digital tools, clinicians can achieve superior prosthetic outcomes while drastically enhancing the patient’s experience. The synergy between digital precision and clinical expertise effectively transforms “pixels into smiles,” restoring not just dental function but overall quality of life.

Oral presentation
7

EVALUATING CAD/CAM IMPLANT-CROWN MISFIT ACROSS DIFFERENT PLATFORMS

Amir Gazmawe

Department of Prosthodontics and Maxillofacial Rehabilitation,
Rambam Medical Center, Haifa Israel

Aim:
This lecture explores the biomechanical challenges of achieving a passive fit in fully digital implant prosthodontics. It specifically analyzes how the geometry of different implant-abutment connections (e.g., internal hex, conical/Morse taper) interacts with CAD/CAM workflow variables, including intraoral scanner accuracy and software design tolerances.

Conclusions:
The lecture provides actionable guidelines and protocols to minimize marginal and internal misfit, ultimately reducing the risk of periodontal and mechanical complications.

Oral presentation
8

PERI-IMPLANT STRAIN DISTRIBUTION IN THE POSTERIOR MAXILLA SUPPORTING A FULL-ARCH PROSTHESIS: INFLUENCE OF IMPLANT

Ameer Biadsee

Ameer Biadsee, Eden Shlomi, Zeev Ormianer

Department of Oral Rehabilitation, The Maurice and Gabriela Goldschleger School of Dental Medicine, Tel Aviv University, Tel Aviv, Israel

Aim:
Implant rehabilitation in the posterior maxilla presents biomechanical challenges related to reduced bone density and limited cortical support. The purpose of this in vitro study was to evaluate the influence of implant macro-design on peri-implant strain distribution at strain-gauge recording sites in a posterior maxillary model. A secondary objective was to assess the effect of implant angulation at the distal site.**Materials and Methods:**
Three in vitro maxillary models were fabricated using rigid polyurethane blocks. In each model, six implants were placed at FDI sites 12, 14, 16, 22, 24, and 26. The distal implants at the maxillary first molar sites (16 and 26) differed among 3 experimental configurations: Bone Level Tapered (BLT), Bone Level Extreme (BLX), and Tissue Level/Tissue Level Extreme (TL/TLX), whereas the remaining sites were standardized as parallel BLT implants. At site 16, implants were placed either parallel or at a 30-degree angulation, whereas implants at site 26 were placed parallel. Full-arch monolithic zirconia restorations were fabricated. Strain gauges were bonded to the cortical surface at implant sites 14, 16, 24, and 26. Peri-implant strain (με) was recorded under a static 100-N axial load and analyzed using repeated-measures general linear models (α=0.05).

Results:
Peri-implant microstrain differed among implant macro-designs and sites. At the distal parallel site (26, X-axis), strain differed significantly among configurations ($F(2,10)=5.51$, $P=0.02$), with higher values for BLX than TL/TLX (186.21 ±154.99 vs 55.54 ±89.66 με; $P=0.02$). Within the BLT model (Y-axis), distal strain at site 26 was significantly higher than mesial strain at site 14 (304.89 ±177.41 vs 20.82 ±18.12 με; $P=0.01$).

Conclusions:
Implant macro-design influenced peri-implant strain distribution in the posterior maxillary model. The BLX configuration showed higher strain values at the distal parallel site, particularly when compared with the TL/TLX configuration.

SCANNING ELECTRON MICROSCOPY EVALUATION OF DIAMOND BUR WEAR

Sara Alfonso

Giulia Verniani, Edoardo Ferrari Cagidiaco

Department of Medical Biotechnologies, Division of Fixed Prosthodontics and Dental Materials, University of Siena, Siena, Italy

Objective:
To qualitatively evaluate the wear patterns of commercially available diamond rotary instruments from different manufacturers following repeated clinical use using scanning electron microscopy (SEM), with the aim of assessing their potential clinical durability.

Methods:
Fifteen diamond burs commonly used for vertical and horizontal tooth preparations were investigated. Nine burs for vertical and six for horizontal tooth preparations, representing six manufacturers, were included. The burs differed in grit size (coarse, medium, and fine) and geometry (tapered, round-end cylindrical, and shoulder/chamfer). Thirty extracted human teeth with intact crowns were prepared under standardized conditions. Baseline SEM images were acquired before use and after 1, 5, and 10 preparation cycles. Specimens were examined at standardized magnifications (×50, ×200, and ×450). Qualitative SEM assessment focused on diamond particle integrity, surface morphology, particle loss, and overall wear patterns. All procedures and SEM image evaluations were performed under blinded conditions.

Results:
Progressive surface deterioration was observed in all tested burs with increasing clinical use. After five preparation cycles, most instruments exhibited evident diamond particle loss and surface alterations, while after ten cycles marked wear and substantial reduction of the cutting surface were consistently identified, regardless of manufacturer.

Conclusions:
Within the limitations of this qualitative observational study, repeated clinical use was associated with progressive wear of all investigated diamond burs. The findings suggest that reuse beyond five clinical uses should be discouraged because of the progressive wear observed by SEM, despite the common clinical practice of reusing instruments intended for single use.

Oral presentation
10

MECHANISMS OF NEUTROPHIL-DRIVEN BREAKDOWN OF RESIN COMPOSITES AND DENTIN

Yuval Peled

Yuval Peled[1], Cameron A. Stewart[1,2], Michael Glogauer[1,3], Yoav Finer[1,2] *
[1]Faculty of Dentistry, [2]Institute of Biomedical Engineering,
University of Toronto, Toronto, ON M5S 1A1, Canada
[3]Department of Dental Oncology, Maxillofacial and Ocular Prosthetics,
Princess Margaret Cancer Centre, Toronto, ON, Canada

Background:
Caries is one of the most prevalent chronic diseases worldwide and a leading cause for tooth loss and orofacial pain. Human neutrophils (HN), key innate immune cells, present in blood, saliva, and gingival cervical fluid, interact with oral bacteria and have been shown to degrade dentinal collagen, methacrylate resin-based composites (RBC), and the tooth-restoration interface. This activity may contribute to caries progression and restoration failure; however, the underlying mechanisms remain unclear.

Aim:
To characterize the cellular and enzymatic mechanisms of HN degradation of resin-based restorative materials and dentinal collagen.

Materials and Methods:
Human neutrophils were isolated from healthy blood donors, and demineralized dentin slabs (DDS) were harvested from extracted human teeth under University of Toronto ethics approval. (1) Degradative activity of HN and HN-derived enzymes towards RBC, adhesives, monomers, and DDS, was quantified. (2) HN activation profiles were assessed using cluster of differentiation (CD) marker expression following exposure to resin-based restoratives and DDS. (3) The effect of host-bacterial interaction on degradative activity was evaluated by co-incubation with Streptococcus mutans (S. mutans).

Results:
The HN-derived enzymes neutrophil elastase and cathepsin G differentially degraded resin-based restoratives and dentinal collagen. DDS exposure upregulated phagocytosis markers, while resin-based restoratives increased migration and adhesion marker expression, indicating substrate-specific activation profiles. Higher S. mutans concentrations reduced HN viability in a dose-dependent manner.

Conclusions:
HN exhibit substrate-dependent activation and degradative activity toward dentin and resin-based restoratives, suggesting a previously underrecognized role in caries progression and restoration failure.

THE VISIO LOGIC METHODOLOGY FOR TREATMENT PLAN FORMULATING

Eyal Tagari

Dr. Eyal Tagari, Private practice, Tel Aviv, Israel

Background:
Based on the principles of the “logical thinking process” from the “Theory of constraint”, using Visual thinking and other established disciplines, this methodology integrates a combined Visual and Logical approach, for the process of constructing the treatment plan.

Aim:
This presentation will introduce the Visio Logic methodology for Treatment plan formulating.

Materials and Methods:
The new methodology utilizes a “mapping” process of the dental and medical findings in a graphical form, continuing those lists in a workflow pattern, thus employing visual cues, logical reasoning, and visualizing relationships between different information item to help and guide the construction of an integrative, logically supported treatment plan.

Conclusions:
Using the Visio Logic methodology is an “eye opener” and a game changing experience, as it opens new horizons of information mapping and cause and effect planning, and has the ability to unlock unprecedented levels of decision-making performance.

SURVIVAL AND COMPLICATIONS OF RESIN-BONDED FIXED PROSTHESES: 10 YEAR RETROSPECTIVE STUDY

Mor Levi Ben Sira[1],

Avraham Zini[2], Mor Shlezinger[1]

[1]Department of Prosthodontics, [2]Department of Community Dentistry,
Hebrew University-Hadassah School of Dental Medicine, Jerusalem, Israel

Background:
Resin-bonded fixed dental prostheses (RBFDPs, Maryland bridges) are minimally invasive prostheses used to restore missing anterior teeth. This retrospective study evaluated the 10-year survival and success rates of direct and indirect RBFDPs treated at the Hebrew University-Hadassah.

Materials and Methods:
Data were collected via RAPID software (2013-2023) following Helsinki approval (HMO-0017-24). RBFDP presence or absence and associated complications were assessed by two examiners based on modified USPHS criteria (fractures, secondary caries, marginal adaptation, debonding, color stability, post-operative sensitivity and patient satisfaction). Statistical analyses included Kaplan- Meier survival analysis, ANOVA, Chi- square and regression tests ($p < 0.05$).

Results:
Forty-one patients with 45 RBFDPs (33% mandibular, 66% maxillary) were clinically evaluated. 40% metal framework (porcelain fused to metal or acrylic), 46.7% ceramic based (lithium disilicate or zirconia) and 13.3% direct restorations (composite or acrylic). Single wing RBFDPs were predominantly ceramic (90%), whereas multi winged prostheses (three or more retainers) were mainly metal based (73.3%) ($p < 0.05$). The 10 years survival rate was 88.9% ($p < 0.01$). Among failed restorations, 60% were metal based. Qualified dentists achieved significantly higher survival rates than dental students (95% vs. 66.7%, $p < 0.05$). Prior orthodontic treatment correlated with significantly higher survival compared to no prior treatment (100% vs. 76%, $p < 0.05$). The 10 years success rate was 88.9%, main complications included debonding (17.5%), restoration fractures (8.9%) and secondary caries (5%).

Conclusions:
BFDPs demonstrated high 10-year survival and success rates. Operator experience, prior orthodontics, and material-design selection significantly influence prosthesis longevity.

Oral presentation
13

BIOMECHANICAL ASSESSMENT OF ENDOCROWN VERSUS FIBER POST AND CONVENTIONAL CROWN

Athina Niako[1],

Konstantinos Krommydas[2], Athanasios Stratos[3], Dimitra Vasilaki[4], Savvas Kamalakidis[5], Argirios Pissiotis[6], Dimitrios Tortopidis[7], Konstantinos Michalakis[8], Alexander Tsouknidas[9]

[1]Postgraduate Resident, Department of Prosthodontics, Faculty of Dentistry, School of Health Sciences, Aristotle University of Thessaloniki, Thessaloniki, Greece.
[2]Doctoral student, Laboratory of Biomaterials and Computational Mechanics, Department of Mechanical Engineering, University of Western Macedonia, Kozani, Greece.[3]Clinical Instructor, Department of Prosthodontics, Faculty of Dentistry, School of Health Sciences, Aristotle University of Thessaloniki, Thessaloniki, Greece.
[4]Clinical Assistant Professor, Department of Restorative Sciences & Biomaterials, Henry M. Goldman School of Dental Medicine, Boston University, Boston, Mass.
[5]Assistant Professor, Department of Prosthodontics, Faculty of Dentistry, School of Health Sciences, Aristotle University of Thessaloniki, Thessaloniki, Greece; and Adjunct Assistant Professor, Department of Prosthodontics, School of Dental Medicine, Tufts University, Boston, Mass.
[6]Professor Emeritus, Department of Prosthodontics, Faculty of Dentistry, School of Health Sciences, Aristotle University of Thessaloniki, Thessaloniki, Greece.[7]Associate Professor and Chair, Department of Prosthodontics, Faculty of Dentistry, School of Health Sciences, Aristotle University of Thessaloniki, Thessaloniki, Greece. [8]Professor and Chair, Department of Restorative Sciences & Biomaterials, Henry M. Goldman School of Dental Medicine, Boston University, Boston, Mass.; and Professor, Boston University Center for Multiscale and Translational Mechanobiology, Boston, Mass.
[9]Associate Professor and Director, Laboratory for Applied Biomechanics, Department of Restorative Sciences & Biomaterials, Henry M. Goldman School of Dental Medicine, Boston University, Boston, Mass.; and Professor, Boston University Center for Multiscale and Translational Mechanobiology, Boston, Mass.

Aim:
To evaluate the biomechanical behavior of a mandibular molar restored with an endocrown versus a fiber post, composite core and a conventional crown, using three-dimensional finite element analysis.

Materials and Methods:
A fully dentate mandible was reconstructed using micro–computed tomography. A mandibular first molar was restored with either a lithium disilicate endocrown, or a fiber post, composite core, and lithium disilicate crown (FPCC). In the endocrown configuration, a 2-mm ferrule and a 3-mm intracoronal extension were applied. In the FPCC model, ferrule and composite core heights were standardized at 2 mm each, resulting in a 4-mm prepared tooth height. The base-crown preparation height ratio was 0.4, and a total occlusal convergence of 6°. Chamfer margin was used for both configurations. Physiological loading under maximum intercuspation was simulated under controlled and reproducible boundary conditions. Maximum principal stress was evaluated in dental tissues, whereas von Mises stress was assessed in restorative components, focusing on interfacial and internal stresses.

Results:
Both restorative configurations demonstrated comparable stress distribution in dentin. However, stress concentration patterns differed. The FPCC model exhibited higher tensile stresses at the crown–core–post interface and along the root canal, whereas the endocrown showed stress concentrations mainly in the coronal and cervical regions. These patterns suggest distinct load transfer mechanisms and potential differences in failure initiation sites.

Conclusions:
Restoration design influenced stress distribution patterns and load transfer pathways. Both restorative approaches exhibited distinct biomechanical behavior, which may explain the different failure modes and be clinically relevant when selecting treatment strategies for endodontically treated molars.

Oral presentation

CROSS SECTIONAL EVALUATION OF NON-INVASIVE VENEERS UNDER USPHS CRITERIA

Polykarpos Papanagiotou

Polyarpos Papanagiotou, Doctorate, **Phophoi Kamposiora**, Associate Professor, Department of Prosthodontics, **George Papavasiliou**, Assistant Professor, Department of Prosthodontics, Dental School of Athens

This cross-sectional study will evaluate and compare the clinical performance of non-invasive laminate veneers in patients with tooth diastemas in the frontal area.

Ten patients with tooth diastema in the frontal area were included in this study. Each tooth diastema was treated with one feldspathic and one lithium disilicate non-invasive laminate veneer. The veneers were evaluated by two investigators at baseline, immediately after cementation, at four and at twelve months of function according to the modified United States Public Health Service (USPHS) criteria. The parameters under evaluation included anatomical form, marginal discoloration, marginal integrity, restoration color stability, secondary caries, and surface texture.

Based on the clinical evaluation by the investigators, both groups had alterations in their anatomical form, marginal discoloration, and marginal integrity. On the other hand, the color of the restorations and the surface texture had no significant changes, and no secondary caries were detected. The study will discuss the factors and parameters that play a key role in the success of non-invasive veneers and how non invasive veneers can have an acceptable clinical performance within 12 months of function in the oral cavity.

Oral presentation
15

MANDIBULAR ANTERIOR TOOTH ANGULATION IS ASSOCIATED WITH GINGIVAL RECESSION: A CBCT-BASED INTRA-INDIVIDUAL ANALYSIS OF SEVERITY AND MORPHOLOGICAL CHARACTERISTICS

Meizi Eliezer

Irina-Georgeta Sufaru, Gil Asafrana, Alla Belova, Moshe Cohen, Darian Rusul, Stefan Stratul

Tel Aviv University, Victor Babes Medical University, Israel

Background:
Gingival recession is a multifactorial condition in which anatomical factors play a key role. Tooth position within the alveolar housing may influence periodontal stability, but its relationship with gingival recession remains insufficiently defined, particularly when assessed relative to local anatomical structures.

Aim:
To investigate the association between mandibular anterior tooth angulation and gingival recession using localized CBCT-based angular parameters, and to evaluate their relationship with recession severity.

Materials and Methods:
This retrospective cross-sectional study included 63 post-orthodontic patients. A total of 92 intra-individual pairs of adjacent teeth (recession vs. control) were analyzed. Two angular parameters were measured on CBCT sagittal slices: the Teta angle and the Parallel angle. Clinical parameters included recession dimensions, probing depth, gingival phenotype, vestibular depth, and Cairo classification. Statistical analysis included paired comparisons, correlation analysis, logistic regression, and ROC analysis.

Results:
Recession-affected teeth showed significantly lower Teta and Parallel angles compared to controls ($p < 0.001$). Both parameters were negatively correlated with recession depth. Reduced angulation increased the likelihood of gingival recession, with the Parallel angle showing a stronger association (OR ≈ 1.42). ROC analysis demonstrated moderate predictive ability (AUC ≈ 0.72–0.73).

Conclusions:
Reduced tooth angulation relative to the alveolar envelope is associated with the presence and severity of gingival recession. Site-specific CBCT assessment may improve risk evaluation in post-orthodontic patients.

THE PATZI PROTOCOL AND THE STAR CONCEPT: A DIGITAL DECISION-MAKING FRAMEWORK FOR PROSTHETIC REHABILITATION OF MAXILLECTOMY DEFECTS

Dr. Amin Boukhari
Specialist in Oral & Maxillofacial Rehabilitation
Rambam Healthcare Campus - Haifa, Israel

Background:
Prosthetic rehabilitation of maxillectomy defects remains a significant clinical challenge due to compromised anatomy, impaired function, and limited prosthetic support. Advances in digital dentistry and the use of zygomatic and pterygoid implants have expanded treatment possibilities for patients with extensive maxillary defects.

Aim:
To introduce the PATZI Protocol and the STAR Concept as a digitally driven decision-making framework for the rehabilitation of complex maxillectomy defects.

Materials and Methods:
The proposed protocol integrates CBCT-based assessment, digital treatment planning, prosthetic-driven implant positioning, and multidisciplinary surgical–prosthetic sequencing. The STAR Concept is based on four fundamental rehabilitation principles: Stability, Tissue Support, Anchorage, and Rehabilitation-Driven Restoration. These parameters guide the selection and distribution of conventional, zygomatic, and pterygoid implants according to defect characteristics, residual anatomy, and prosthetic.

Results:
Application of the PATZI Protocol facilitates a structured treatment pathway from diagnosis to definitive rehabilitation. Digital planning improves visualization of implant trajectories, prosthetic emergence profiles, occlusal relationships, and restorative feasibility. The STAR Concept supports individualized treatment decisions and may enhance prosthetic stability, retention, functional outcomes, and overall treatment predictability in patients presenting with partial or total maxillary defects.

Conclusions:
The PATZI Protocol, combined with the STAR Concept, represents a novel digital workflow for oral and maxillofacial rehabilitation. By integrating advanced implant strategies with prosthetic-driven planning, this framework may improve clinical decision-making and optimize patient-centered outcomes in complex maxillary rehabilitation. Further clinical studies are required to validate its long-term effectiveness.

TEMPORARY IMPLANTS AND ALLOGENIC BONE BLOCKS: THE BRIDGE TO PERMANENT IMPLANTS IN COMPLEX CASES

Dr. Benjamin Retzkin

Periodontist, Private Clinic, Israel

Background:
Achieving stable, long-term implant rehabilitation in patients with severe alveolar ridge defects remains a significant challenge. In such complex cases, the simultaneous need for bone regeneration and functional prosthetic support can delay definitive treatment. The use of temporary implants combined with allogenic bone blocks offers a novel, staged protocol that bridges the gap between initial rehabilitation and permanent implant placement.

Materials and Methods:
This retrospective case series evaluates 12 patients (aged 32–68) presenting with advanced horizontal and/or vertical ridge atrophy in the maxilla or mandible. All patients underwent staged surgical treatment, beginning with the placement of allogenic bone blocks (processed, freeze-dried) for site augmentation. Simultaneously or shortly thereafter, temporary implants were placed in strategic, native bone locations to support a fixed provisional prosthesis. After a healing period of 6–9 months, CBCT scans and clinical evaluations were used to assess graft integration, volume stability, and readiness for permanent implant placement.

Conclusions:
Temporary implants combined with allogenic bone blocks offer a predictable and patient-friendly solution in complex implant cases. This protocol enhances patient quality of life during lengthy bone regeneration periods while optimizing conditions for successful permanent implant placement.

