

British Society of Prosthodontics  
Annual Conference 2026



# Prosthodontic Education – Preparing for a Changing World

the **icc**  
birmingham

Thursday 16th & Friday 17th April  
International Convention Centre, Birmingham

British Society of Prosthodontics | [www.bsspd.org](http://www.bsspd.org)  
Fixed - Removable - Implant - Maxillofacial

# Welcome!

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I am pleased to welcome you to the 72nd British Society of Prosthodontics (BSSPD) Annual Conference! The theme this year is one very close to my heart and has been a large focus of my career in Dentistry; 'Prosthodontic Education – Preparing for a Changing World'. Covid has sharpened our awareness of and abilities to be adaptable and versatile. We are in the 'New Normal' and change will forever be a part of our careers.

*"Insanity is doing the same thing over and over again and expecting different results."*

I recently found out that it may not have been Albert Einstein who said this quote, regardless, the words hold true and we must change to progress.

I hope that this conference, held over Thursday 16th and Friday 17th April 2026 will explore the who, why, where, what and how we are doing things differently to ensure our patients and future Prosthodontists are looked after and prepared. This is our ongoing mission of the BSSPD.

Birmingham has undergone a remarkable transformation in recent years, making it an exciting destination for the 2026 conference. The city has seen major investment, with striking new developments reshaping the skyline. Centenary Square and the area around Town Hall have been revitalised, offering stunning public spaces, while an array of new restaurants, bars, and cultural hotspots have brought fresh energy to the city. If you haven't visited Birmingham recently, you may find it almost unrecognisable!

The ICC, is a world-class conference centre, perfectly located in the heart of this vibrant, diverse city. Throughout the venue there will be poster presentations eligible for the Schottlander prize for the best Poster Display. At the end of day one there will be a post-conference socialising and networking reception which will be a fantastic opportunity to reconnect, engage with sponsors and exhibitors, and enjoy refreshments in a relaxed setting. And with Birmingham's thriving nightlife just steps away, you can continue the evening with friends and colleagues—perhaps even reminiscing about your undergraduate and trainee days on nearby Broad Street or in Brindley Place.



The council, and I personally, would like to thank all the speakers for taking their time to present at and be part of this conference. I would also like to thank all those presenting posters, oral prize presentations and sponsors for their hard work and contribution, as well as to all those at the ICC venue, for hosting and feeding us. And finally, thank you to all of you for coming – here's to an exciting and stimulating two days!

A handwritten signature in black ink, appearing to read 'Upen Patel', with a long horizontal stroke extending to the right.

**Upen Patel**  
President, BSSPD 2025-26

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# Conference programme

## Thursday 16th April

- 
- 08:30 Registration & coffee
- 
- 09:15 **Welcome**
- Chair: Steve Bonsor
- 09:30 **From Wax to Workflows: Preparing Prosthodontists for Today & Tomorrow's Practice** by Raj Dubal
- 10:15 **Minimum intervention oral care (MIOC) – managing caries and restoring teeth in primary care** by Avijit Banerjee
- 
- 11:00 Coffee, posters and trade
- Chair: Shakeel Shahdad
- 11:30 **Digital Occlusion - is there an evolution?** by Riaz Yar
- 12:15 **4D Facial Imaging: A Hollywood Story with Clinical Impact** by Balvinder Khambay
- 
- 13:00 Lunch, trade and Schottlander poster viewing
- Chair: Matt Locke
- 14:00 **Educating for the future workforce** by Janice Ellis
- 14:45 **Changes in Prosthodontic & Restorative Specialty Training** by Rupert Austin and Kalpesh Bavisha
- 
- 15:30 Coffee, posters and trade
- Chair: Upen Patel
- 16:00 **NAILING IT: Wellbeing and Leadership Strategies for Optimal Performance in a Changing World** by Rana Al-Falaki
- 
- 16:45 **BSSPD Gold Medal award presentation**
- 
- 17:00 **BSSPD AGM** (members only)
- 
- 17:45 **Exhibition, Networking & Social Reception** (ends at 19:00)