Oral presentation
18

INFLUENCE OF PROSTHESIS CONTOURS ON NON-SURGICAL PERI-IMPLANT THERAPY: A RANDOMIZED CONTROLLED TRIAL

Isabella De Rubertis[1], Adriano Fratini[1], Francesco Gramegna[1], Arshia Moghadam[1], Marco Ferrari[2], Nicola Discepoli[1]

[1]Department of Medical Biotechnologies, Unit of Periodontics,
[2]Department of Medical Sciences, Surgery and Neurosciences,
University of Siena, Siena, Italy

Aim:
Implant prosthetic characteristics have been shown to play a role in maintaining or restoring peri-implant tissue health, as they can jeopardize the accessibility of both professional and domiciliary oral hygiene measures. This study aimed to evaluate the impact of prosthetic factors on the efficacy of two interproximal oral hygiene devices (interdental brush, IDB, and Superfloss, SF) during non-surgical peri-implant therapy (NSPIT).

Materials and Methods:
Participants with a diagnosis of peri-implant disease were randomly divided into IDB or SF groups. At baseline, peri-implant biometric variables were collected, along with implant prosthetic characteristics and standardized radiographic measurements of Embrasure Surface Area (ESA). Participants were instructed on the use of IDB or SF, underwent NSPIT, and were re-evaluated at 3 months. Inter and intra-group comparisons of clinical variables were analyzed and a linear mixed-effects model was computed, with fixed effects for Group allocation, ESA and their interactions.

Results:
52 patients (120 implants) were included. Baseline peri-implant clinical variables were progressively worse with increasing ESA. At the 3-month follow-up, both groups improved significantly. Mixed-model analysis demonstrated that the trajectory of interdental plaque over time differed significantly according to both the device used and embrasure width ($p<0.05$), pinpointing the mutual effect of interproximal device and prosthetic characteristics of the site. In medium and wide ESA, IDB achieved significantly greater plaque and bleeding indices reduction.

Conclusions:
Interproximal peri-implant prosthetic characteristics significantly modulate NSPIT outcomes, suggesting that a thorough evaluation of site-level prosthetic factors should guide the tailoring of the therapeutic approach in the management of peri-implant diseases.

FACIAL EPITHESIS AS AN ALTERNATIVE TO SURGICAL RECONSTRUCTION

Riccardo Favero

Riccardo Favero, Vittorio Favero, Adolfo di Fiore, Edoardo Stellini
University of Padova, Italy, Marcello Camalleri, Private Practice, Italy

Aim:
Facial defects arising from oncological resection or severe trauma pose considerable reconstructive challenges, with significant implications for patients' functional outcomes and psychosocial wellbeing. In selected cases — particularly those involving complete loss of external organs such as the nose, orbit, or auricular structures — surgical reconstruction alone may be inadequate or contraindicated. This report describes the multidisciplinary management of an extensive post-burn facial defect, highlighting the prosthodontist's pivotal role in treatment planning and the execution of a prosthetically guided implant strategy.

Materials and Methods:
A 26-year-old female sustained third-degree burns affecting 65% of total body surface area, with consequent destruction of the cartilaginous framework of the nose and both auricular pavilions. Surgical reconstruction was deemed inadequate given the extent of tissue loss. A prosthetically guided surgical protocol was implemented: three titanium implants were placed bilaterally in each mastoid region, and one anchoring plate was positioned at the left maxillo-nasal buttress. All fixtures were designed to retain silicone facial epitheses via magnetic connectors. Photographic records were obtained at baseline, intraoperatively, and at follow-up. Written informed consent was obtained. Patient-reported outcomes were assessed two years postoperatively using a four-item questionnaire (0–5 Likert scale per item; maximum score 20), addressing pain during epithesis use, burden of postoperative recovery, perceived functional limitation, and social relevance of the prosthetic rehabilitation.

Results:
The patient reported an aggregate satisfaction score of 16 out of 20 at two-year follow-up, reflecting low pain levels during prosthesis wear, minimal perceived impact of the postoperative recovery, adequate functional restoration, and a high degree of perceived social benefit from the facial epithesis.

Conclusions:
Implant-retained facial epitheses represent a reliable and satisfying rehabilitative option for patients with extensive craniofacial defects who are not candidates for major reconstructive surgery. Prosthetically guided implant planning is central to achieving optimal outcomes, and the prosthodontist should be regarded as an integral member of the multidisciplinary team from the earliest stages of treatment.

Oral presentation
20

CRAFTING PERFECTION
CERAMIC RESTORATIONS AND PREDICTABLE AESTHETICSTHROUGH DIGITAL SOLUTIONS

Prof. George Papavasiliou

In recent years, two factors have significantly influenced the philosophy of tooth restoration. Primarily the need for minimally invasive procedures leading to the greatest possible protection of healthy dental tissues, which leads to particularly conservative restorations. Secondly, our growing knowledge in the field of bonding to dental substances, aided by the availability of strong esthetic materials which are suitable for both anterior and posterior restorations.

In this presentation, participants will be introduced to the principles of designing restorations using all-ceramic materials both in the aesthetic zone and in posterior areas. Analog and digital workflows for designing restorations will be analyzed. The main goal is to achieve predictably an aesthetic and functional result. Protocols for Outcome Guided Preparations will be presented in detail. With targeted clinical examples, the use of monolithic as well as multilayer solutions will be presented, for the construction of ceramic veneers, crowns and implant restorations.

For all types of all-ceramic materials and types of restorations, there will be an extensive presentation of impression techniques and cementation protocols.

POSTERS ABSTRACT

(in alphabetical order)

DEEP LEARNING FOR THE DETECTION AND CLASSIFICATION OF DENTAL IMPLANTS

Júlia Balogh

Júlia Balogh, Anna Takács, Márton Kivovics
Semmelweis University, Hungary

Aim:
The aim of this study was to develop and evaluate an AI-based method for detecting dental implants on panoramic radiographs and classifying them by implant system and prosthetic platform size.

Materials and Methods:
A dataset of 387 panoramic radiographs containing 1004 implants was divided into training, validation, and testing sets using a stratified 80/10/10 split across 25 independent partitions. Ground truth labels were obtained from clinical documentation and included the implant brand and prosthetic platform dimensions. Convolutional neural network based models were trained to both localize implants and perform classification tasks.

Results:
The highest diagnostic performance was achieved using a two-stage architecture combining Faster R-CNN for implant localization and EfficientNet-B7 for classification. Implant detection reached a mean Intersection over Union (IoU) of 77.65%±11.54% and an overall accuracy of 99.45%±0.70%, with an average of 0.60±0.76 false negative detections per partition. Classification accuracy for implant systems was 98.93±0.91% for Callus Pro, 97.81±1.43% for Denti Root Form, 98.85±1.19% for Nobel Replace Conical Connection, and 96.79±1.83% for unidentified implants, resulting in an overall accuracy of 95.66±2.02%. Platform size classification accuracy was 87.62±2.94% for narrow platforms, 87.78±3.15% for regular platforms, and 96.79±1.83% for unknown platforms, with an overall accuracy of 85.60±3.27%.

Conclusions:
The CNN framework demonstrated reliable performance in implant detection and classification, suggesting that AI-based tools may support clinicians in identifying implant systems and prosthetic platform characteristics on panoramic radiographs.

FULL-MOUTH REHABILITATION FOLLOWING LOSS OF POSTERIOR SUPPORT: A CASE REPORT

Sivan Barimboim

Sivan Barimboim, Natalia Mizraji Hofman, *Rinat Tzach Nahman, *Amit Wolfoviz-Zilberman

Department of Prosthodontics, Hadassah Medical Center, Faculty of Dental Medicine, Hebrew University of Jerusalem, Jerusalem, 91120, Israel

Aim:
To present a comprehensive full-mouth rehabilitation of a 56-year-old female patient exhibiting severe tooth wear, multiple missing teeth, and complete loss of posterior support, transitioning from a diagnostic removable denture to definitive fixed tooth -and implant- supported restorations.

Materials and Methods:
The anti-infective phase involved oral hygiene improvement, debridement, caries removal, extraction of tooth #14 and root canal treatments with post-and-cores. A diagnostic removable denture was delivered to establish a stable occlusal scheme and vertical occlusal dimension. Provisional fixed restorations, along with ongoing denture adjustments, established a stable occlusion. Subsequently, four implants were placed at the upper first premolars and first molars sites. Chairside provisional crowns on the implants refined final occlusion. Following the establishment of the definitive tooth form, aesthetic anterior composite restorations were completed. Finally, porcelain-fused-to-metal (PFM) crowns were fabricated on teeth and implants using pattern resin coping records. Existing functional crowns on teeth #21 and #33 were maintained due to financial constraints.

Results:
The systematic transition from an interim immediate removable denture to fixed provisionals successfully established a predictable maxillomandibular relationship. The final tooth and implant supported fixed prostheses restored posterior support, chewing efficiency, and aesthetics, aligning with the patient's financial limitations and therapeutic expectations.

Conclusions:
Comprehensive rehabilitation of patients with severe tooth wear and missing teeth requires a structured, phased approach. The strategic progression from removable diagnostics to fixed provisionals and definitive implant restorations is critical for predictable occlusal management, long-term functional stability, and high patient satisfaction.

VIEWING ANGLE EFFECTS ON BEAM TORQUE WRENCH ACCURACY

Matan Barkan

Matan Barkan ,DMD[1], Yaniv Skvirsky ,DMD[2], Ilan Gilboa, DMD[3], Dror Aizenbud, DMD MSc[4], Eli E. Machtei, DMD[5] and Zvi Gutmacher, DMD[6]*

[1]Resident, Department of Prosthodontics, School of Graduate Dentistry, Rambam Health Care Campus, Haifa, Israel; [2]Senior Resident, Department of Prosthodontics, School of Graduate Dentistry, Rambam Health Care Campus, Haifa, Israel [3]Head of Prosthodontics Specialty Program, Department of Prosthodontics, School of Graduate Dentistry, Rambam Health Care Campus, Haifa, Israel; [4]Head, Orthodontics And Craniofacial Anomalies, Oral Biology Research Laboratory, Faculty of Medicine, Technion, Haifa, Israel; [5]Faculty of Medicine, Technion-Israel Institute of Technology, Haifa, Israel; [6]Senior Clinical Lecturer, Faculty of Medicine, Technion-Israel Institute of Technology, Haifa, Israel

Aim:
To evaluate the influence of operator viewing angle on the torque delivered by beam-type dental torque wrenches and compare the magnitude of the parallax effect between two commercially available systems.

Materials and Methods:
Five new beam-type torque wrenches from each of two manufacturers (Straumann and MIS) were connected to a calibrated digital torque meter mounted on a custom 3D-printed apparatus. Torque was applied according to each manufacturer's recommendations (35 Ncm for Straumann, 30 Ncm for MIS) while viewing the wrench from predefined horizontal angles. Straumann wrenches were tested from ±60°, whereas MIS wrenches were tested from ±40° due to design limitations. Five measurements were obtained for each condition (110 measurements in total). A linear mixed-effects model evaluated the relationship between viewing angle and torque deviation.

Results:
Both systems demonstrated a significant parallax effect. Increasing deviation from the perpendicular viewing position resulted in progressively greater deviation from the intended torque ($P<.001$). Negative viewing angles produced torque amplification, whereas positive viewing angles reduced the delivered torque. Maximum deviations reached +8.52 Ncm and −8.72 Ncm for the Straumann wrench and +5.60 Ncm and −4.14 Ncm for the MIS wrench. Manufacturer alone was not a significant predictor ($P=.316$), although the interaction between viewing angle and manufacturer was significant ($P=.021$).

Conclusions:
Beam-type torque wrenches are susceptible to clinically relevant parallax error. Oblique viewing angles may lead to substantial over- or under-tightening of implant prosthetic screws, potentially increasing the risk of mechanical complications. Maintaining a perpendicular viewing position during torque application is recommended to improve tightening accuracy.

IMPLANT-BASED ANCHORAGE PLANNING IN OLIGODONTIA: A CASE REPORT

Yael Ben Zeev

Yael Ben Zeev, Esi Sharon

Department of Prosthodontics, Hadassah Medical Center, Faculty of Dental Medicine, Hebrew University of Jerusalem, Jerusalem, 91120, Israel

Aim:

To present a staged multidisciplinary treatment plan for a 22-year-old patient with non-syndromic oligodontia (11 congenitally missing teeth), severe occlusal malformation, reduced vertical dimension of occlusion (VDO), and impaired esthetics, function, and phonetics. The patient is currently at the surgical-restorative stage of a long-term rehabilitation.

Materials and Methods:

A four-phase protocol was designed. An initial anti-infective phase focused on improving oral hygiene, periodontal debridement and caries elimination. Next, a diagnostic wax-up and set-up were performed to establish the definitive VDO, tooth movement pathways and prosthetically driven implant positions. The current surgical-restorative phase involves guided bone augmentation and implant placement. The implants, strategically positioned at edentulous sites, serve a dual role as orthodontic anchorage and future prosthetic abutments. In select anterior sites, implants support temporary esthetic restorations throughout the extended orthodontic phase, followed by definitive rehabilitation of function, esthetics and phonetics.

Results:

The diagnostic wax-up and set-up identified strategic sites where pre-orthodontic implant placement would serve dual roles as anchorage and interim anterior restorations. M-soft virtual planning confirmed adequate bone volume at select sites for immediate placement, with guided augmentation required at others, enabling a prosthetically driven surgical sequence prioritising anterior esthetics.

Conclusions:

Pre-orthodontic implant placement at strategically selected sites, planned to serve simultaneous roles in anchorage, interim esthetics and future prosthetic support, offers an efficient and patient-centred approach to complex oligodontia rehabilitation. Coordinated interdisciplinary planning at the surgical stage is essential to optimise outcomes.

CANINE GUIDANCE, PSYCHOLOGICAL FACTORS AND TEMPOROMANDIBULAR DISORDERS

Oleksii Borzakovskyi

Oleksii Borzakovskyi, Marco Rossit, Ovidiu Ionut Saracutu,Nicolò Giuseppe, Sorrenti, Edoardo Ferrari-Cagidiaco, Marco Ferrari, Daniele Manfredini

Department of Medical Biotechnologies, School of Dentistry,
University of Siena, 53100, Siena, Italy

Aim:
To investigate the association between canine guidance (CG) and temporomandibular disorders (TMDs) and compare its clinical relevance with psychological status in patients with painful TMDs, non-painful TMDs, and healthy individuals.

Materials and Methods:
A cross-sectional study was conducted on 152 participants recruited at the Orofacial Pain Unit of the University of Siena, including 58 patients with painful TMDs, 40 with non-painful TMDs, and 54 healthy controls. TMD diagnoses were established according to the DC/RDC-TMD diagnostic criteria. Left, right, and bilateral canine guidance were assessed by two calibrated examiners blinded to participants' diagnoses. Anxiety and depression were evaluated using the Hamilton Anxiety Rating Scale and Hamilton Depression Rating Scale. Group comparisons were performed using chi-square analysis ($p < 0.05$).

Results:
Inter-examiner agreement was excellent ($\kappa = 0.97$). No significant association was found between canine guidance and TMD status, regardless of whether left, right, or bilateral guidance was evaluated (all $p > 0.05$). Conversely, depression and anxiety scores were significantly associated with TMD status. Patients with painful TMDs showed significantly higher levels of psychological distress than both non-painful TMD patients and healthy controls, whereas no significant psychological differences were observed between non-painful TMD patients and healthy individuals.

Conclusions:
Canine guidance was not associated with the presence or type of TMD, whereas psychological factors showed a strong association with painful TMDs. These findings support the current biopsychosocial model of TMDs and question the clinical rationale for occlusion-based interventions aimed at establishing canine guidance for the prevention or management of TMDs.

CLINICAL OUTCOMES OF LITHIUM DISILICATE LAMINATE VENEERS FABRICATED WITH CHAMFER OR VERTICAL PREPARATION DESIGNS: A CONTROLLED CLINICAL TRIAL UP TO 9 YEARS

Laura Cadore

Edoardo Ferrari Cagidiaco, Laura Cadore, Giulia Verniani, Daniele Manfredini, Marco Ferrari

University of Siena, Siena, Italy

Aim:
To compare the medium-term clinical performance of lithium disilicate ceramic laminate veneers fabricated using either a conventional chamfer finish line or a vertical preparation without a defined finish line.

Materials and Methods:
In this randomized controlled clinical trial, 64 patients requiring esthetic rehabilitation of anterior teeth were enrolled, and 133 lithium disilicate laminate veneers were placed. Patients were randomly allocated to receive veneers fabricated on teeth prepared with either a horizontal chamfer finish line (Chamfer group) or a vertical preparation without a defined finish line (Vertical group). All restorations were fabricated using a digital workflow and adhesively luted under rubber dam isolation. Clinical evaluations were performed at baseline and at 6-month intervals using modified United States Public Health Service (USPHS) criteria, including marginal adaptation, marginal discoloration, secondary caries, fracture, debonding, wear, and overall survival and success. The follow-up period ranged from 5 to 9 years (mean: 7 years and 7 months). Statistical analysis was performed using Spearman correlation tests (α = 0.05).

Results:
Of the 133 veneers placed, 130 were available for follow-up. Overall, 102 restorations were classified as successes (Alpha), 20 as survivals (Bravo), and 3 as failures (Charlie), resulting in a cumulative survival rate of approximately 99%. No statistically significant correlations were found between preparation design and marginal discoloration, marginal leakage, fracture, debonding, or overall failure ($p > 0.05$). Mechanical complications were rare, and only one ceramic fracture was recorded.

Conclusions:
Both chamfer and vertical preparation designs demonstrated high and comparable medium-term survival and success rates. Vertical preparation without a defined finish line may be considered a clinically reliable and minimally invasive alternative to conventional chamfer preparation for lithium disilicate laminate veneers when appropriate adhesive protocols are followed, supporting enamel-preserving preparation designs in esthetic anterior rehabilitation.

MANAGEMENT OF SEVERE OLIGODONTIA IN A GROWING PATIENT: CASE REPORT

Gal Chait

Gal chait, Orith haramaty, Esi sharon

Department of Prosthodontics, Hadassah Medical Center, Faculty of Dental Medicine, Hebrew University of Jerusalem, Jerusalem, 91120, Israel

Aim:

To present a conservative, multi-phase prosthodontic protocol for managing severe oligodontia in an adolescent growing patient.

Materials and Methods:

A 16-year-old male who had completed three years of orthodontic treatment presented with congenital absence of nine teeth. Clinical examination revealed microdontic maxillary central incisors (11, 21) with a large midline diastema, permanent canines (13, 23) orthodontically positioned as lateral incisors, and microdontic first premolars (14, 24). Radiographically, severe root resorption affected teeth 13 and 23, and significant alveolar bone loss compromised teeth 11 and 21. Mandibular retained primary central incisors (71, 81) were present between permanent canines (33, 43), with missing permanent incisors. To avoid premature implants or further orthodontic forces, a maxillary interim fixed partial denture (FPD) from 13 to 23 was fabricated, redefining the proportions of the microdontic central incisors and canines to close the diastema. Concurrently, a mandibular interim FPD spanning from 43 to 33 utilized the primary incisors (71, 81) as temporary abutments. Future phases will include extending the maxillary restoration into a long-term interim 14-24 FPD (utilizing microdontic premolars as abutments and canine spaces as pontics) and extracting the retained primary incisors.

Results:

The staged interim fixed restorations successfully restored oral function, speech, and dental aesthetics, achieving optimal tooth proportions. This configuration avoided premature surgical implant placement in a growing skeleton.

Conclusions:

In adolescent patients with severe oligodontia and root resorption, a progressive interim fixed prosthodontic protocol provides a predictable, conservative solution. Extending the restoration safely manages restorative spaces, maintaining biological integrity until definitive post-growth implant rehabilitation.

INTERDISCIPLINARY TREATMENT OF ANTERIOR ESTHETICS WITH ORTHODONTICS AND VENEERS

Panagiota Christodoulou

Ioannis Papathanasiou[1], Panagiota Christodoulou[2], Anna Tasakou[3], George Papavasiliou[4], Phophi Kamposiora[5]

[1]Prosthodontist, Research Associate, Department of Prosthodontics, [2]Dentist, Private Practice, [3]Postgraduate student, Department of Prosthodontics, [4]Asst. Professor, Department of Prosthodontics, [5]Assoc. Professor, Head of Department of Prosthodontics, National and Kapodistrian University of Athens, Greece

Aim:
Anterior esthetic deficiencies often require an interdisciplinary approach combining orthodontic and restorative treatments to achieve optimal functional and esthetic outcomes. This case report describes the management of anterior esthetic deficiencies through pre-prosthetic orthodontic treatment followed by minimally invasive lithium disilicate veneers.

Materials and Methods:
A 28-year-old male patient presented seeking improvement of smile esthetics. Clinical examination and esthetic analysis revealed an uneven maxillary occlusal plane, short anterior teeth, and bilateral palatal displacement of the premolars. Orthodontic treatment of both arches was performed to expand the constricted maxillary arch and optimize tooth positioning. Following completion of orthodontic therapy, a digital diagnostic wax-up was created and transferred intraorally using a resin mock-up. The mock-up guided controlled tooth reduction using 0.5-mm depth-cutting burs on teeth #13 to #24. After tooth preparation and gingival retraction, a final digital impression was obtained with an intraoral scanner. Seven lithium disilicate veneers were digitally designed, fabricated using press ceramic technology, clinically tried in, conditioned, and adhesively cemented with a light-cured resin cement.

Results:
The combined orthodontic-restorative treatment improved tooth alignment, smile symmetry, and overall esthetic appearance. The minimally invasive lithium disilicate veneers achieved harmonious integration with the surrounding dentition and restored the patient's esthetic expectations. The patient reported high satisfaction with the esthetic and functional outcome.

Conclusions:
Pre-prosthetic orthodontic treatment can enhance tooth positioning, symmetry, function, and the long-term prognosis of minimally invasive ceramic restorations. Lithium disilicate veneers represent a predictable treatment option for the correction of anterior esthetic deficiencies when combined with appropriate interdisciplinary treatment planning.

CLINICAL OUTCOME OF FIBER POST AND FIBER-REINFORCED RESIN COMPOSITE FOR THE FULL CROWNS OF ANTERIOR ENDODONTICALLY TREATED TEETH: A 5-YEAR RANDOMIZED CLINICAL TRIAL

Francesca Coscarella

Francesca Coscarella, Marco Ferrari, Ovidiu Ionut Saracutu, Denise Irene Karin Pontoriero, Giulia Verniani, Daniele Manfredini, Edoardo Ferrari Cagidiaco

University of Siena, Italy

Aim:

To compare the outcome of short fiber reinforced composites, as a core material, with respect to conventional fiber post, for the reconstruction of anterior endodontically treated teeth (ETT), covered by a lithium disilicate crown.

Materials and Methods:

Patients in need of endodontic treatment and a single-unit full crown restoration for anterior teeth (incisors or canines) were recruited. Only teeth with >50% of residual tooth structure were included. The teeth were required to be in occlusal function with a natural antagonist tooth and in interproximal contact with two adjacent natural teeth. A simple randomized design with 2 arms was adopted to evenly allocate patients to the two experimental groups. The fluctuation of oral behaviors was assessed via the Oral Behavior Checklist. For the assessment of the prosthodontic outcome, the modified US Public Health Service criteria were used. Statistical analysis was set at $p<0.05$.

Results:

The statistical analysis showed no significant association between the type of build-up material, the high risk for oral behaviors ($p = 0.197$), and the prosthodontic failures ($p = 0.471$).

Conclusions:

This randomized clinical trial shows no significant difference in the outcome of anterior ETT with >50% of residual tooth structure restored with fiber post or fiber-reinforced composite, covered by a lithium disilicate crown, at 5 years of follow-up. Clinical significance: Short fiber-reinforced composites represent a valid alternative material to fiber post, for the build-up of anterior endodontically treated teeth, with at least 50% of residual tooth structure, covered by a lithium disilicate crown.

INTRAORAL SCANNING STRATEGIES AFFECT PREMOLAR AND MOLAR IMPLANT SITE ACCURACY

Shir Degani

Shir Intrater-Degani, Yaniv Skvirsky, Zvi Gutmacher
Department of Prosthodontics, Rambam Health Care Campus, Haifa, Israel

Background:
IOS is widely used for implant-supported restorations, but the effect of scanning strategy on restorative space and scan body position in single-tooth sites remains unclear.

Aim:
To evaluate IOS strategies in premolar and molar single-tooth sites.

Materials and Methods:
A model with premolar (#25) and molar (#16) implant sites was scanned by a laboratory scanner as reference. Primescan and 3Shape TRIOS performed 10 scans/site/strategy: one-scan with scan body, or two-scan emergence profile plus scan body overlap. Mesiodistal space (MD) and scan body position relative to mesial/distal surfaces (M/D) were measured; absolute deviations were analyzed.

Results:
Preliminary analysis included 80 scans/240 measurements. Overall absolute deviation was 41.5±23.1 μm (median 41.1; maximum 141.8); 98.8% were within 0.1 mm. One-scan and two-scan were similar (41.1±24.9 vs 41.8±21.1 μm; p=0.566). Deviations were lower for premolar than molar sites (35.4±17.9 vs 47.5±25.9 μm; p<0.001), and for Primescan than 3Shape TRIOS (36.8±23.2 vs 46.1±22.0 μm; p=0.002).

Conclusions / Clinical Significance:
Preliminary data show clinically acceptable deviations for both strategies; tooth site and scanner type may influence accuracy more than strategy. Expanded sampling is required.

HYBRID FIXED-REMOVABLE SOLUTION FOR TOTAL OCCLUSAL COLLAPSE

Elinor Dekalo Derhy

Elinor Dekalo Derhy ,Dr. Natalia Mizraji-Hofman ,Dr. Rinat Tzach
Faculty of Dental Medicine, The Hebrew University & Hadassah, Israel

Aim:
To perform a comprehensive full-mouth rehabilitation—including definitive fixed crowns, vertical dimension of occlusion (VDO) restoration, and extensive occlusal corrections—directly in the final prosthesis without utilizing interim removable prostheses.

Materials and Methods:
A 77-year-old female with severe dental anxiety and economic limitations presented with total posterior collapse and an anterior-only occlusion limited to carious roots. Extreme anxiety precluded implant surgery, and financial constraints prevented intermediate provisional phases, necessitating a direct-to-definitive approach. Following periodontal stabilization, strategic extractions, direct restorations, and temporary crowns (teeth 22–23), the definitive stage was initiated. This involved selective grinding of supra-erupted teeth, rest seat preparations, and final mandibular impressions. The VDO was re-established and recorded directly via diagnostic wax rims. Following cementation of definitive crowns on teeth 22–23, final maxillary impressions were captured using custom trays to fabricate a metal-framework removable partial denture (RPD). All treatments were funded by an institutional endowment.

Results:
Bypassing the provisional adaptation phase, the direct definitive approach successfully corrected the multi-planar occlusal collapse and re-established a stable, functional vertical dimension directly in the final appliances.

Conclusions:
A structured, patient-centered workflow can safely achieve radical occlusal and vertical corrections in a single definitive step. This customized strategy accommodated the patient's specific surgical, financial, and psychological constraints, providing an optimal rehabilitation that drastically improved her quality of life.

EFFECT OF ADHERENCE TO SCANNING PTOROCOL ON THE ACCURACY OF INTEROCCLUSAL RECORDS

Omer Einhorn

Omer Einhorn D.M.D, Yaniv Skvirsky D.M.D,
Prof. Dror Aizenbud, Zvi Gutmacher D.M.D
Rambam hospital, Haifa, Israel

Background:
The accuracy of virtual interocclusal records is essential for fully digital prosthodontic workflows. Although manufacturers recommend specific scanning protocols, clinicians may deviate from them in practice. The effect of these deviations on the accuracy of different intraoral scanners remains unclear.

Purpose:
To compare the accuracy of virtual interocclusal records obtained using four intraoral scanners with manufacturer-recommended and alternative scanning protocols.

Materials and Methods:
A typodont model was duplicated, poured in Type III dental stone, mounted in maximum intercuspation on a semi-adjustable articulator, and scanned. Four intraoral scanners (TRIOS3, Primescan, Smile Scan, and CS3800) recorded interocclusal relationships (n=10 per scanner per protocol) using both protocols. STL files were analyzed in Geomagic Control X, aligned to a reference model, and trueness and precision were evaluated at three standardized locations.

Results:
With the manufacturer-recommended protocol, TRIOS3, Primescan, and Smile Scan showed comparable trueness (0.215, 0.242, and 0.222 mm; $p>.05$), whereas CS3800 demonstrated significantly greater deviation (0.343 mm; $p<.001$). Under the alternative protocol, Primescan maintained similar trueness and precision ($p>.05$). TRIOS3 showed significantly reduced accuracy ($p<.001$), Smile Scan exhibited only minor nonsignificant changes, and CS3800 remained the least accurate.

Conclusions:
Manufacturer-recommended scanning protocols provided favorable interocclusal accuracy for all scanners. Deviations reduced accuracy in a scanner-dependent manner, with Primescan demonstrating the greatest stability. Following manufacturer-recommended protocols is important for reliable complete-arch digital workflows.

CAN PROSTHETICS REPLACE ORTHODONTICS? A CLASS III OLIGODONTIA CASE

Hadar Elnatan

Hadar Elnatan, Samuel Morgulis, Esi Sharon
Department of Prosthodontics, Hadassah Medical Center, Faculty of Dental Medicine, Hebrew University of Jerusalem, Jerusalem, 91120, Israel

Aim:
Oligodontia frequently presents with interarch discrepancies typically managed by combined orthodontic-prosthodontic treatment. This case report presents the diagnostic workup and treatment planning demonstrating that a restoratively-driven, tooth-and implant-supported approach may compensate sagittal and transverse maxillomandibular discrepancies without orthodontic tooth movement.

Materials and Methods:
A 24-year-old female patient presented with oligodontia (11 congenitally missing teeth), a Class III dentoalveolar relationship, and a transverse (latero-lateral) maxillomandibular discrepancy. Psychosocial circumstances precluding reliable long-term orthodontic compliance favored a restoratively-driven solution. A diagnostic wax-up was performed and transferred intraorally as a direct mock-up to evaluate whether the interarch relationship, anterior crossbite tendency, and transverse discrepancy could be compensated through prosthetic contours within a planned tooth- and implant-supported rehabilitation.

Results:
The direct intraoral mock-up corrected the anterior crossbite tendency to an edge-to-edge anterior relationship and harmonized the transverse discrepancy, with adequate esthetics and lip support, without orthodontic tooth movement. These outcomes validated the planned occlusal scheme and confirmed patient acceptance, establishing proof of concept for a definitive tooth- and implant-supported rehabilitation.

Conclusions:
In selected oligodontia patients with dentoalveolar rather than skeletal discrepancies, a restoratively-driven, tooth- and implant-supported rehabilitation can correct sagittal and transverse interarch relationships through prosthetic means alone, offering a predictable alternative to orthodontic-prosthodontic treatment, particularly valuable when orthodontic compliance is not feasible.

HYBRID REHABILITATION OF AN ADOLESCENT PATIENT WITH ECTODERMAL DYSPLASIA

Marios Ferizi

Ferizi Mario[3], Laskaratos Leonidas[3], Ioli-Ioanna Artopoulou[1], George Papavasiliou[2]

[1]Associate Professor Department of Prosthodontics, [2]Assistant Professor Department of Prosthodontics, [3]Postgraduate Student Department of Prosthodontics, School of Dentistry, National and Kapodistrian University of Athens, Athens, Greece

Materials and Methods:

A 16-year-old male with ED and complete anodontia in the maxillary and mandibular arch was referred to the Dept. of Maxillofacial Prosthetics of University of Athens for prosthetic rehabilitation. Due to his age and ongoing skeletal growth, implant-supported restorations were contraindicated; therefore, removable complete dentures were selected as the interim treatment plan of choice. A hybrid impression protocol was employed: final impressions were obtained using custom trays with peripheral border molding and polysulfide (mercaptan) impression material wash, to ensure accurate functional sulcus registration. The resulting master casts were subsequently digitized via desktop scanning, and the prosthesis design was performed using CAD software. Denture bases and occlusal surfaces were milled from bi-chromatic pre-polymerized PMMA discs using a CAM milling unit, combining the clinical precision of conventional impression techniques with the aesthetic and mechanical advantages of CAD/CAM denture base materials.

Results:

Complete maxillary and mandibular CAD/CAM-milled removable dentures were successfully delivered to the patients. Satisfactory functional occlusion, natural bi-chromatic aesthetics, and adequate retention were achieved. The patient demonstrated rapid adaptation and reported marked improvement in masticatory function, phonetics, and psychosocial well-being and was scheduled for regular follow ups to monitor his skeletal growth.

Conclusions:

A hybrid protocol combining conventional impression techniques with CAD/CAM technology is an effective approach for the prosthetic rehabilitation of adolescent patients with ED-associated anodontia. This workflow offers enhanced reproducibility, superior aesthetics, and the flexibility required for future implant-based rehabilitation upon skeletal maturity.

RE-ESTABLISHING POSTERIOR SUPPORT IN DEEP BITE REHABILITATION

Marios Ferizi

Ferizi Mario[1], Petropoulou A[2], Chronopoulos V[3]

[1]Postgraduate Student Department of Prosthodontics, School of Dentistry, National and Kapodistrian University of Athens, Athens, Greece

[2]Assistant Professor Department of Prosthodontics, School of Dentistry, National and Kapodistrian University of Athens, Athens, Greece

[3]Prosthodontist, Private Practice, Athens, Greece

Aim:

To describe a staged prosthodontic rehabilitation of a patient with deep bite, temporomandibular disorder (TMD) pain and loss of posterior support, using deprogramming, an increased vertical dimension of occlusion (VDO), implant-supported posterior restorations and adhesive provisionalization using injection molding technique.

Materials and Methods:

A modified anterior deprogrammer was provided for 1 month to reduce neuromuscular influence and evaluate symptoms. A diagnostic mock-up was then fabricated at an increased VDO. Non-restorable roots were extracted and implants were placed in the mandibular right and maxillary left posterior regions. Following osseointegration, posterior provisional polymethyl methacrylate restorations were delivered at the planned VDO. The maxillary and mandibular anterior teeth were prepared and provisional bridges were fabricated for the upper anterior teeth whereas for the lower injection molding technique was performed. The provisional phase was maintained for 3 months to assess function, esthetics, phonetics, occlusal stability and TMD symptoms. Definitive rehabilitation was completed with monolithic zirconia bridges and crowns, and implant-supported monolithic zirconia prostheses on titanium bars.

Results:

The increased VDO and restoration of posterior support were well tolerated during the provisional phase. Following delivery of the provisional restorations, the patient reported improvement of TMD-related pain. The definitive restorations reproduced the validated occlusal scheme and esthetic parameters established during provisionalization.

Conclusions:

In patients with deep bite, posterior support loss and TMD symptoms, a reversible, staged approach with deprogramming and prolonged provisionalization may help validate an increased VDO before definitive treatment. This workflow supports controlled full-mouth rehabilitation and risk reduction in complex prosthodontic cases.

LITHIUM DISILICATE HYBRID ABUTMENT COMBINED WITH CERAMIC VENEERS

Karlota-Ioanna Filippousi

Ioannis Papathanasiou[1], Karlota-Ioanna Filippousi[2], Evangelia Nanou[3], George Papavasiliou[4], Phophi Kamposiora[5]

[1]Postgraduate Research Associate, Department of Prosthodontics, [2]Student, National and Kapodistrian University of Athens, Greece, [3]Postgraduate student, Department of Prosthodontics, [4]Asst. Professor, Department of Postgraduate, [5]Asst Professor, Head of Department of Prosthodontics National and Kapodistrian University of Athens, Greece

Aim:
Restoring a single implant in the anterior esthetic zone remains challenging because of the need to achieve symmetry, soft-tissue harmony, and color integration with adjacent natural teeth. Lithium disilicate combines favorable optical properties, adhesive bonding potential, and adequate mechanical performance. This case report presents the use of a lithium disilicate hybrid abutment combined with ceramic veneers for esthetic rehabilitation of a maxillary anterior implant.

Materials and Methods:
A 45-year-old female patient presented for replacement of an implant-supported crown on a maxillary central incisor and improvement of smile esthetics. Following smile analysis, a digital diagnostic wax-up was transferred intraorally with a resin mock-up. The mock-up guided minimally invasive veneer preparations on teeth #12, #11, and #22 using 0.5-mm depth-cutting burs. The implant at site #21 and the prepared teeth were recorded with a closed-tray impression technique. A two-piece lithium disilicate hybrid abutment and four lithium disilicate ceramic veneers were fabricated. After conditioning of the tooth surfaces, veneer intaglio surfaces, and hybrid abutment, the abutment was screw-retained and the veneers were adhesively bonded with light-cured resin cement.

Results:
The treatment achieved harmonious integration of the implant restoration with adjacent dentition, improved smile symmetry, and favorable soft-tissue response. The patient reported complete satisfaction with excellent esthetic outcomes.

Conclusions:
The treatment achieved harmonious integration of the implant restoration with adjacent dentition, improved smile symmetry, favorable soft-tissue response, and high patient satisfaction. Lithium disilicate hybrid abutments can be predictably combined with lithium disilicate veneers in selected anterior implant cases to optimize esthetic outcomes.

FROM FRACTURE TO FUNCTION: CONVERTING FAILED IMPLANTS INTO PROSTHETIC ABUTMENTS

Elias Ghantous

Elias Ghantous, Peter Rosenfeld, Mirra Kats, Orith Haramaty, Esi Sharon
Department of Prosthodontics, Hadassah Medical Center, Faculty of Dental Medicine, Hebrew University of Jerusalem, Jerusalem, 91120, Israel

Aim:
Fracture of osseointegrated implants in the posterior maxilla is a complex restorative challenge in bruxers, in whom parafunctional loading and limited residual bone constrain treatment options. Hence explantation frequently produces an irreversible osseous defect, this report describes a conservative salvage technique repurposing fractured implants as prosthetic abutments rather than removing them.

Materials and Methods:
A 77-year-old male with documented bruxism presented with two osseointegrated external-hex implants (Brånemark, Nobel Biocare) placed 30 years earlier, discovered to be fractured during a failed attempt to fabricate a new fixed partial denture (FPD). As surgical removal would have compromised the residual posterior maxillary ridge, the implants were retained. The fractured implants shoulders were flattened and the internal walls refined with a long diamond bur to receive intracoronal posts. A direct impression of the prepared channels was made with pattern resin (GC), from which custom cast cobalt-chromium post-and-core abutments were fabricated and cemented with adhesive resin cement (3M RelyX Universal). A gingivectomy was performed to reestablished appropriate soft-tissue contours and ferrule effect, after which a digital impression was taken and a cemented provisional fixed bridge was delivered.

Results:
Retention and conversion of the fractured fixtures avoided explantation and preserved the residual alveolar bone. A functional, well-contoured provisional fixed restoration with adequate ferrule was achieved, restoring masticatory function.

Conclusions:
Converting fractured implants into custom post-retained abutments offers a conservative, bone-preserving alternative, restoring function while avoiding fixture-removal morbidity. It may be considered when explantation would compromise the residual alveolar ridge, particularly in elderly and/or parafunctional patients.

ISOTONIC SPORTS DRINKS AFFECT STREPTOCOCCUS MUTANS GROWTH

Ella Gilenson Istoyler

Yasmin Louzon, Esi Sharon-Sagie, Amit Wolfoviz Zilberman, Nurit Beyth
Department of Prosthodontics, Hebrew University-Hadassah School of Dental Medicine, Jerusalem, Israel

Aim:
To evaluate the effect of isotonic sports drink on the growth and proliferation of the cariogenic bacterium Streptococcus mutans.

Materials and Methods:
Isotonic sports drink (Powerade (Blue and Yellow flavours) and Gatorade (Blue, Red, and Green flavours) were evaluated. S. mutans UA159 was cultured in Brain Heart Infusion (BHI) medium. Bacterial suspensions were adjusted to an initial optical density (OD) of 0.1 at 650 nm subjected to each beverage flavour, alongside a beverage-free control group. Growth kinetics were recorded in a temperature-controlled spectrophotometer, with automated density readings recorded every 20 minutes across a 17-hour period. Statistical analyses were executed via one-way ANOVA and t-tests (< 0.05).

Results:
All tested sports drink flavours demonstrated a distinct, dose-dependent inhibition of S. mutans growth compared to the standard control curve. Bacterial exposure to the beverages significantly slowed log-phase growth and flattened the growth trajectory and was dose dependent, higher concentrations resulted in a near-complete suppression of bacterial growth across virtually all flavours ($P < 0.05$). Notably, the Green Gatorade flavour exhibited a uniquely potent antibacterial response, producing massive growth suppression even at the lower concentrations.

Conclusions:
Contrary to expectations that simple sugars would stimulate proliferation, higher concentrations of commercial isotonic drink flavours actively suppress S. mutans growth in vitro.

IMMEDIATE LOADING OF IMPLANTS IN THE MANDIBLE: A CASE-REPORT

Marichrysa Gogola

M. Gogola[1], S. Avgoustis[2], K. Samanidis[2], A. Sarafianou[3], G. Papavasileiou[3]

[1]Postgraduate student, Department of Prosthodontics, [2]Postgraduate student, Department of Periodontology, [3]Assistant Professor, Department of Prosthodontics, National and Kapodistrian University of Athens, School of Dentistry, Greece

Aim:
Immediate loading of dental implants, defined as the placement of a provisional restoration within one week of surgery, represents a contemporary clinical approach that reduces overall treatment time and improves patient quality of life. Successful implementation, however, requires strict patient selection and meticulous pre-surgical planning. The aim of this report is to present a clinical case of immediate implant loading with the placement of a provisional bridge in the mandible.

Materials and Methods:
A 40-year-old female patient with a non-contributory medical history presented for full-arch rehabilitation of the mandible with implants. Following clinical and radiographic evaluation, the placement of five osseointegrated implants was planned. Pre-surgical planning was carried out entirely digitally. Based on the digital plan, a guide for the placement of the pins and a fully guided surgical template was fabricated, through which all implants were placed with precision. A third guide was also pre-fabricated, designed for the placement and activation of the provisional bridge, ensuring its immediate and accurate delivery on the day of the surgery. All implants demonstrated satisfactory primary stability, with insertion torque values exceeding 45 Ncm, surpassing the established threshold of 35 Ncm for immediate loading. Remaining teeth were extracted and the new cross-arch provisional bridge was activated.

Results:
The postoperative course was uneventful, with minimal postoperative discomfort.

Conclusions:
This case highlights that digital planning, fully guided surgery, and a pre-fabricated activation guide for the provisional restoration enhance the safety, precision and predictability of immediate loading, ensuring an optimal aesthetic and functional outcome.

THE FLUCTUATION OF ORAL BEHAVIORS AS A RISK FACTOR FOR THE RESTORATION OF ENDODONTICALLY TREATED POSTERIOR TEETH

Francesco Gramegna

Francesco Gramegna, Ovidiu Ionut Saracutu, Marco Ferrari, Daniele Manfredini, Edoardo Ferrari Cagidiaco,

University of Siena, Italy

Aim:

The objective of this study was to evaluate the long-term clinical outcomes of different restorative protocols for endodontically treated posterior teeth with less than 50% residual tooth structure and to investigate the association between fluctuations in oral behaviors and prosthodontic failures.

Materials and Methods:

A randomized controlled clinical trial included 160 patients requiring restoration of endodontically treated posterior teeth. Patients were randomly assigned to one of four restorative protocols combining direct or indirect restorations with or without fiber post placement. Only patients with no or low OBC risk were enrolled. Clinical, radiographic and OBC assessments were performed at baseline and after a mean follow-up of 6.7 years. Prosthodontic failures were evaluated using modified USPHS criteria, and associations between restorative protocols, oral behavior risk, and failures were analyzed.

Results:

Seven restorations (4.4%) failed during follow-up, six due to fracture of direct composite restorations and one due to root fracture. No significant difference in survival was observed between teeth restored with or without fiber posts ($p > 0.05$). All failures occurred in patients who developed a high-risk OBC score during follow-up. Direct composite restorations were positively associated with failure ($r = 0.215$, $p = 0.007$), whereas lithium disilicate restorations showed a negative association ($r = -0.215$, $p = 0.007$). High-risk oral behaviors were significantly correlated with prosthodontic failure ($r = 0.405$, $p < 0.001$).

Conclusions:

Fiber post placement did not influence the long-term outcome of restorations in endodontically treated posterior teeth. However, the development of high-risk oral behaviors was strongly associated with failure of direct composite restorations, highlighting the importance of periodically monitoring oral behaviors during long-term prosthodontic maintenance.

NEW PRODUCTION PATHWAY OF MONOLITHIC ZIRCONIA FPD: 'PRE-TEMPLATE & RE-DESIGN'

Ella Gur Arie

Ella Gur Arie[2], Amy Dahbour[2], Esi Sharon-Sagie, Asher Zabrovsky[1],Mor Shlezinger [1]

Equal contribution[1] Equal contribution[2]

Department of Prosthodontics, Hebrew University-Hadassah School of Dental, Medicine, Jerusalem, Israel

Background:

Monolithic zirconia restorations often require occlusal and interproximal adjustments after fabrication. Surface grinding may reduce restoration strength by inducing surface flaws and microcracks. This study compared two production workflows of monolithic zirconia fixed partial dentures (FPD): 'Design & Mill' and 'Pre-template & Re-design', evaluating adjustment time and material loss. We suggest Polymethyl methacrylate (PMMA) templates to improve fabrication accuracy.

Materials and Methods:

Nissin models were mounted on an articulator, and a mandibular first molar (#36) was prepared for a single-unit FPD. Following digital scanning, sixty monolithic zirconia FPDs were fabricated (N=30/group). Group 1 underwent the 'Design & Mill' workflow, while Group 2 underwent the 'Pre-template & Re-design' workflow. Occlusal and interproximal adjustments were performed by a Prosthodontic resident. Adjustment time was recorded, and material loss was assessed by weight differences before and after adjustments using a high-precision analytical balance. Two outliers were excluded. Data were analysed using independent samples t-tests ($\alpha = 0.05$).

Results:

The 'Design & Mill' workflow showed significantly shorter adjustment times (166.67s ± 68.43 s) compared with the 'Pre-template & Re-design' workflow (233.83s ± 79.74s, $p = 0.0009$). After outlier exclusion, the 'Pre-template & Re-design' group demonstrated significantly greater material loss (0.0282g ± 0.0172g) than the 'Design & Mill' group (0.0041g ± 0.0020g, $p < 0.001$).

Conclusions:

The conventional 'Design & Mill' digital workflow demonstrated superior efficiency and lower material loss compared with the 'Pre-template & Re-design' workflow for monolithic zirconia restorations.

GAP CHANGES DUE TO STERILIZATION PROCESS WHEN COMPARING TWO TYPES OF TWO-PIECE SCAN BODIES: IN-VITRO SCANNING ELECTRON MICROSCOPE ANALYSIS

Lior Hadar Yitzhaki

Zvi Gutmacher, Lior Hadar Yitzhaki, Yaniv Skvirsky, Ophir Rosner, Gil Ben-Izhack

Rambam hospital, Haifa, Israel

Background:

Accurate digital data transfer via intraoral scan bodies (ISBs) is critical for passive fit in implant prosthodontics. Two-piece ISB designs may suffer structural discrepancies at the base-body interface due to the thermal stress from repeated autoclave sterilization, potentially compromising clinical accuracy.

Aim:

To evaluate micro-gap changes at the interface of two types of two-piece ISBs (Titanium-Titanium [Ti-Ti] vs. Titanium-Polyetheretherketone [Ti-PEEK]) folowing multiple sterilization cycles.

Materials and Methods:

This in-vitro study evaluated 40 two-piece ISBs (n=20per group): Zirkonzahn (Ti-Ti) and Alpha-Bio (Ti-PEEK). The ISBs undergo steam sterilization (134 ° C). Micro-gaps (µm) were measured at four surfaces using a Scanning Electron Microscope (SEM; X250) at baseline (t=0), 3 cycles (t=3), and 10 cycles (t=10). Non-parametric tests analyzed within- and between-group deviations (α =0.05). Expected

Results:

Pilot data (n=3) indicated the ZZ group maintained a significantly lower mean gap than the AB group, before (6.43+ 1.82 µm vs. 11.87+ 1.03 µm) and after sterilization (7.47+ 1.54 µm vs.14.10+ 0.61 µm; p=0.0005). Autoclaving significantly increased micro-gaps in both groups ($p < 0.001$). This study confirms these material-dependent discrepancies and map their progression.

Conclusions:

Preliminary data indicate that steam sterilization alters the structural integrity of two-piece ISBs, with Ti-Ti demonstrating greater dimensional stability than Ti-PEEK. Validating these alterations is essential, as interface degradation under thermal stress may compromise the digital implant impressions. These findings may support establishing future clinical protocol for IBS utilization.

Keywords: Implant Dentistry; Autoclave sterilization; Micro-gap; Scanning Electron Microscopy, CAD/CAM.

PATTERNS OF SEXUAL DIMORPHISM AND ONTOGENETIC VARIATION IN MANDIBULAR SHAPE

Lama Haddad

Lama Haddad[1], Tatiana Sella Tunis[2,3], Ariel Pokhojaev[4], Rachel Sarig[2,4,5], Hila May[3,5]

[1]Department of Prosthodontics, [2]Department of Orthodontics,
[3]Department of Anatomy and Anthropology, [4]Department of Oral Biology,
[5]The Shmunis Family Anthropology Institute, the Dan David Center for Human Evolution and Biohistory Research, the Maurice and Gabriela Goldschleger School of Dental Medicine, Gray Faculty of Medical and Health Sciences, Tel Aviv University, Israel

Aim:
Mandibular morphology is shaped by developmental growth and functional adaptations, resulting in morphological variation. The object of the study is characterizing ontogenetic and sex-related variations of the mandible in order to improve diagnostic accuracy and treatment planning in prosthodontic and orthodontic practice.

Materials and Methods:
CT-scans of mandibles from 181 individuals (112 males,69 females) aged 2–45years were analyzed. Mandibular shape was captured using 35 landmarks and 60 curve semi-landmarks. Centroid size was calculated from these coordinates. Generalized Procrustes Analysis, Principal Component Analysis was performed to explore shape variation. Procrustes ANOVA was conducted to assess the effects of age and sex on mandibular shape.

Results:
The rate of increase in mandibular size during growth has dropped in the age group of 9-12. By the 13-15 age, the mandible reached its final size and shape. During growth, the mandibular body changes from triangular to rectangular, and the ramus transforms from square to elongated rectangular. The shape changes in these elements demonstrated a high correlation. Once the mandible reached its mature appearance (13-15 years), sex differences became significant. Ramus and body shape changes were positively correlated during growth(r=0.438 males;r=0.488 females).

Conclusions:
This study demonstrates marked sexual dimorphism in mandibular size, emerging at ages 9-12 with sex-specific growth cessation timing, while shape changes remain monomorphic until mid-adolescence. Identification of critical developmental windows for size and shape divergence provides quantitative baselines for assessing craniofacial growth abnormalities and optimizing timing of prosthodontic, orthodontic and surgical interventions.

FROM SARPE TO SMILE: HYBRID PLANNING FOR SEVERE OLIGODONTIA REHABILITATION

Maisa Haiek

Maisa Haiek, DMD, PhD candidate[1], Eilon David Aharon, DMD, Msc[2], Samuel Morgulis DMD[1], Menahem Friedman, DMD[2], Heli Rushinek DMD[3], Nardy Casap-Caspi DMD[3], Esi Sharon DMD, PhD candidate[1]

[1]Department of Prosthodontics [2]Department of Orthodontics,
[3]Department of Oral and Maxillofacial Surgery,
Hadassah Medical Center, Faculty of Dental Medicine,
Hebrew University of Jerusalem, Jerusalem, 91120, Israel

Aim:
To present a hybrid conventional-virtual planning approach for orthognathic surgery and implant-supported rehabilitation in severe oligodontia, highlighting multidisciplinary decision-making and prosthetically driven treatment planning.

Materials and Methods:
An 18-year-old patient with severe oligodontia presented with significant aesthetic and functional concerns associated with skeletal and dentoalveolar discrepancies. Comprehensive assessment included clinical examination, radiographic imaging, intraoral scans, and conventional cast set-up. A hybrid workflow integrating conventional and virtual surgical planning was implemented. Digital simulations evaluated surgically assisted rapid palatal expansion (SARPE), predicted treatment outcomes, and improved patient communication. Conventional diagnostic set-up, wax-ups, and intraoral mock-ups following planned SARPE assessed the feasibility of prosthetic camouflage after transverse correction. Digitized models were merged with cone beam computed tomography (CBCT) data to establish a prosthetically driven surgical and implant rehabilitation plan. Interdisciplinary collaboration defined the staged treatment sequence.

Results:
Assessment revealed multiple missing permanent teeth, retained primary teeth, limited bone availability, reduced occlusal support, transverse maxillary deficiency, Skeletal Class III, and altered occlusal plane relationships. SARPE achieved the planned transverse expansion. Subsequent restorative assessment confirmed that residual sagittal discrepancies could be managed prosthodontically, avoiding secondary maxillary advancement surgery. Provisional restorations improved occlusal support, aesthetics, and patient satisfaction, and a staged rehabilitation protocol incorporating implant-assisted orthodontics, autogenous bone augmentation, and sequential implant placement was initiated.

Conclusions:
A hybrid conventional-virtual workflow optimized multidisciplinary treatment planning and predictability. Successful transverse correction and provisional rehabilitation enabled prosthodontic compensation, avoided secondary orthognathic surgery, and established a stable foundation for definitive implant rehabilitation to restore function, aesthetics, and psychosocial well-being.

BEYOND THE SYNDROME: PROSTHODONTIC-ORTHOGNATHIC PLANNING IN HALLERMANN-STREIFF SYNDROME

Berta Harel

Orith Haramaty, Michal Dekel Steinkeller, Esi Sharon

Department of Prosthodontics, Hadassah Medical Center, Faculty of Dental Medicine, Hebrew University of Jerusalem, Jerusalem 91120, Israel

Aim:

Hallermann-Streiff Syndrome (HSS) is a rare disorder causing distinct craniofacial features and dental anomalies. While it stems from a sporadic genetic mutation and presents a dysmorphic phenotype, cognition is preserved in most cases. Adult HSS management requires “outside-the-box” thinking, shifting from purely anatomical corrections to an empathetic, holistic, patient-centered approach. This report aims to present a unique interdisciplinary rehabilitation of an adult HSS patient presenting with oligodontia.

Materials and Methods:

A 23.5-year-old female patient with HSS presented with a retrognathic mandible, incompetent lips, 17 missing teeth, high lip line, and a 14-mm anterior open bite with malpositioned permanent teeth. Treatment options included tooth and implant support fixed prostheses or pre-prosthetic orthognathic surgery. Because conventional orthodontic anchorage was inadequate, and orthognathic surgery mandates a stable occlusal baseline, a staged sequence was determined: initial extractions, implant placement, and immediate loading. Post-osseointegration, these implants provide absolute skeletal anchorage for orthodontics, while potential orthognathic surgery remains dependent on patient satisfaction. Finally, a diagnostic wax-up assessed the parameters required to achieve these goals.

Results:

Simultaneous extractions and immediate implant loading provided a tooth- and implant-supported acrylic provisional bridge. Through a strategic workflow combining a diagnostic wax-up, selective grinding, and an intraoral mock-up, the open bite was successfully managed. This clinical intervention effectively improved the retrognathic mandibular position, optimized posterior occlusal contacts, and achieved minimal positive overjet and overbite.

Conclusions:

Involving the patient as an active partner in shared decision-making ensures a holistic approach that looks beyond the syndrome, treating the individual, not just the deformity.

THE INFLUENCE OF ABUTMENT TYPE ON IMPLANT SUCCESS: A SYSTEMATIC REVIEW

Eden Huzayev Tencer

Supervised by Prof. Eitan Mijiritsky and Dr. Gil Ben-Izhack
Dental Student at Tel Aviv University, Israel

Aim:
The aim of this systematic review was to evaluate the current literature and examine how different implant-abutment connection types influence the success of dental implants in adult patients.

Materials and Methods:
A systematic search was conducted in the MEDLINE, Embase, and Cochrane databases. Inclusion criteria comprised in vivo studies published in English involving healthy patients aged 18 years and older restored with titanium dental implants of any system or brand in all regions of the maxilla and mandible. Inclusion and exclusion criteria were predefined according to the PICO framework. Following screening of titles, abstracts, and full texts, four studies were included in the final analysis.

Results:
The review included studies evaluating three main connection types: external hexagonal, internal conical, and Morse taper connections. Implant survival rates ranged from 95.4% to 100% across all connection types. Implant success rates were mainly reported for internal conical and Morse taper connections and ranged from 95.1% to 100%. However, success rates for external hexagonal connections were not reported, limiting direct comparison between connection types. Most studies demonstrated low and stable marginal bone loss over time. In the study comparing internal conical and external hexagonal connections, lower marginal bone loss was observed in the internal conical group.

Conclusions:
Although high implant success rates were reported for internal connection designs, definitive conclusions regarding the superiority of a specific connection type cannot be drawn. Nevertheless, internal conical and Morse taper connections may offer biological and mechanical advantages, particularly in preserving marginal bone and maintaining implant-abutment interface stability. Further studies with standardized success criteria and direct comparisons are required to confirm these findings.

DENTAL IMPLANT REMOVAL: CLINICAL CHARACTERISTICS AND OUTCOMES

Dóra Iványi

Dóra Iványi, Gergely Gazdig, Márton Kivovics,
Department of Dental Public Health, Semmelweis University, Hungary

Aim:
To evaluate dental implant removals performed between 2014 and 2023 at the Department of Dental Public Health, Semmelweis University, focusing on patient demographics, implant location, survival time, prosthetic reconstruction type, and complications.

Materials and Methods:
Data from 128 patients undergoing implant removal were retrospectively collected from radiographs, clinical records, and electronic patient management systems. The cohort included 74 females and 54 males (mean age 62.9±11.8 years). Overall, 242 removed implants were analyzed. Descriptive statistics and nonparametric tests (Mann-Whitney U, Kruskal-Wallis) were used for group comparisons, while associations between categorical variables were evaluated using Pearson's χ^2 or Fisher's exact test ($p<0.05$).

Results:
Periimplantitis was the most common complication, affecting 84.4% of patients and 90.5% of implants. Implant-supported fixed prostheses were present in 45.3% of patients, mixed tooth-implant supported prostheses in 43.8%, and implant-supported removable prostheses in 10.9%. Periimplantitis prevalence differed significantly according to prosthetic design ($p=0.044$), occurring more frequently in mixed tooth-implant supported prostheses than in implant-supported fixed prostheses ($p=0.013$). Implant survival time also differed between prosthetic groups ($p=0.033$), with longer survival observed in mixed prostheses ($p=0.012$). [DI1.1][MK1.2]Mean implant survival time was 7.0±5.1 years, with most removals occurring 5-10 years after implantation. No significant differences were found between jaws or anatomical regions.

Conclusions:
Periimplantitis was the predominant cause of implant removal. Prosthetic design appears to influence periimplantitis prevalence and implant survival, emphasizing the importance of biomechanically stable, hygienically accessible prosthetic constructions and long-term maintenance therapy.

SCANNABLE HEALING ABUTMENTS: ENHANCING DIGITAL WORKFLOWS IN IMPLANT PROSTHODONTICS

Phophi Kamposiora

Phophi Kamposiora[1], Ioannis Papathanasiou[2], George Papavasiliou[3], Ioanna Kontouli[4]

[1]Assoc. Professor, Head of Department of Prosthodontics, [2]Prosthodontist, Research Associate, Department of Prosthodontics, [3]Asst. Professor, Department of Prosthodontics, [4]Postgraduate student, Department of Prosthodontics,

National and Kapodistrian University of Athens, Greece

Aim:

Conventional healing abutments often fail to support the development of an optimal emergence profile during peri-implant soft tissue healing. Scannable healing abutments have been introduced to facilitate both soft tissue conditioning and digital data acquisition. The aim of this review is to evaluate the clinical applications, advantages, and reported accuracy of scannable healing abutments within digital implant restorative workflows.

Materials and Methods:

An electronic literature search was conducted in PubMed and Scopus databases to identify studies evaluating coded healing abutments and their role in digital implant workflows. The search included the terms “coded healing abutment”, “scannable healing abutment”, “digital impression”, and “implant impression”.

Results:

Scannable healing abutments may be placed either at implant insertion or during second-stage surgery and facilitate the development of a predefined emergence profile while supporting peri-implant soft tissues. Their use may reduce the need for provisional restorations and additional soft tissue conditioning procedures, thereby simplifying treatment workflows. Furthermore, intraoral scanning can be performed without removal of the healing abutment, minimizing repeated manipulation of peri-implant tissues. Available studies report clinically acceptable accuracy for implant-level digital impressions obtained through coded healing abutment systems and suggest favorable clinical and esthetic outcomes.

Conclusions:

Within the limitations of the available evidence, scannable healing abutments appear to be a valuable adjunct in digital implant prosthodontics, facilitating soft tissue management and efficient digital workflows while maintaining clinically acceptable impression accuracy.

OPTIONS FOR MAXILLOFACIAL PROSTHETIC REHABILITATION IN CASES OF MANDIBULAR DEFECTS IMPLANT-SUPPORTED VS. CONVENTIONAL APPROACHES

Benedek András Kaposi

Noémi Szathmári-Mészáros, Márton Kivovics, Mercédesz Orsós

Semmelweis University, Hungary

Background:

Mandibular defects, resulting from tumour resection or trauma, severely compromise mastication, speech, and facial aesthetics. Prosthetic rehabilitation is essential for restoring quality of life, however, achieving adequate retention and stability remains a significant clinical challenge. A critical decision in the treatment planning phase is whether to utilise dental implants or rely on conventional tissue-supported prostheses. The aim of this clinical case series is to present maxillofacial prosthetic rehabilitation for various mandibular defects.

Case description:

The cases presented highlight a spectrum of prosthetic solutions, ranging from conventional removable prostheses to implant-supported restorations. Patients were systematically evaluated based on the origin of the defect (tumour surgery), defect size, remaining bone volume, history of radiotherapy, soft tissue condition, and manual dexterity. Based on these parameters, individualized treatment plans were determined, and prostheses were manufactured supported by implants where indicated, or using the conventional methods when surgical intervention was contraindicated or not feasible.

Discussion:

Successful rehabilitation of mandibular defects requires a highly individualized approach. While dental implants significantly enhance the retention and functional outcome of maxillofacial prostheses, they are not universally applicable. Factors such as heavily irradiated tissue, insufficient bone mass, or poor systemic health often require conventional approaches. This presentation emphasizes the importance of systematically evaluating anatomical, oncological, and patient-centric factors. By understanding the distinct indications and limitations of both implant-assisted and conventional methods, clinicians can predictably restore both function and aesthetics.

REHABILITATION OF A GROWING PATIENT WITH ECTODERMAL DYSPLASIA: A MULTIDISCIPLINARY CLINICAL APPROACH

Ioanna Lydia Kontouli

Ioanna Lydia Kontouli (Postgraduate Student, **Phophi Kamposiora** (Associate Professor, **George Papavasiliou** (Assistant Professor, **Ioli Artopoulou** (Associate Professor, Maxillofacial Prosthodontist, Department of Prosthodontics, School of Dentistry, National and Kapodistrian University of Athens, Greece)

Aim:
Ectodermal Dysplasia (ED) is a rare inherited disorder affecting two or more ectodermal structures and is commonly associated with oligodontia or anodontia, hypotrichosis, and hypohidrosis. Early prosthodontic rehabilitation plays a pivotal role in restoring oral function, facial esthetics, psychosocial well-being, and normal craniofacial development. This case report describes the multidisciplinary prosthodontic management of a growing child with ED and highlights the challenges associated with treatment during active craniofacial growth.

Materials and Methods:
A 9-year-old boy diagnosed with ED was referred to the Department of Prosthodontics at the National and Kapodistrian University of Athens. In the maxilla, two conical permanent canines were reshaped using injectable flowable composite resin, followed by fabrication of a removable partial denture based on the dual-path insertion concept. In the mandible, orthodontic extrusion of impacted teeth was planned before fabrication of a removable prosthesis. Regular follow-up visits were scheduled to monitor prosthesis adaptation and craniofacial growth.

Results:
Prosthodontic rehabilitation resulted in significant improvements in facial esthetics, mastication, speech, swallowing, and the patient's self-confidence. Functional adaptation was satisfactory, while periodic follow-up enabled timely modifications of the prostheses according to craniofacial growth.

Conclusions:
Early prosthodontic rehabilitation is essential for children with ED and requires close collaboration among prosthodontists, orthodontists, pediatric dentists, and other specialists. Because craniofacial growth is ongoing, removable prostheses should be periodically adjusted or replaced to ensure optimal function, esthetics, and psychosocial development.

DIGITAL IMPRESSIONS FOR VERTICAL SUBGINGIVAL PREPARATIONS: CURRENT EVIDENCE AND CLINICAL PERSPECTIVES

Leonidas Laskaratos

Laskaratos Leonidas[1], Ferizi Mario[2], Kamposiora Phophi[3]

[1,2]Postgraduate student, Prosthodontics, National and Kapodistrian University of Athens,
[3]Associate Professor, Prosthodontics, National and Kapodistrian University of Athens, Greece

Background:
Digital impressions offer several advantages over conventional analog techniques. However, their inability to displace soft tissue complicates accurate detection of subgingival margins. As digital workflows continue to replace conventional impressions and vertical subgingival preparations become increasingly common, the ability of current intraoral scanners to accurately capture vertical subgingival preparations has become an important clinical question.

Aim:
To critically review the available evidence regarding the accuracy and clinical reliability of digital impressions for vertical subgingival preparations.

Materials and Methods:
A narrative review of the available literature was conducted, focusing on in vitro and clinical studies evaluating the accuracy of intraoral scanning for vertical subgingival preparations.

Results:
Optical scanning of vertical subgingival preparations is clinically limited by line-of-sight obstruction and soft-tissue collapse around the preparation margin. The available evidence regarding the accuracy of digital impressions for subgingival margins remains inconsistent. One in vivo study demonstrated that digital scans achieved accuracy comparable to digitized conventional impressions, whereas a pilot clinical study reported incomplete capture of the prepared surface regardless of preparation depth. Among two in vitro studies, only one reported clinically acceptable accuracy for preparations extending 1.5–2 mm subgingivally. Adjunctive techniques, including gingival retraction, optimized scanning protocols, and hybrid digital–analog workflows, have been proposed to improve clinical predictability.

Conclusions:
Digital impressions appear to be more predictable for shallow vertical preparations, particularly when combined with adjunctive soft-tissue management techniques such as PTFE-assisted retraction. For deeper subgingival preparations, conventional or hybrid impression workflows currently remain the more predictable clinical option. However, the available evidence remains limited and heterogeneous, highlighting the need for well-designed prospective clinical studies.

FULL-MOUTH REHABILITATION OF SEVERE WEAR: OVERDENTURE AND COMPOSITE OVERLAYS

Isolda Livshitz

Isolda Livshitz, Mirra Kats, Samuel Morgulis, Esi Sharon
Department of Prosthodontics, Hadassah Medical Center, Faculty of Dental Medicine, Hebrew University of Jerusalem, Jerusalem, 91120, Israel

Aim:
To present a conservative, minimally invasive full-arch rehabilitation of severely worn mandibular dentition using direct composite overlays, combined with an increased vertical dimension of occlusion (VDO), and maxillary restoration with an implant-supported overdenture.

Materials and Methods:
A 50-year-old female heavy smoker (27 pack-years) presented with severe tooth wear (Smith & Knight grade 2), Angle Class II division 1 dentoalveolar relations, deep bite (OB 13 mm, OJ 6 mm), bilateral scissors bite, reduced VDO, multiple missing teeth, and periodontitis stage IV grade C. Initial therapy included anti-infective periodontal treatment, CAMBRA-based caries control, smoking cessation, and a diagnostic wax-up. The VDO was raised to establish a therapeutic occlusion by adding occlusal units. This restored normal occlusal curves and eliminated occlusal trauma, providing an optimal functional and aesthetic outcome. The mandibular arch was rehabilitated entirely with direct composite overlays, simultaneously restoring posterior occlusal units and rebuilding lost tooth structure. The maxillary arch, where all remaining teeth required extraction due to advanced periodontal destruction, was restored with an implant-supported overdenture.

Results:
Marked improvement was achieved in periodontal indices (FMBS 70%→8%; FMPS 100%→21%; mean PD 3.5→3 mm; mean CAL 4.1→3.4 mm). The patient ceased smoking and adapted well to the new VDO, with significant gains in function, aesthetics, and phonetics. At one-year follow-up, no wear or fracture of the composite overlays was observed.

Conclusions:
Direct composite overlays offer a conservative, aesthetic, and cost-effective approach for full-arch rehabilitation of severely worn dentition when combined with VDO modification, preserving tooth structure with favourable medium-term outcomes.

HIPPOCAMPAL NEUROINFLAMMATION, VASCULAR ALTERATIONS, AND BEHAVIORAL EFFECTS INDUCED BY TITANIUM IMPLANTS IN MICE

Yasmin Louzon

Dr. Yasmin Louzon - Hebrew university - Hadassah Medical center
Dr. Rinat Tzach – Nahman - Hebrew university - Hadassah Medical center
Prof. Yael Houri-Haddad - Hebrew university - Hadassah Medical center

Background:
Oral health has recently been linked to brain health through systemic pathways. Tooth loss has been demonstrated to impact brain health and function in both animal clinical models and human subjects. Dental implants, primarily composed of titanium (Ti), are widely used for oral rehabilitation. However, Ti's biological safety is under scrutiny due to its reported neurotoxicity and its potential to promote neuroinflammation. In the oral cavity, mice models have found that Ti dental implants create an inflammatory surrounding around the implants even in healthy environments.

Materials and Methods:
Using a murine model, first molars were extracted from 9-month-old female mice (n=60). Four weeks later, Ti-6Al-4V implants were placed. After 4 weeks, Cognitive behavior was assessed with Y-maze, Nesting, and novel object recognition tests. After behavior testing, brains were analyzed by bulk RNA sequencing and immunohistochemistry (IHC).

Results:
Using a murine implant model of tooth extraction followed by implant placement we found impaired cognitive function across a battery of behavioral tests, as well as increased angiogenesis in the hippocampus and elevated inflammation in the brains of Ti-implanted mice. These results suggest that Ti may exert profound, previously overlooked effects on brain health.
Mice with Ti implants performed worse on NOR, Y-maze and nesting tests. Transcriptomics revealed altered extracellular matrix and angiogenesis genes. IHC confirmed increased vascular structures and microglial activation in hippocampi.

Conclusions:
This study bridges oral and neurological health, suggesting titanium implants may have systemic neurobiological effects that warrant further investigation.

WHEN THE MOUTH REVEALS THE SYNDROME: DIAGNOSING SALIVARY GLAND APLASIA

Aline Massad

Orith Haramty , Esi Sharon

Department of Prosthodontics, Hadassah Medical Center, Faculty of Dental Medicine, Hebrew University of Jerusalem, Jerusalem, 91120, Israel

Aim:

To identify the cause of severe pathologic tooth wear in an adolescent and provide comprehensive rehabilitation.

Materials and Methods:

A 17-year-old male presented with severe pathologic tooth wear, generalized tooth sensitivity, and complaints of poor esthetics and function. His dental destruction had been managed for years as bruxism, caries, or suspected amelogenesis imperfecta. Clinical and radiographic examination revealed Smith & Knight grade 4 wear, active and secondary caries, spaced dentition, and dry mucosa. Caries-risk assessment indicated extreme caries risk. Integrating his dental findings with a childhood history of nasolacrimal duct obstruction and chronic ocular problems, salivary gland aplasia was suspected and confirmed by MRI, which demonstrated complete absence of the major salivary glands with hypoplastic lacrimal glands. This established a previously undiagnosed condition — aplasia of nasolacrimal and salivary glands (ALSG), an FGF10-associated disorder. Management combined a CAMBRA caries-control protocol, hygiene and dietary modification, and caries removal, followed by diagnostic wax-up and mock-up. Vertical dimension was increased by 4.5 mm at the incisal pin to establish a therapeutic occlusion and positive overjet, restored with full-coverage crowns.

Results:

After caries removal, full-coverage provisional crowns were placed in both arches, re-establishing occlusion, vertical dimension, esthetics, and phonetics; the patient is currently in the provisional phase awaiting definitive restoration.

Conclusions:

Severe, atypical tooth wear may be the presenting sign of an undiagnosed systemic condition. Recognizing the pattern — here, hyposalivation from salivary gland aplasia — shifted management from symptomatic control to etiology-based care, enabling a correct diagnosis and targeted treatment that preserves the remaining dentition.

CONGENITAL SALIVARY GLAND APLASIA: FULL-MOUTH PROSTHODONTIC REHABILITATION

Dafna Melamed Yitzhak

Orith Haramaty, Peter Rosenfeld, Esi Sharon

Department of Prosthodontics, Hadassah Medical Center, Faculty of Dental Medicine, Hebrew University of Jerusalem, Jerusalem, 91120, Israel

Aim:

To describe prosthodontic rehabilitation of a 35-year-old female with congenital aplasia of nasolacrimal and salivary glands secondary to Fibroblast Growth Factor 10 (FGF10) gene mutation. This rare condition presents with severe hyposalivation, extreme caries susceptibility, generalized biocorrosion, attrition, reduced interocclusal space and impaired esthetics, phonetics, and function.

Materials and Methods:

Comprehensive clinical and radiographic evaluation assessed tooth structure loss and occlusal scheme. Evidence-based caries risk protocol including fluoride therapy and dietary modification stabilized the oral environment. Esthetically-driven diagnostic wax-up and intraoral mock-up guided treatment planning. Full-arch provisional restorations were delivered to establish new occlusal vertical dimension (VDO), re-establish anterior guidance with posterior disarticulation, and test patient adaptation prior to definitive treatment.

Results:

A preventive regimen arrested caries progression and reduced sensitivity. A 4 mm VDO increase was well tolerated. Provisional restorations successfully established mutually protected occlusion and restored anterior and posterior tooth structure. Significant improvements were observed in function, speech, and esthetics with substantial gain in patient-reported satisfaction.

Conclusions:

Congenital salivary gland aplasia creates a perpetually hostile oral environment that fundamentally compromises long-term restorative prognosis. Integrating rigorous disease control with planned occlusal rehabilitation represents a viable strategy to restore function, esthetics, and phonetics, though lifelong preventive vigilance remains an absolute prerequisite for treatment longevity.

IMPACT OF STRESS AND ANXIETY ON DENTAL MOTOR PERFORMANCE: A SYSTEMATIC REVIEW

Ido Meshulam

Ido Meshulam, Gadi Gilam, Mor Shlezinger

1)Department of Prosthodontics, Hebrew University-Hadassah School of Dental Medicine, Jerusalem, Israel; 2)The Institute of Biomedical and Oral Research, Faculty of Dental Medicine, The Hebrew University, Jerusalem, Israel

Aim:

Dental Practitioners routinely perform highly demanding fine-motor procedures under psychological pressure, including time constraints, patient-related stress, and complex clinical decision-making. This systematic review evaluated current evidence regarding the effects of stress, anxiety, and emotional states on the motor and clinical performance of dental practitioners and students.

Materials and Methods:

A structured systematic search was conducted in PubMed, ScienceDirect, and the Cochrane Library according to PRISMA guidelines. Search terms combined psychological variables (stress, anxiety, burnout) with dental motor and clinical performance outcomes. Studies were screened using predefined PICO eligibility criteria. Six original studies met the inclusion criteria and underwent qualitative synthesis.

Results:

Neurophysiological evidence suggests that academic stress impairs cortical plasticity associated with motor learning. Conscious self-monitoring ("reinvestment") was linked to increased dorsolateral prefrontal cortex (DLPFC) activation without measurable improvement in task accuracy. Behavioral findings demonstrated associations between elevated anxiety levels, burnout symptoms, and avoidant clinical decision-making. However, objective performance measures, including OSCE-based assessments, showed inconsistent associations with situational anxiety. Major methodological limitations were identified: most data (83%) were derived exclusively from dental students, sample sizes were small (28–86 participants) and studies were predominantly conducted in simulated academic environments, limiting ecological validity and clinical generalizability.

Conclusions:

Psychological stress appears to influence neurophysiological mechanisms underlying motor control as well as clinically relevant behavioral parameters in dentistry. Nevertheless, current evidence remains limited by small, homogeneous study populations and a lack of real-world clinical research involving practicing clinicians. Larger, ecologically valid studies are required to better understand the impact of stress on dental performance patient safety.

PROSTHODONTIC REHABILITATION OF SEVERE EROSION IN GORLIN SYNDROME

Rafael Milano

Rafael Milano, Orith Haramaty, Esi Sharon
Department of Prosthodontics, Hadassah Medical Center, Faculty of Dental Medicine, Hebrew University of Jerusalem, Jerusalem, 91120, Israel

Aim:
To describe a minimally invasive, surgery-free prosthodontic approach for full-mouth rehabilitation in a young patient with Gorlin syndrome presenting with severe dental erosion, multiple congenitally missing and extracted teeth, and a deformed occlusal plane lacking disarticulation in eccentric movements. Treatment aimed to restore function and esthetics while avoiding interventions in regions at risk for recurrent keratocysts.

Materials and Methods:
A 19-year-old male with Gorlin syndrome and a history of multiple keratocyst enucleations presented with severe erosive wear from acidic carbonated beverage consumption, reduced interocclusal space, a markedly slanted occlusal plane, and a functional pseudo-Class III shift. Given recurrence risk of keratocysts until age 30, major orthodontics and implants were contraindicated. Treatment involved nutritional changes excluding acidic carbonated beverages, diagnostic wax-up/mock-up, increased vertical dimension, and provisional restorations. Minor orthodontic alignment of the lower anterior teeth with chain elastics addressed spacing.

Results:
Despite the severely deformed occlusal plane with an accentuated right-sided slant, a corrected and functional occlusal scheme was re-established at the new vertical dimension, achieving proper anterior guidance with full disarticulation in eccentric movements. Provisionals were maintained for several months with stable occlusion, no TMJ or muscular symptoms, and improved esthetics. A rigid lingual fixed retainer stabilized the position of the lower anterior teeth.

Conclusions:
Prosthodontically-driven rehabilitation, without major orthodontic or surgical intervention, successfully corrected a severely pathologic occlusion in a young patient with Gorlin syndrome, while accommodating ongoing monitoring for keratocyst recurrence. Definitive treatment will proceed with a digital workflow for zirconia FPDs, laminate veneers, and onlays following periodontal maintenance.

QUANTIFYING INTER-LABORATORY VARIABILITY IN THE MECHANICAL PERFORMANCE OF 3Y- TZP ZIRCONIA. A CONTROLLED MULTICENTER STUDY

Aviya Muharer

Aviya Muharer[1], Yaniv Skvirsky[2], Zvi Gutmacher[1]

[1]Department of Prosthodontics, Rambam Health Care Campus, Haifa, Israel

Aim:
3Y-TZP zirconia is widely used for monolithic anterior and posterior restorations; however, laboratory-specific milling, sintering, and finishing protocols may influence final mechanical performance. This controlled multicenter study aimed to isolate the effect of laboratory processing on the dimensional accuracy and flexural strength of 3Y-TZP zirconia by standardizing the raw material.

Materials and Methods:
Ten dental laboratories received 3Y-TZP blanks from a single production lot. Each laboratory fabricated 15 standardized bars (3 × 4 × 45 mm) according to ISO 6872 and its routine milling, sintering, and finishing protocol. A double-blind design was used. Dimensional accuracy was assessed by 3D optical superimposition, and 4-point flexural strength was tested according to ASTM C1161. Inter-laboratory differences were analyzed using ANOVA or Kruskal-Wallis tests, with Weibull statistics for strength reliability. Results were interpreted according to ISO 6872 strength classifications.

Results:
Preliminary analysis focuses on between-laboratory variance in flexural strength and dimensional deviation while eliminating raw material variability as a confounding factor. This approach identifies whether routine milling, sintering, and finishing protocols generate differences potentially relevant to ISO 6872 strength classifications.

Conclusions:
This multicenter design may provide evidence on the reliability of dental laboratory zirconia processing. Clinically meaningful variability would support the need for standardized milling, sintering, and finishing protocols to improve the predictability of monolithic zirconia restorations.

THE LOST ONES: RETHINKING EXTRACTION

Tsipora Nir

Tsipora Nir, Orith Haramaty, Michal Dekel Steinkeller, Esi Sharon
*** Equal contributions**
Department of Prosthodontics, Hadassah Medical Center, Faculty of Dental Medicine, Hebrew University of Jerusalem, Jerusalem, 91120, Israel

Aim:
To present a staged prosthodontic approach for full-arch rehabilitation in a medically complex patient, addressing functional, esthetic, and periodontal challenges through a sequential protocol.

Materials and Methods:
A 65-year-old female presented with multiple compromised teeth, severe generalized periodontitis, severe deep bite, and reduced vertical dimension of occlusion. Her medical history included Segmental Arterial Mediolysis (SAM), hypertension, hypercholesterolemia, and depression. SAM is a rare, noninflammatory, nonatherosclerotic vasculopathy that primarily affects abdominal visceral arteries that has no documented clinical relevance in dental treatment. The condition does not affect the oral cavity or maxillofacial vasculature in any reported cases. A four-phase interdisciplinary treatment plan was implemented. First, periodontal therapy, extraction of hopeless teeth, and provisional restorations established an acceptable vertical dimension and occlusal support. Second, endodontic treatments and core build-ups of strategic abutments were performed. Third, CBCT-guided implants were placed alongside bone augmentation in edentulous areas. Finally, definitive fixed implant-supported and tooth-supported prostheses were delivered, guided by esthetic and dentogingival analyses.

Results:
The staged intervention significantly improved clinical parameters, reducing full-mouth bleeding scores from 51% to 20% and plaque scores from 17% to 10%. Provisional restorations successfully re-established bilateral occlusal support. Following the planned implant placement, the definitive rehabilitation successfully restored bilateral masticatory function and esthetics, significantly enhancing the patient's self-confidence and overall patient-reported satisfaction.

Conclusions:
A staged, multidisciplinary approach enables predictable full-arch rehabilitation for medically complex patients. Prioritizing periodontal disease control, strategic extractions and provisional rehabilitation, and delayed definitive prostheses ensures long-term functional and esthetic success while safely managing systemic risk factors.

DIGITAL COMPLETE DENTURES: CURRENT EVIDENCE ON CLINICAL PERFORMANCE, MECHANICAL PROPERTIES, WORKFLOW EFFICIENCY, AND PATIENT OUTCOMES – A SCOPING REVIEW

Tahel Oguen Alon

Tahel Oguen Alon, Yaniv Skvirsky

Department of Prosthodontics, School of Graduate Dentistry,
Rambam Health Care, Israel

Background:
Digital technologies have transformed complete denture fabrication through computer-aided design and manufacturing (CAD/CAM), including subtractive (milling) and additive (3D printing) techniques. As evidence continues to expand, a comprehensive mapping of the literature is needed.

Objective:
To map the current evidence on digital complete dentures regarding clinical performance, denture adaptation, mechanical properties, patient-reported outcomes (PROMs), workflow efficiency, and research gaps.

Materials and Methods:
A scoping review was conducted following PRISMA-ScR guidelines. PubMed, Scopus, and Web of Science were searched for peer-reviewed studies published between January 2015 and June 2026. Eligible studies included systematic reviews, randomized clinical trials, observational studies, and in vitro investigations evaluating digitally fabricated complete dentures.

Results:
Digital complete dentures demonstrated clinical outcomes and patient satisfaction comparable to conventional dentures. CAD/CAM-milled dentures consistently showed superior adaptation, dimensional accuracy, and mechanical properties. Three-dimensional printing offered greater manufacturing flexibility and workflow efficiency but raised concerns regarding long-term durability, wear resistance, and denture tooth bonding. Most available evidence consisted of laboratory studies and short-term clinical investigations.

Conclusions:
Digital complete dentures represent a reliable treatment option. Milling remains the most extensively validated digital manufacturing technique, whereas 3D printing requires further material development and long-term clinical evaluation. Future research should focus on standardized outcome measures and high-quality longitudinal clinical studies.

RESTORATION OF DENTAL IMPLANTS USING CODED ABUTMENTS: A CASE SERIES

Mercedesz Orsos

Mercedesz Orsos, Noemi Szathmari-Meszaros, Marton Kivovics
Department of Dental Public Health, Faculty of Dentistry,
Semmelweis University, Hungary

Aim:
Digital workflows and implant-supported rehabilitation are central to contemporary prosthodontics, with increasing emphasis on efficiency, predictability, and patient comfort. In high-volume clinical environments, streamlined protocols are essential.The iPhysio protocol provides a streamlined digital workflow for fabricating dental implant prosthetics by using a coded abutment that functions simultaneously as a healing abutment and a scan body. Thisclinical case series aimed to evaluate clinical outcomes of dental implants restored using the Iphysio protocol.

Materials and Methods:
A retrospective analysis was performed based on surgical records of patients treated with the iPhysio protocol at the Department of Dental Public Health, Semmelweis University between September 2022 and March 2026. Following dental implants placement, the appropriate iPhysio abutment was chosen and placed as a healing abutment, and intraoral scanning (TRIOS 4, 3Shape, Copenhagen, Denmark) was performed. Screw retained monolithic zirconia or porcelain fused to zirconia, or porcelain fused to metal restorations were delivered on custom abutments on the dental implants.

Results:
Twenty patients were included, receiving 23 implants. The mean age was 45.0±11.5 years, with 55% female and 45% male patients. In 85% of cases, healing abutments were placed simultaneously with implant insertion. Most implants were located in the posterior mandibular regions. Implant survival was 100%. Three cases are presented to illustrate the workflow using coded abutments.

Conclusions:
The iPhysio system provides an efficient alternative to conventional digital implant workflows: reducing treatment time and simplifying procedures while supporting favourable soft tissue conditions and enhanced patient experience in high-volume clinical settings.

FULL-ARCH IMMEDIATE LOADING USING A STACKABLE SURGICAL GUIDE

Ioannis Papathanasiou

Ioannis Papathanasiou[1], Alkis Kyriazos[2], Orestis Tselkas[3]

[1]Research Associate, Department of Prosthodontics, School of Dentistry, National and Kapodistrian University of Athens, Greece; [2]Dentist, Private Practice, Athens, Greece [3]Oral and Maxillofacial Surgeon, Oral and Maxillofacial Surgery Clinic, 401 General Military Hospital of Athens, Greece

Aim:
The advancement of digital technologies has enabled fully guided implant placement and immediate loading using digitally designed surgical guides. This case report presents a clinical protocol for prosthetically driven implant placement using sequential stackable guides.

Materials and Methods:
A 65-year-old male patient with a completely edentulous mandible sought implant-supported rehabilitation. Intraoral scanning and CBCT imaging (dual-scan technique) were performed, and STL and DICOM data were superimposed to develop a digital treatment plan. Six implants were planned, along with immediate loading using dedicated implant planning software (RealGUIDE, 3DIEMME). Sequential surgical guides were designed digitally. A titanium fixation guide was first secured to the mandible with fixation pins to provide a stable reference framework. A second 3D-printed resin guide was then used for fully guided implant placement. After placement of transmucosal abutments, a third guide facilitated accurate positioning of a prefabricated provisional restoration. During surgery, six implants were placed using the guided protocol, followed by immediate loading. The provisional prosthesis was connected using prefabricated temporary cylinders and acrylic resin, then finished, polished, and screw-retained after removal of guide components.

Results:
The treatment was completed successfully, and the patient reported complete satisfaction with the esthetic and functional outcome. No biological or technical complications were observed during the immediate postoperative period.

Conclusions:
This protocol demonstrates a predictable workflow from digital planning to implant placement and immediate prosthetic loading. The use of stackable, fixation-supported surgical guides enhances accuracy, stability, and efficiency in fully guided implant rehabilitation while enabling immediate functional and esthetic restoration.

IMPLANT IMPRESSIONS AND EMERGENCE PROFILE CUSTOMIZATION USING CODED TRANSGINGIVAL ABUTMENTS

George Papavasiliou

George Papavasiliou[1], Ioannis Papathanasiou[2], Phophi Kamposiora[3], Ioanna Kontouli[4]

[1]Assoc. Professor, Head of Department of Prosthodontics, [2]Prosthodontist, Research Associate, [3]Asst. Professor, [4]Postgraduate student

Department of Prosthodontics, Dental School, National and Kapodistrian University of Athens, Greece

Aim:

The emergence profile is a key factor in the esthetic and functional success of implant-supported restorations. Conventional healing abutments and scan bodies do not reliably support the development and transfer of a patient-specific emergence profile. The iPhysio Profile Designer is a novel system of coded transgingival abutments with anatomically shaped emergence profiles designed for different clinical regions. These components can function as healing abutments, digital impression posts, and provisional abutments, supporting peri-implant soft tissue development and preservation throughout treatment. The purpose of this study is to present the advantages and digital workflow of this system.

Materials and Methods:

Electronic databases were searched to identify relevant studies, and clinical examples were used to illustrate application of the workflow.

Results:

The coded abutments are available in various transmucosal heights and anatomical forms, allowing site-specific selection. After implant placement, the chosen abutment supports soft tissue maturation while serving as a healing abutment. It can later be scanned directly, enabling accurate transfer of implant position and emergence profile into the digital workflow. This allows fabrication of a definitive restoration that replicates the established soft tissue contour. As the abutment remains in place until final restoration delivery, repeated disconnection is avoided, reducing tissue trauma and improving patient comfort. Clinical studies report favorable hard- and soft-tissue stability after one year.

Conclusions:

This digital system provides a predictable approach for managing peri-implant soft tissues, simplifies the digital workflow, minimizes tissue manipulation, and may enhance long-term tissue stability while improving efficiency and patient satisfaction.

FULL MOUTH REHABILITATION OF WORN DENTITION USING MINIMALLY INVASIVE APPROACH

Lisa Christina Pezarou

Lisa Christina Pezarou, Postgraduate student, Department of Prosthodontics AUTh, DDS, MPA, **Olga Naka**, Associate Professor of Prosthodontics AUTh DDS, MClinDent, PhD, FICD, **Athanasios Stratos**, Clinical Instructor, DDS, MBA, FACP
Aristotle University of Thessaloniki, Greece

Aim:
To describe the rehabilitation of generalized worn-down dentition using a minimally invasive adhesive approach with lithium disilicate restorations, aimed at restoring function and esthetics while preserving the tooth structure.

Materials and Methods:
A 24-year-old patient with moderate generalized tooth wear underwent a comprehensive clinical evaluation, followed by a diagnostic wax-up. Given the patient's young age, a minimally invasive, enamel-preserving approach was selected to maximize conservation of tooth structure. The treatment plan emphasized adhesive restorations with minimal preparation. The vertical dimension of occlusion (VDO) was assessed and conservatively restored using a reversible approach. An occlusal guard was initially used to assess the patient's adaptation to the proposed restored VDO, followed by a bonded mock-up for functional and esthetic evaluation. Enamel-preserving preparations were performed, and lithium disilicate onlays and veneers were fabricated using CAD/CAM technology. Adhesive-bonding protocols were followed according to the manufacturer's guidelines. Occlusion was refined to achieve functional stability and esthetic integration.

Results:
The treatment improved esthetics, function, and patient satisfaction. Lithium disilicate restorations exhibited favorable optical properties and mechanical performance. Enamel preservation enabled reliable adhesion. The restored occlusal scheme remained stable during follow-up, with no complications, including debonding, fracture, or postoperative sensitivity.

Conclusions:
Minimally invasive full-mouth rehabilitation with lithium disilicate onlays and veneers is a predictable approach to managing worn dentition. Preserving tooth structure, careful occlusal planning, and strict adherence to adhesive protocols are essential for long-term success.

ORIENTING THE OCCLUSAL PLANE BY THE MUCOLABIAL- FOLD DISTANCE: A DIGITAL MODEL STUDY

Yoav Pietrokovski

Yoav Pietrokovski D.M.D, **Yehuda Raz** D.M.D
Nael Mekhayel D.M.D, **Asher Zabrovsky** D.M.D
Faculty of Dental Medicine, Hebrew University of Jerusalem, Israel; Department of Prosthodontics, Hadassah Medical Center, Jerusalem, Israel

Aim:
To determine whether the bisection of the intervestibular distance, measured from the deepest points of the maxillary and mandibular mucolabial folds, can serve as an anterior reference point for the occlusal plane.

Materials and Methods:
Model casts from 60 dental medicine students were analyzed. Inclusion criteria included participants aged 18 or older, with a full Angle class I natural occlusion (excluding wisdom teeth) and no history of orthodontic or orthognathic procedures. All models were scanned using an intraoral scanner (Cerec Primescan, Sirona Dental, Germany). Two independent examiners used metrology software (Control Geomagic® X™, Shining 3D, Hangzhou, China) to compare the actual occlusal plane (OP) with an occlusal plane whose anterior landmark was the bisection of the intervestibular distance (AB OP). Statistical analysis, including Pearson correlation coefficients, was used to assess inter-examiner reliability and positional consistency of the AB OP relative to the natural occlusal plane.

Results:
Inter-examiner correlation showed Pearson correlation coefficients of 0.614 for AB OP and 0.770 for OP. In 76.7% of cases, OP fell within 1 mm of AB OP. These findings suggest a strong alignment between AB OP and the natural OP.

Conclusions:
The study supports using the bisection of the intervestibular distance as a reliable anterior landmark for determining the occlusal plane. This method is simple, practical, and closely replicates the natural occlusal plane, making it a valuable tool in clinical practice.

FULL MOUTH INJECTION MOULDING REHABILITATION OF BULIMIC EROSIVE TEETH WEAR

Ortal Rafaelov

Ortal Rafaelov, Nitzan Shemesh, Mor Shlezinger
Department of Prosthodontics, Hadassah Medical Center, Faculty of Dental Medicine, Hebrew University of Jerusalem, Jerusalem, 91120, Israel

Background:
Severe erosive tooth wear associated with eating disorders may result in loss of occlusal vertical dimension (OVD), impaired function, dental hypersensitivity, and compromised aesthetics. The composite injection moulding technique is a minimally invasive, chairside restorative approach that enables additive rehabilitation while preserving tooth structure.

Materials and Methods:
A 25-year-old woman with a history of bulimia presented with severe generalized erosive tooth wear, fractured laminate veneers, and dental hypersensitivity. A diagnostic wax-up was performed to determine the required increase in OVD. An anterior mock-up was used to evaluate the proposed treatment outcome and obtain patient approval. Rehabilitation was completed using the composite injection moulding technique, restoring the anterior teeth first with a 3-mm increase in OVD, followed by the posterior teeth with a 1-mm increase. An Exaclear silicone index (GC, Tokyo, Japan) and G-ænial Universal Injectable composite (GC, Tokyo, Japan) were used according to the diagnostic wax-up. Alternating teeth were isolated with Teflon tape during composite injection, and posterior stops were placed to maintain the new OVD between appointments.

Results:
The treatment successfully restored aesthetics, function, and patient comfort using a conservative additive approach. The increased OVD remained stable throughout treatment.

Conclusions:
Composite injection moulding technique is a predictable, minimally invasive technique for rehabilitation of erosive tooth wear in patients with eating disorders, restoring function, aesthetics, and OVD while preserving tooth structure.

THE OUTCOME OF NANOCERAMIC RESIN-BASED MATERIAL SINGLE PARTIAL CROWNS IN PATIENTS WITH SIGNS OF BRUXISM. A 7 YEAR RETROSPECTIVE STUDY

Attilio Renzulli

Edoardo Ferrari Cagidiaco[1], Attilio Renzulli[1*], Ovidiu Ionut Saracutu[1*], Daniele Manfredini[1], Marco Ferrari[2]

[1]Department of Medical Biotechnologies, University of Siena, Siena, Italy

[2]Department of Medical Sciences, Surgery and Neurosciences, University of Siena, Siena,

Aim:

The aim of this study is to retrospectively investigate the success rate of posterior partial crowns made with winanoceramict®, a nanoceramic resin-based material, in patients with and without signs of bruxism at baseline.

Materials and Methods:

For this study, a total of 98 patients, mean age 41±8.9 years, who received single partial crown restorations made with Cerasmart® at the University of Siena, Siena, Italy, were recalled. The average follow-up was 7.7±0.4 years. The outcome of the 98 crowns was evaluated with the modified US Public Health Service [USPHS] criteria. Patients were divided into bruxers and non-bruxers according to the presence of self-reported bruxism and clinical examination. A chi-square test to assess between-group differences in outcomes was performed. A multiple logistic regression model was built, using the presence of endodontic treatment, the dental arch (upper/lower), the restored tooth (molar/premolar), and the presence of bruxism (yes/no) as dependent variables, while the need of crown replacement (score Charlie) was adopted as the independent variable. The level of significance was set at $p=0.05$.

Results:

A significant difference in the number of crowns that needed to be replaced during the follow-up span was identified between the group of bruxers and non-bruxers ($p<0.05$). The logistic regression analysis showed that the presence of bruxism is the only variable contributing to the significantly higher failure rate.

Conclusions:

The findings of this study suggest that prior to any prosthodontic restoration, an assessment of bruxism should always be performed, as it could contribute to a higher failure rate.

VERTICAL VERSUS CHAMFER PREPARATION FOR LITHIUM DISILICATE VENEERS: A RANDOMIZED CONTROLLED CLINICAL STUDY

Ricci Nicolò Maria

Nicolò Maria Ricci[1], Edoardo Ferrari Cagidiaco[1]; Giulia Verniani[1], Daniele Manfredini[2]; Marco Ferrari[3]

[1]Department of Medical Biotechnologies, Division of Fixed Prosthodontics and Dental Materials, [2]Department of Medical Biotechnologies, Division of TMJ and Oral Pain, [3]Department of Medical, Surgical and Neurological Sciences, Division of Oral Rehabilitation and Digital Dentistry, University of Siena, Siena, Italy

Aim:
To compare the medium-term clinical performance of lithium disilicate laminate veneers fabricated using either a conventional chamfer finish line or a vertical preparation without a defined finish line.

Materials and Methods:
This RCT included 64 patients receiving 133 lithium disilicate laminate veneers. Patients were randomly allocated to either a horizontal chamfer or vertical preparation without a defined finish line. All restorations were fabricated using a fully digital workflow and adhesively luted under rubber dam isolation. Clinical performance was assessed at baseline and every 6 months using modified USPHS criteria. Mean follow-up was 7.7 years (range: 5–9 years). Survival and clinical outcomes were analyzed using Cox regression analysis (α=.05).

Results:
Of the 133 veneers placed, 130 were available at follow-up. Three failures resulted in a 97.7% survival rate. No significant differences were found between the chamfer and vertical preparation designs (P > .05).

Conclusions:
Within the limitations of this RCT, vertical preparation without a defined finish line demonstrated clinical outcomes comparable with those of conventional chamfer preparations.

SYSTEMATIC LITERATURE REVIEW: E-SCOOTER AND E-BIKE RELATED MAXILLOFACIAL INJURIES AND TRAUMA

Roee Tencer

Roee Tencer, Supervised by Prof. Eitan Mijiritsky & Dr Shimrit Arbel
Dental Student at Tel Aviv University, Israel

Aim:
To characterize maxillofacial injury patterns associated with e-scooter and e-bike accidents, identify high-risk populations and behavioral risk factors (helmet use, alcohol, drugs), and evaluate the resulting clinical burden to support prevention strategies and emergency clinical management.

Materials and Methods:
A systematic review was conducted according to PRISMA guidelines using the PICO framework. English-language studies were identified through PubMed, Scopus, Embase, MEDLINE, Web of Science, and Google Scholar. Data extracted included injury characteristics, fracture patterns, dental trauma, helmet use, alcohol and drug involvement, time of injury, treatment modality, hospitalization, costs, patient demographics, and driver's license status. Findings were synthesized across all eligible studies. "This study evaluates the Population of patients of all ages presenting with maxillofacial trauma following an Intervention or Exposure to accidents involving motorized electric vehicles such as e-bikes and e-scooters, providing a Comparison of the roles of vehicle type, helmet use, time of day, and the influence of alcohol or substances, in order to determine the Outcome based on injury characteristics, fracture patterns, dental injuries, Injury Severity Scores, and traumatic brain injuries."

Results:
Forty studies were included, of which 36 differentiated injuries by vehicle type. Of 18,006 reported craniofacial injuries, 17,915 (99.5%) involved e-scooters and 91 involved e-bikes. Soft tissue injuries predominated among e-scooter riders (74.1%), while facial fractures and dental trauma accounted for nearly one-quarter of cases. E-bike injuries more commonly consisted of minor abrasions and hematomas.
Fracture patterns differed by vehicle type. Mandibular fractures were most frequent in e-scooter riders (31.5%), followed by maxillary and orbital fractures, consistent with high-energy forward impacts. In contrast, e-bike riders more commonly sustained zygomatic complex fractures.
Helmet use was low, particularly amo ng e-scooter riders (12.8% vs. 30.6% in e-bike riders). Alcohol involvement was substantially higher in e-scooter accidents (34.1% vs. 13.7%), and many injuries occurred at night, suggesting an association between nighttime riding, alcohol consumption, and inadequate protective equipment.

Conclusions:
E-scooter and e-bike accidents are associated with severe maxillofacial and dental injuries, imposing a growing burden on oral and maxillofacial surgery. Many injuries are identified only after specialist evaluation, emphasizing the importance of multidisciplinary assessment in emergency departments. Major risk factors include helmet non-compliance, nighttime riding, young age, male gender, and alcohol or drug use, with intoxication markedly increasing injury risk. Injury patterns differ by vehicle type: e-scooter riders more frequently sustain dental trauma and condylar fractures, whereas e-bike riders experience higher hospitalization rates and multisystem injuries. These findings support stronger legislation, mandatory helmet use, public education, and standardized protocols for the early diagnosis and management of maxillofacial trauma.

TRANSDENTAL IMPLANT PLACEMENT AS AN ALTERNATIVE TO SURGICAL EXTRACTION OF AN IMPACTED MAXILLARY CANINE: A CLINICAL REPORT

Rafael Sarikov

Rafael Sarikov, DMD, MSC**, Lior Bangiev,** DMD**,**
Pini Abayov, DMD**, Ziv Mazor,** DMD
The Prosthodontics Department Rabam Haifa, Israel

Conventional treatment of horizontally impacted maxillary canines usually involves a surgical exposure and orthodontic traction, or a surgical extraction, bone augmentation and delayed implant placement.
This report describes a minimally invasive alternative using trans-dental implant placement through the impacted tooth.

WHEN THE IMPLANT HAS NO IDENTITY: HOW DO DENTISTS RESPOND?

Mohammed Shalata

Mohammed Shalata, DMD student, **Dana Kesler-Shvero**, DMD-PhD, **Yoav Pietrokovski**,DMD

Department of Prosthodontics, Faculty of Dentistry, The Hebrew University-Hadassah, Jerusalem, Israel

Aim:

The growing diversity of dental implant systems has made implant identification increasingly challenging in clinical practice. This study aimed to evaluate how dentists in Israel approach unknown implant systems and manage cases with unavailable implant information.

Materials and Methods:

A cross-sectional survey was distributed among practicing dentists. The questionnaire assessed the frequency of encountering unidentified implants, preferred identification strategies, perceived effectiveness of available resources, and treatment decisions when implant identification could not be confirmed. Preliminary analyses were conducted on the first 100 respondents.

Results:

Preliminary findings indicate that unidentified implant systems are a common clinical challenge. While 73% of respondents encountered up to two such cases per month, 23% reported three or more cases monthly. Consultation with colleagues was the most common strategy (48%), followed by trial fitting of prosthetic components (18%) and implant databases/websites (17%). Information obtained from the previous treating clinician was rated most effective (mean score 4.55/5), and 68% reported attempting to contact the previous treating clinic. More than half of respondents (53%) preferred not to proceed when implant identification could not be confirmed. Preliminary chi-square analyses found no significant associations between years of experience or implant-related workload and preferred identification strategies. However, a trend toward different identification preferences between specialists and general practitioners was observed.

Conclusions:

Unknown implant systems remain a recurring challenge in implant dentistry. Despite the availability of digital resources, dentists continue to rely primarily on professional communication and previous clinical records. These findings highlight the importance of accessible implant documentation and informed clinical decision-making.

RESTORING THE IRREPLACEABLE: PRIMARY TEETH AS AN INTERIM FOUNDATION

Nitzan Shemesh

Nitzan Shemesh, Orith Haramaty Esi Sharon

Department of Prosthodontics, Hadassah Medical Center, Faculty of Dental Medicine, Hebrew University of Jerusalem, Jerusalem, 91120, Israel

Aim:

In a growing patient with oligodontia, definitive rehabilitation must await skeletal maturity, yet esthetic and phonetic needs are immediate. Reduced intermaxillary space left retained primary teeth of poor prognosis as the only foundation for restoration.

Materials and Methods:

A healthy 15-year-old male presented with distress related to teasing about his small teeth. Examination revealed nine congenitally missing permanent teeth, deep bite, impaired esthetics and phonetics (lisping), and low caries risk. The anterior retained primary teeth with mobility and external apical root resorption. a hopeless prognosis, while reduced intermaxillary space left minimal room for restorative material. Workup included radiographs, mounted casts, and periodontal, caries-risk, and esthetic assessment, diagnostic wax-up and mock-up. To create restorative space, canine platform was established: composite buildups on the canines raised the vertical dimension, opening the posterior occlusion to allow eruption. Rather than extract, the compromised primary teeth were treated. Composite restorations on the maxillary teeth, and provisional fixed bridge on primary mandibular incisors. Definitive rehabilitation was deferred to skeletal maturity.

Results:

The increased vertical dimension recovered the restorative space that lacked, enabling anterior rehabilitation. The chief complaint was resolved with immediate esthetic and phonetic improvement, achieved entirely on poor-prognosis teeth. The conservative approach preserved the existing dentition and future options, accepting the restorations' limited lifespan.

Conclusions:

When intermaxillary space is limited and definitive treatment must wait, retaining and restoring poor-prognosis primary teeth with canine platform to recover vertical space, can be a justifiable interim strategy, preferable to leaving the adolescent untreated, provided it stays preservative and risk-controlled.

ACCURACY AND ADJUSTMENT CHARACTERISTICS OF CAD/CAM PMMA CROWNS

Mor Shlezinger

***Mor Shlezinger, *Amy Dahbour, Ella gur Arie, Asher Zabrovsky**
*Equal contribution
Department of Prosthodontics, Hadassah Medical Center, Faculty of Dental Medicine, Hebrew University of Jerusalem, Jerusalem, 91120, Israel

Aim:
CAD/CAM-fabricated polymethyl-methacrylate (PMMA) crowns may serve as medium-term restorations with improved mechanical properties compared with chairside acrylic crowns. This study evaluated the accuracy of a milling manufacturing system for PMMA crowns by assessing volumetric changes following adjustments and measuring adjustment time.

Materials and Methods:
A conventional crown preparation was performed on tooth #36 of a Nissin model mounted in an articulator. Thirty CAD/CAM PMMA crowns were milled by Dentsply Sirona MCX5. The crowns were scanned by an intraoral scanner (Primescan, Dentsply Sirona) and adjusted by a prosthodontist using Strauss diamond burs. Pre- and post-adjustment scans were analyzed using Medit-Design and CloudCompare softwares to evaluate surface-deviation, material reduction and volumetric material loss. Adjustment time was recorded.

Results:
Mean adjustment time was 182.37±52.68 s, with no significant learning effect between sessions or crown sequence. Occlusal-only adjustments required the shortest time (170.27±42.36 s), whereas combined occlusal/interproximal corrections and composite additions increased procedural duration significantly ($p = 0.0083$). Surface deviation analysis demonstrated clinically acceptable adaptation, with most crowns showing RMS and SD values below 0.08 mm and > 85% of points within tolerance. The greatest material reduction occurred at the central fossa (−0.231 mm±0.220). Mean crown volume decreased by 8.59±5.98 mm^3 following adjustment. Longer adjustment times correlated with greater surface irregularity and reduced fit accuracy.

Conclusions:
Milled PMMA crowns demonstrated clinically acceptable adaptation with limited chairside adjustment requirements. More extensive adjustments were associated with reduced surface precision and fit quality. This preliminary study may contribute to the optimization of digital protocols and procedural efficiency.

FIXED IMPLANT REHABILITATION OF A SEVERELY ATROPHIC MAXILLA

Marianna Dakanali Skoula

M. Dakanali Skoula[1], M.-Ch. Gogola[1], V. Sarri[1], M. Oikonomou[2], A. Sarafianou[3]

[1]Postgraduate Student, Department of Prosthodontics and Implant Prosthodontics,
[2]Postgraduate Student, Department of Oral and Maxillofacial Surgery,
[3]Assistant Professor of Prosthodontics,
National and Kapodistrian University of Athens (NKUA), Greece

Aim:
To present the interdisciplinary management of a completely edentulous patient with a severely atrophic maxilla treated with alveolar ridge splitting, immediate implant placement, and fixed implant-supported prosthesis. The clinical application, advantages, and limitations of this technique in the management of severe horizontal ridge deficiency are discussed.

Materials and Methods:
A completely edentulous patient presented to the Postgraduate Prosthodontics Clinic of the National and Kapodistrian University of Athens seeking fixed implant-supported rehabilitation. Clinical and radiographic examinations were performed, followed by fabrication of a diagnostic denture setup. Cone-beam computed tomography (CBCT) was subsequently obtained using the dual-scan protocol, revealing severe horizontal maxillary ridge atrophy that precluded conventional implant placement without ridge augmentation. A prosthetically driven digital treatment plan was developed, and computer-guided surgical templates were fabricated to optimize implant positioning. Alveolar ridge splitting was performed, followed by immediate implant placement. The resulting osseous defects were grafted with an allogeneic bone substitute to promote ridge augmentation and healing. After a five-month healing period, successful osseointegration was confirmed, and the patient was rehabilitated with fixed screw-retained metal-acrylic implant-supported prostheses.

Results:
The ridge splitting technique enabled successful implant placement despite the limited horizontal bone width, eliminating the need for more extensive augmentation procedures. The definitive prosthetic rehabilitation demonstrated satisfactory aesthetic integration, functional stability, and patient satisfaction, with no biological or mechanical complications observed during the follow-up period.

Conclusions:
Alveolar ridge splitting represents a predictable alternative for the horizontal augmentation of selected severely atrophic maxillary ridges. When combined with prosthetically guided implant placement and careful interdisciplinary treatment planning, it can facilitate successful fixed implant-supported rehabilitation while reducing surgical morbidity and overall treatment time.

DIMENSIONAL STABILITY OF PRINTED DENTAL MODELS FROM DIFFERENT BRANDS OVER TIME AT DIFFERENT STORAGE TEMPERATURES

Yaniv Skvirsky

Yaniv Skvirsky[1], Tahel Oguen-Alon[1], Shehada Mohammad[1], Yaniv Mayer[1,3], Zvi Gutmacher[1,2]

[1]Department of Prosthodontics, School of Graduate Dentistry, Rambam Health Care Campus (RHCC)., Haifa, Israel. [2]Faculty of Medicine, Technion - Israel Institute of Technology, Haifa, Israel. [3]Department of Periodontology, School of Graduate Dentistry, Rambam Health Care Campus (RHCC)., Haifa, Israel

Background:
Dental models are essential for diagnosis, treatment planning, and prosthodontic workflows. Although gypsum casts remain used, additive manufacturing has introduced 3D-printed models into clinical and laboratory practice. Their dimensional stability over time and under different conditions remains relevant for prosthetic procedures.

Aim:
To evaluate dimensional changes of gypsum and 3D-printed dental models stored at room temperature or 4°C, and to assess the uniformity of these changes across model regions.

Materials and Methods:
A fully dentate maxillary typodont was scanned to generate a reference model. Sixteen Type IV gypsum casts and 48 3D-printed models fabricated from Dental Model Resin DM12, Varseo Wax Model Gray, and KeyModel Ultra Resin were produced. Models were stored at room temperature or 4°C and scanned at predefined time points up to 28 days. Datasets were analyzed using Geomagic Control X. Trueness was quantified by root mean square deviation and precision by standard deviation, for the entire model and five predefined regions. A Bayesian hierarchical linear model was used, with significance set at probability of direction >97.5%.

Results:
Printed models showed higher precision than gypsum models at baseline and day 28 under both storage conditions, without differences among printed materials. For trueness, DM12 and KeyModel Ultra showed lower deviations than Varseo Wax Model Gray and gypsum at baseline, while KeyModel Ultra performed best at day 28. Gypsum models showed minimal temporal magnitude change, whereas printed models showed time-dependent, region-specific changes posteriorly, reaching 0.026 mm.

Conclusions:
3D-printed dental models demonstrated limited but nonuniform dimensional changes over time.

IN VITRO EVALUATION OF FOUR INTRAORAL SCANNERS FOR REPLICATING INTERDENTAL SPACES IN SINGLE AND ADJACENT VENEER PREPARATIONS

Filippo Sornig

Filippo Sornig, Sara Alfonso, Giulia Verniani, Marco Ferrari

University of Siena, Italy

Aim:

This study evaluated the accuracy of four intraoral scanners in reproducing interdental spaces between adjacent veneer preparations and between a natural tooth and a veneer preparation.

Materials and Methods:

Teeth 1.2, 1.1, and 2.2 were prepared for veneers in a typodont model. Interdental spaces between veneer abutments (1.1–1.2) and between 2.1–2.2 (tooth–veneer) were calibrated to six widths (0.1, 0.2, 0.3, 0.4, 0.5, and 0.6 mm) using interproximal gauges. Ten scans per device—Aadva, Cubit, Trios 3, and Trios 6—were made for each space. Scans were categorized by error type (no error, partial error, or complete error). Data were analysed using Fisher's exact test with Montecarlo simulation. The null hypothesis was that no significant differences in reproducibility capabilities would be found among the different interdental spaces and IOSs tested.

Results:

The null hypothesis was rejected due to significant performance heterogeneity across all distances in both groups. Trios 6 always outperformed Aadva and Cubit. Trios 3 and Trios 6 showed comparable performance only at 0,5 and 0,6mm widths. At 0.1 and 0.2 mm, Trios 3 showed no significant difference compared to Aadva and Cubit. Aadva and Cubit exhibited no statistical difference up to 0.4 mm, though Aadva demonstrated superior performance at 0.5 and 0.6 mm.

Conclusions:

Significant performance disparities exist among the tested IOS devices. Trios 6 consistently yielded the most accurate results, particularly in narrow interdental spaces (0.1 and 0.2 mm), followed by Trios 3. Aadva and Cubit demonstrated lower accuracy in replicating narrow interproximal geometries.

MRI EVALUATION OF TEMPOROMANDIBULAR JOINT DISORDERS: INVESTIGATING CONTRALATERAL INTERACTIONS AND DEGENERATIVE CHANGES

Nicolò Giuseppe Sorrenti

Nicolò Giuseppe Sorrenti[1], Ovidiu Ionut Saracutu[1], Edoardo Ferrari Cagidiaco[1], Matteo Val[2], Oleksii Borzakovskyi[1], Marco Ferrari[1], Daniele Manfredini[1]

[1]University of Siena, Italy

[2]Ca' Foncello Hospital of Treviso

Background:

The Magnetic Resonance Imaging (MRI) is the gold-standard technique for assessing temporomandibular disorders (TMD). However, the literature on the correlation between pathological alterations in the two temporomandibular joints (TMJs), in the same patients is scarce and contradictory. This investigation aimed to examine the associations between the two TMJ morphological alterations observed on magnetic resonance imaging (MRI).

Materials and Methods:

In this retrospective cross-sectional study, bilateral TMJ MRI scans from 36 adult patients with clinically diagnosed TMD were independently evaluated by two calibrated examiners. Disc position, disc morphology, joint effusion, and osseous degenerative changes were assessed. Ipsilateral associations were analyzed using chi-square tests. A composite MRI burden score, including disc displacement, altered disc morphology, and joint effusion, was calculated for each joint. Statistical significance was set at $p<0.05$.

Results:

Seventy-two TMJs were included. Disc displacement without reduction was observed in 40.3% of joints, altered disc morphology in 48.6%, joint effusion in 30.5%, and osseous degenerative changes in 33.3%. No significant ipsilateral associations were identified, although altered disc morphology was more prevalent with effusion and osseous degenerative changes. A significant association was found between the left-side MRI burden score and contralateral osseous degeneration ($\chi^2 = 9.113$, $p = 0.028$), whereas no significant association was observed for the right side.

Conclusions:

The present study suggests that the cumulative burden of TMJ abnormalities may be associated with contralateral osseous degeneration. In patients with TMD, both joints appear to present a degree of morphological change.

STRESS-REDUCTION INTERVENTIONS AMONG DENTAL STUDENTS: A LITERATURE REVIEW OF RCTS

Tal Sterenberg

Tal Sternberg[1], Gadi Gilam[*2], Mor Shlezinger[*1]

* Equal contributions

[1]Department of prosthodontics, [2]The Institute of Biomedical and Oral Research, Faculty of Dental Medicine; Department of prosthodontics, Hebrew university-Hadassah School of Dental Medicine, Jerusalem, Israel

Aim:

Dental education is highly demanding and frequently associated with stress, anxiety, and burnout among students. Although multiple stress-reduction approaches have been proposed, their effectiveness remains uncertain. This literature review evaluated whether structured stress-reduction interventions reduce perceived stress and improve academic or clinical performance among dental students compared to no intervention, based on randomized controlled trials (RCTs).

Materials and Methods:

A systematic search was conducted in PubMed, Embase and the Cochrane Library using relevant keywords. Study selection followed PRISMA guidelines and was managed using Covidence software. Eligibility criteria included peer-reviewed RCTs published within the last 15 years, involving dental students in preclinical or clinical training. Ten studies met the inclusion criteria and were included in the review.

Results:

Structured stress-reduction interventions demonstrated significant benefits. Physical approaches including yoga, music therapy and aromatherapy improved physiological stress indicators such as heart rate. Cognitive approaches, including mindfulness and coaching, enhanced emotional regulation and coping abilities. Short-term interventions reduced cognitive load and increased confidence during exams or procedures, whereas long-term programs promoted resilience and adaptive coping. Intervention efficacy appeared to depend on matching the strategy to the specific stressor. Limitations included a lack of uniform outcome measures, focus mainly on short-term outcomes, and limited data regarding real-world compliance.

Conclusions:

Stress management should be considered an essential component of dental education. Integrating stress-reduction programs may improve students' psychological, physiological, and cognitive readiness, ultimately supporting clinician wellbeing and long-term patient care.

PERIODONTAL DYSBIOSIS AND MAXILLARY SINUS PATHOLOGY IN MASLD PATIENTS PRIOR TO ALL- ON-X

Renata Symonenko

Renata Symonenko, Alina Kapshyk
Bogomolets National Medical University, Ukraine

Aim:
Evaluate the periodontal status and characterize the composition of the periodontal microbiome in patients with MASLD who are planned for prostodontic rehabilitation supported by dental implants in the All-on-X concept.

Materials and Methods:
Forty-seven adult patients diagnosed with MASLD, aged 29 to 65 years (25 women and 22 men), were examined. All patients underwent CBCT imaging of the maxilla. Periodontal parameters were assessed and recorded, and subgingival biofilm samples were analysed using the MALDI TOF method. In addition, antibiotic susceptibility testing of the isolated microorganisms was performed using the disk-diffusion method.

Results:
61% of these patients had severe and refractory periodontitis along with MASLD. According to CBCT data, they exhibited a deficiency of bone volume and required bone augmentation prior to implant placement. We did not identify a direct relationship between periodontal disease and MASLD, which is likely due to the small sample size of the studied patients. However, a clear association was found between pathological changes in the maxillary sinus, bone deficiency, and periodontitis. In these patients, a significantly higher prevalence of Streptococcus pneumoniae, Streptococcus anginosus, Fusobacterium nucleatum, and Haemophilus parainfluenzae was revealed. Resistance to the majority of antibiotics was detected.

Conclusions:
Periodontal diseases are highly prevalent in patients with MASLD. In these patients, specific microbiological patterns were identified, indicating the active presence of microbial consortia that act as causative agents of ENT (otorhinolaryngological) infections. The course of periodontal disease is further complicated by the detection of specific microflora in periodontal pockets, which is characteristic of the respiratory tract and ENT organs.

COMPARISON OF ALLOGRAFT AND AUTOGENOUS BONE BLOCKS IN HORIZONTALLY ATROPHIED JAWS

Csilla Szerencse

Csilla Szerencse, Márton Kivovics

Semmelweis University, Faculty of Dentistry, Department of Dental Public Health

Aim:

Comparing the outcomes in lateral bone augmentation using bone allograft blocks or autologous bone blocks harvested from the mandibular ramus.

Materials and Methods:

To restore deficient bone volume, patients in the test group underwent lateral augmentation using a freeze-dried cortico-spongiosus bone block, while patients in the control group underwent lateral augmentation with an autogenous bone block harvested from the mandibular ramus.

All surgical procedures were performed under local anesthesia. The healing period of the bone blocks was three months, and bone gain was evaluated using CBCT imaging. After three months dental implants were placed. After an additional three-month healing period the prosthetic phase was initiated.

At the time of implant placement, bone biopsies were taken from the implant site for micro-CT and histological analysis to assess the integration of the bone substitute material.

Results:

To date, a total of 14 sites in 12 patients have been treated and 18 bone blocks have been placed. In the control group, 4 patients received 6 bone blocks, while in the test group, 8 patients received 12 bone blocks. In all cases, implant placement was successfully performed after a three-month healing period and implant failure was observed in neither of the study groups.

Conclusions:

Although this study is still ongoing, the preliminary results suggest that the use of cortico-spongiosus allogeneic bone blocks for horizontal augmentation of atrophied sites shows promising outcomes, enabling implant placement in a prosthetically optimal position. Further evaluation of the results, as well as micro-CT and histological analyses, is currently in progress.

A PROSTHETICALLY DRIVEN DIGITAL WORKFLOW FOR INTERDISCIPLINARY ORTHODONTIC AND IMPLANT TREATMENT PLANNING

Anna Tasakou

Anna Tasakou[1*], Antrea Tooulia[2], Aspasia Sarafianou[3], Phophi Kamposiora[4]

[1,2]Postgraduate student, [3]Assistant Professor, Chair Dept. of Prosthodontics, [4]Associate Professor, Chair Dept. of Prosthodontics, Dental School, National and Kapodistrian University of Athens, Athens, Greece

Aim:
To describe a fully digital, prosthetically driven workflow for interdisciplinary orthodontic and implant treatment planning in which implant positioning is determined before orthodontic treatment to serve both as temporary orthodontic anchorage and definitive prosthetic support.

Materials and Methods:
A fully digital treatment-planning workflow was applied in the interdisciplinary rehabilitation of a patient presenting with generalized spacing, tooth malposition, and mandibular edentulous areas. The workflow began with two-dimensional (2D) Digital Smile Design (DSD), which established the desired restorative outcome and served as the foundation for the digital diagnostic wax-up. The proposed restoration guided the orthodontic setup of the maxillary dentition, while mandibular planning was completed following occlusal analysis and digital diagnostic wax-up. Digital superimposition of the proposed restoration onto the pretreatment dentition enabled prediction of the definitive tooth positions before treatment initiation. As the mandibular implants were intended to serve both as temporary orthodontic anchorage and definitive prosthetic abutments, their three-dimensional position was virtually planned before orthodontic treatment. Computer-guided implant planning was subsequently performed according to the prosthetically driven restorative plan.

Results:
The proposed workflow enabled accurate interdisciplinary treatment sequencing by integrating restorative, orthodontic, and implant planning into a single digital protocol. Implant positioning was established before orthodontic treatment while preserving the planned restorative outcome and facilitating prosthetically driven tooth movement.

Conclusions:
A prosthetically driven digital workflow enhances interdisciplinary communication and treatment predictability by establishing the definitive restorative outcome before orthodontic and implant therapy. This approach facilitates accurate treatment sequencing and may improve efficiency in complex multidisciplinary rehabilitation.

PRIMARY OR SECONDARY IMPLANTATION FOLLOWING MANDIBULAR RECONSTRUCTION

Laura Zsófia Tasi

Laura Zsófia Tasi, DMD[a,b], **Ábel Major,** DMD[a,b], **Alexander Schulze Wenning,** MD, DMD[a], **Tamás Würsching,** MD, DMD, PhD[c], **Gábor Gerber,** DMD, PhD[a,d], **Arpád Joób-Fancsaly,** DMD, PhD[a,c], **Enikő Vasziné Szabó,** DMD, PhD[a,e], **Anna Walterg, Péter Hegyi,** MD, PhD[a,f,g], **Kinga Körmöczi,** DMD, PhD[a,c], **Tamás Huszár,** MD, DMD, PhD[a,c]

[a]Centre for Translational Medicine, [b]Department of Prosthodontics, [c]Department of Oro-Maxillofacial Surgery and Stomatology, [d]Section of Oral Morphology, Department of Anatomy Histology and Embryology, [e]Department of Restorative Dentistry and Endodontics, [f]Institute of Pancreatic Diseases, [g]Institute for Translational Medicine, Medical School, University of Pécs, Pécs, Hungary

Aim:
To compare implant-related outcomes following primary and secondary dental implant placement after mandibular reconstruction and evaluate their implications for prosthetic rehabilitation.

Materials and Methods:
A systematic review and meta-analysis was conducted according to the PRISMA guidelines. PubMed, Embase, and CENTRAL were searched for comparative studies evaluating primary versus secondary dental implant placement following mandibular reconstruction with vascularized free flaps. Implant survival, implant success, implant-related complications, and prosthetic rehabilitation outcomes were synthesized using random-effects meta-analysis. Risk of bias was assessed using the ROBINS-I tool.

Results:
Eleven retrospective comparative studies comprising 848 patients and 1,409 implants were included. Implant survival, implant success, and implant-related complication rates were comparable between primary and secondary implantation. Although prosthetic rehabilitation rates were similar, primary implantation consistently reduced the overall rehabilitation period by approximately 3–6 months, allowing earlier functional rehabilitation without compromising implant-related outcomes.

Conclusions:
Primary implantation should be considered a safe prosthetically driven rehabilitation strategy in appropriately selected patients. When combined with careful patient selection, meticulous preoperative planning, and close multidisciplinary surgical–prosthodontic collaboration, it can accelerate functional rehabilitation and quality-of-life recovery without compromising implant-related outcomes.

PONTIC SITE DEVELOPMENT: GUIDING SOFT TISSUE ARCHITECTURE FOR THE LONG-TERM SUCCESS OF FIXED DENTAL PROSTHESES

Antrea Tooulia

Antrea Tooulia[1], Anna Chara Tasakou[1], George Papavasiliou[2]

[1]Postgraduate Student, [2]Assistant Professor, Department of Prosthodontics, School of Dentistry, National and Kapodistrian University of Athens, Athens, Greece

Aim:

To provide an overview of current strategies for pontic site development, a key determinant of the esthetic integration of fixed dental prostheses. Highlighting the role of provisional restorations in soft tissue conditioning and the biological principles underlying predictable esthetic and biological outcomes.

Materials and Methods:

A literature search was conducted using the Medline/PubMed and Google Scholar databases to identify English-language studies published up to May 2026. The search included studies on pontic site development, pontic design, and soft tissue management using combinations of the following keywords: pontic site development, pontic design, ovate pontic, ridge preservation, soft tissue conditioning, connective tissue graft, and fixed dental prosthesis.

Results:

The literature describes various pontic designs, with the ovate pontic being the most widely adopted because of its ability to mimic the natural emergence profile. In immediate post-extraction cases, provisional restorations incorporating an ovate pontic, combined with ridge preservation procedures, help preserve tissue architecture and minimize ridge remodeling. In healed ridges, treatment is determined by the type and severity of the tissue defect and may include progressive soft tissue conditioning with provisional restorations, soft tissue grafting, or combined hard and soft tissue augmentation procedures. Current evidence extends beyond tissue contouring, emphasizing the establishment of a biologically stable interface between the pontic and the underlying tissues.

Conclusions:

Successful pontic site development relies on meticulous tissue management and appropriate pontic design to achieve predictable esthetic and biological outcomes. Establishing a biologically stable interface between the pontic and the underlying soft tissues is essential for the long-term success of fixed dental prostheses.

FULL-MOUTH REHABILITATION FOLLOWING LOSS OF POSTERIOR SUPPORT: A CASE REPORT

Rinat Tzach Nahman

Sivan Barimboim, Natalia Mizraji Hofman, *Rinat Tzach Nahman, *Amit Wolfoviz-Zilberman

Department of Prosthodontics, Hadassah Medical Center, Faculty of Dental Medicine, Hebrew University of Jerusalem, Jerusalem, 91120, Israel

Objective:
To present a comprehensive full-mouth rehabilitation of a 56-year-old female patient exhibiting severe tooth wear, multiple missing teeth, and complete loss of posterior support, transitioning from a diagnostic removable denture to definitive fixed tooth -and implant- supported restorations.

Methods:
The anti-infective phase involved oral hygiene improvement, debridement, caries removal, extraction of tooth #14 and root canal treatments with post-and-cores. A diagnostic removable denture was delivered to establish a stable occlusal scheme and vertical occlusal dimension. Provisional fixed restorations, along with ongoing denture adjustments, established a stable occlusion. Subsequently, four implants were placed at the upper first premolars and first molars sites. Chairside provisional crowns on the implants refined final occlusion. Following the establishment of the definitive tooth form, aesthetic anterior composite restorations were completed. Finally, porcelain-fused-to-metal (PFM) crowns were fabricated on teeth and implants using pattern resin coping records. Existing functional crowns on teeth #21 and #33 were maintained due to financial constraints.

Results:
The systematic transition from an interim immediate removable denture to fixed provisionals successfully established a predictable maxillomandibular relationship. The final tooth and implant supported fixed prostheses restored posterior support, chewing efficiency, and aesthetics, aligning with the patient's financial limitations and therapeutic expectations.

Conclusions:
Comprehensive rehabilitation of patients with severe tooth wear and missing teeth requires a structured, phased approach. The strategic progression from removable diagnostics to fixed provisionals and definitive implant restorations is critical for predictable occlusal management, long-term functional stability, and high patient satisfaction.

POSTERIOR PARTIAL CROWNS OUT OF LITHIUM DISILICATE WITH OR WITHOUT POSTS: A RANDOMIZED CONTROLLED STUDY AT 9 YEARS FOLLOW UP

Rachele Valenti

Rachele Valenti[1], Edoardo Ferrari Cagidiaco[1], Giulia Verniani[1], Denise Irene Karin Pontoriero[1], Ovidiu Ionut Saracutu[2], Daniele Manfredini[2], Marco Ferrari[3]

[1]Department of Medical Biotechnologies, Division of Fixed Prosthodontics and Dental Materials, [2]Department of Medical Biotechnologies, Division of TMJ and Oral Pain, [3]Department of Medical, Surgical and Neurological Sciences, Division of Oral Rehabilitation and Digital Dentistry, University of Siena, Siena, Italy

Aim:
These randomized controlled clinical aims to evaluate the long-term clinical performance of posterior lithium disilicate partial crowns used to restore endodontically treated teeth (ETT), with or withoutfiber post placement, over a 9-year period in patients who did not report any bruxism activities at baseline.

Materials and Methods:
Participants were recruited at the University of Siena, Siena, Italy. Patient were ≥18 years, in need for one partial crown on posterior teeth (molars and premolars) following endodontic treatment and with at least 50% of the coronal structure remaining. Patients were randomly assigned to two groups: Group 1 received fiber posts for abutment build-up, and Group 2 did not. Lithium disilicate partial crowns were fabricated and adhesively cemented for both groups. Clinical and radiographic evaluations were conducted at baseline, 1, 2, 3, and 9 years. Failures were defined as post debonding/fracture, root fracture, crown dislodgement/fracture, or the presence of periapical lesion. Cox regression analysis was used to assess the influence of post placement and tooth type.

Results:
A total of 120 patients were enrolled. At the 9-year follow-up, survival of ETT ranged between 88.8 % in molars without post and to 85.7% in premolars with no post. No statistically significant difference was observed regarding post placement or tooth type on failure rates ($p > 0.05$).

Conclusions:
The findings of the present clinical trial support the idea in patients with no report of bruxism, the insertion of a fiber post for the reconstruction of endodontically treated teeth with partial crown lithium disilicate in posterior teeth is not a necessary procedure.

IMMEDIATE COMPLETE DENTURES: A FULLY DIGITAL WORKFLOW IN TWO APPOINTMENTS

Giulia Verniani

Giulia Verniani[1], Edoardo Ferrari Cagidiaco[1], Marco Ferrari[2]

[1]Department of Medical Biotechnologies, Division of Fixed Prosthodontics and Dental Materials, [2]Department of Medical, Surgical and Neurological Sciences, Division of Oral Rehabilitation and Digital Dentistry, University of Siena, Italy

Aim:
To describe a fully digital workflow for the fabrication and immediate delivery of 3D-printed complete dentures following full-mouth extractions in a patient with hopeless dentition in 2 appointments.

Materials and Methods:
A 58-year-old patient presented with generalized severe periodontitis and hopeless dentition in both arches. Following clinical and radiographic examination, digital intraoral scans, maxillomandibular relationship records, and facial photographs were obtained.

Immediate complete dentures were virtually designed using Dental System software (3Shape A/S, Copenhagen, Denmark). The denture base 3Dprinted using V-Print dentbase resin (VOCO GmbH, Cuxhaven, Germany), while the denture 3D printed with V-Print DT resin (VOCO GmbH, Cuxhaven, Germany). Both components were manufactured using a Form 3B+ stereolithography (SLA) 3D printer (Formlabs Inc., Somerville, MA, USA) and subsequently bonded according to the manufacturer's instructions. At the second appointment, , the 3D-printed immediate complete dentures were inserted after full mouth extractions.

Results:
The immediate complete dentures demonstrated satisfactory fit, retention, and stability at insertion. Healing progressed uneventfully, requiring only minor post-insertion adjustments. The patient reported high satisfaction regarding esthetics, comfort, and oral function throughout the healing period.Conclusions: A fully digital workflow, including intraoral digital impressions, CAD design, and 3D printing, provided a predictable and efficient approach for immediate complete denture rehabilitation.

RESTORING VERTICAL DIMENSION AND FACIAL HARMONY IN SEVERE OLIGODONTIA

Weil Jeremie

Jeremie Weil, Esi Sharon

Department of Prosthodontics, Hadassah Medical Center, Faculty of Dental Medicine, Hebrew University of Jerusalem, Jerusalem, 91120, Israel

Aim:

To present the prosthetic rehabilitation of a patient with severe non-syndromic oligodontia, congenitally missing 24 permanent teeth (4 permanent teeth in the maxilla and 7 deciduous teeth in the mandible), associated with a severe occlusal scheme, undeveloped vertical dimension of occlusion (VDO), soft bite and disproportionately short lower facial third.

Methods:

Clinical and radiographic examination confirmed extensive congenital tooth absence with a severely underdeveloped vertical dimension of occlusion and an abnormal facial proportion pattern. The treatment approach was planned to improve facial aesthetics by establishing a proper VDO with temporary prosthodontics. The VDO was increased by 7 mm to restore harmonious proportion between the lower and middle/upper facial thirds. A removable partial denture was fabricated for the maxillary arch, while an overlay (overdenture-type) removable prosthesis was constructed for the mandibular arch to support the newly established occlusal vertical dimension, eliminate the soft bite and create a functional, stable occlusal plane.

Results:

Following treatment, the patient demonstrated a corrected occlusal plane and a significantly improved facial profile, with restored proportion of the lower facial third, relative to the middle and upper thirds, with no signs of temporomandibular dysfunction. Functional occlusion and masticatory stability were achieved with the combined maxillary partial denture and overlay removable prosthesis.

Conclusions:

In cases of severe oligodontia with undeveloped vertical dimension and malocclusion, removable prosthodontic rehabilitation represents an effective solution for restoring VDO, correcting occlusal plane discrepancies, and improving facial aesthetics. The definitive long-term rehabilitation is planned to be implant-supported.

INTERDISCIPLINARY REHABILITATION OF AMELOGENESIS IMPERFECTA WITH ORTHOGNATHIC SURGERY: A CASE REPORT

Amit Wolfoviz-Zilberman

Amit Wolfoviz-Zilberman[1], Orith Haramaty[1], Michal Dekel-Steinkeller[1], Menachem Friedman[2], Stella Chaushu[2], Heli Rushinek[3], Nardy Casap[3], Esi Sharon[1]

[1]Department of Prosthodontics, [1]Department of Orthodontics, [1]Department of Oral and Maxillofacial Surgery, Hadassah Medical Center, Faculty of Dental Medicine, Hebrew University of Jerusalem, Jerusalem, Israel

Aim:
To present the comprehensive, interdisciplinary surgical and prosthetic rehabilitation of a 21-year-old male with Amelogenesis Imperfecta (AI) and severe skeletal and dental malocclusion.

Materials and Methods:
A 21-year-old male presented with hypomaturation AI, short clinical crowns, localized caries, and high caries risk, compounded by a tongue-thrust habit. Aesthetic and functional impairments were exacerbated by a Skeletal Class III malocclusion (retrognathic maxilla), anterior/posterior open bites, a posterior crossbite, and missing anterior guidance.
Treatment proceeded in four sequential phases:
1. Initial: Caries control, oral hygiene optimization, and initial composite restorations.
2. Orthodontic-Surgical: Pre-surgical orthodontics (including ectopic incisor retrieval) followed by a single-arch orthognathic surgery (maxillary advancement and impaction).
3. Prosthetic: Long-term laboratory provisional fixed restorations to establish a stable vertical dimension and mutually protected occlusion.
4. Final: Monolithic zirconia single crowns and fixed partial dentures duplicating the provisional design.

Results:
The skeletal deficiency and malocclusion were successfully corrected, restoring anatomy and structural support. The provisional phase ensured excellent aesthetics, group function in lateral excursions, and anterior guidance. Follow-up revealed no mechanical fractures, cement washout, or new caries.

Conclusions:
Managing severe AI with skeletal disharmony requires meticulous interdisciplinary collaboration. Integrating orthognathic surgery, orthodontics, and fixed prosthodontics with a dedicated provisional phase ensures a highly predictable, stable, and satisfying functional and aesthetic outcome.

EXIBITORS AND SPONSORS

DENTAL EXHIBITION MAP

The David Intercontinental Tel-Aviv

Stage

Hall B

Hall A

Stage

Registration

Entry

1 MDT
2 קוקון
3 קוקון
4
5 DVDent
6 אוגמה
7 סוראוס
8 GC
9
10 הירש ובניו
11
12 ביז קאדי
13 כללית
14 הליון

align
29
30
32
31
נוריס
ה.א שיטות

Coffee

33
34 קורדאן
35 חורי דנט
36
37 ICD
38 פראשקאפ
Solventum
סורקם

27
28 נטר
דנטליון

26 צ'אקיר
25 תשר געש
24 המרכז לציוד דנטלי

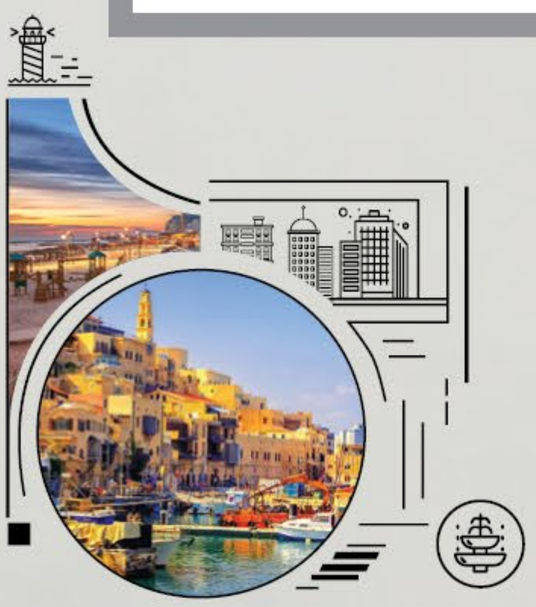
Coffee

45 הנרי שיין
46 הנרי שיין
47
48 דיטרון
49 אדמטק
50 אורורה

Coffee

39
42
40 בין אלפא
43
41 אי בי דנטל
44 JK DENT
כצע

23 ויה מד
22 פלטופ
21 בייקון
20 סיראם
19 קולגייט
18 MTD
17 פיימנט
16 שן זן
15 דנטל דפו וול



SPONSORS

align™

invisalign® | iTero™ | exocad™ | vivera™

DVDENT

Dentsply Sirona | mis

SURCAM Dental Pro.

solventum
3M Healthcare is now Solventum

GC

SHINING 3D

cocoon solutions

MDT® Micro Diamond Technologies Ltd.

N·D·M Dental Solutions
מעבדת שיניים

EXIBITORS

STRAUSS & CO.
Turning Precision Into Value

ultrawash

NORIS Medical®
Dental Implant Solutions

המרכז לציוד וליווי נכסים דנטליים
כל הפתרונות לרופאי השיניים תחת קורת גג אחת

KeystoneDentalGroup
GENESIS PRIMA PALTOP MOLARIS DYNA

CURAPROX
SWISS PREMIUM ORAL CARE

HENRY SCHEIN® SHVADENT
Your smile first.
HuFriedyGroup

תשר אופטיקה געש
פתרונות ראיה מתקדמים

Shen-Zen ltd
ביחד נעשה את ההבדל

BizCaddy
יותר תורים • יותר הגאות • יותר סגירות

HALEON
For Health. With Humanity.

ORORA
Dental professional solutions

bicon
פתרון גדול בשתל קטן

Edison Medical

דנטלון
מוצרי איכות
לרפואת שיניים מתקדמת

M.T.D
Dental Products

admetec

PAYMENT

Since 1921

S.I.R.A.M. LTD.

GETTER GROUP

AB
Superior Implant Technology

דנטל צ'אקיר בע"מ
Dental Chakir
שירות עם חיוך...

MMed LTD.

כללית סמייל

KDENT

DITRON DENTAL

HIRSCH AND SON
SINCE 1960

WOHL
DENTAL DEPOT
דנטל דפו וול
www.wohl.co.il | 048205000

Colgate

AlphaBio TEC
Simplantology
Nobel Biocare

ICD israel LTD
International Creative Dental lab

I-HA
Professionals for Professionals

Augma™
BIOMATERIALS

SPHERA
CONFERENCES LTD.
ספֵרה כנסים בע"מ