### Prayer room...

Available on both days when needed in hall seven, level four



## Friday 17th April

- 
- 08:30 Registration and coffee/trade show
- 
- Chair: Neil Poyser
- 09:15 **Rooted in success: pulpotomies, preservation and predictability** by Simon Stone
- 10:00 **Hypodontia Yesterday, today and tomorrow** by Martin Ashley
- 
- 10:45 Coffee, posters and trade
- 
- Chair: Gerry McKenna
- 11:15 **Schottlander oral prize presentations**
- Chair: Upen Patel
- 13:00 **Undergraduate Prosthodontic Curriculum** by Elizabeth King
- 
- 13:15 Lunch and trade
- 
- Chair: Sarra Jawad
- 14:15 **Implant Dentistry Education: Everyone wants the view, nobody wants the climb** by Aws Alani
- 15:00 **Materials Decision Making in the Era of Evidence Overload** by Owen Addison
- 
- 15:45 Coffee and trade
- 
- Chair: Stephanie Hackett
- 16:15 **Development of Maxillofacial Prosthodontics in an ever changing world. Going back to the future** by Harry Reintsema
- 
- 17:00 **Prizes and awards announcements** by Prof Gerry McKenna
- 
- 17:15 **Conference close and handover to new president Mr Neil Poyser**
- 
- 17:30 Close

### Instructions for poster presenters...

If you are presenting a poster please note that this will need to be put up on your allocated poster space at the conference venue by 11:00 on Thursday. You are asked to stand by your posters at the allotted time to answer questions from the delegates and judges. The posters do not need to be removed until Friday afternoon.

# Invited speakers

We are delighted to have a number of renowned specialists in the area of prosthodontics speaking at our 72nd annual conference in Birmingham.

## Raj Dubal

### From Wax to Workflows: Preparing Prosthodontists for Today & Tomorrow's Practice

Raj is a Consultant in Restorative Dentistry and a specialist in Prosthodontics and Restorative Dentistry. He is based at the Eastman Dental Hospital, London. His clinical interests include the prosthodontic rehabilitation of head and neck oncology patients as well as patients with complex congenital and acquired oro-dental defects. Alongside delivering complex multidisciplinary care, Dr Dubal is an experienced examiner for multiple UK and international specialist examinations. His professional interests include digital dentistry and clinical education delivery. He is passionate about dental innovation and helping to prepare the profession for the evolving digital landscape.



## Avijit Banerjee

### Minimum intervention oral care (MIOC) – managing caries and restoring teeth in primary care

Avijit is Professor of Cariology & Operative Dentistry, Faculty of Dentistry, Oral & Craniofacial Sciences (FoDOCS), King's College London, UK and Hon. Consultant, Restorative Dentistry, Guy's & St. Thomas' Hospitals Foundation Trust, London, UK. He currently holds three international honorary chairs as well as being a member of the Board of Trustees of the UK Oral & Dental Research Trust (ODRT).

In 2022, he was awarded the prestigious William H Bowen Caries Research Distinguished Scientist Award from the International Association of Dental Research (IADR) in recognition of his global scientific and clinical research impact in cariology & minimally invasive operative dentistry over the last 25 yrs.

In 2024, the UK British Dental Association bestowed upon him the John Tomes Medal, one of its most esteemed professional accolades, to honour his clinical academic and scientific services and achievements to the profession and the BDA.





In his discipline of cariology & operative dentistry (minimum intervention oral care (MIOC) & minimally invasive dentistry (MID), biomaterials science, clinical trials and national / global policy), he has authored 5 internationally acclaimed textbooks (including “Pickard’s Guide” and now its successor, “A Clinical Guide to Advanced Minimum Intervention Restorative Dentistry”, Elsevier 2024), 13 book chapters, >180 peer-reviewed papers (H index 56, citations: 11,325 to date) and has supervised 50 doctorates & masters’ students.

## Riaz Yar

### Digital Occlusion – is there an evolution?

Professor Riaz Yar is a specialist prosthodontist and Visiting Professor at the College of Medicine and Dentistry (Birmingham/Ulster). A Liverpool graduate (1999), he founded a clinic in 2003, gained MFDS (2005), an MPhil in Restorative Dentistry (2008), and completed prosthodontic training at Manchester (2011). An internal examiner for RCS England (MJDF, ORE, LDS), he lectures internationally, and leads Level 7 programs in aesthetics, implant restorations, dental sleep medicine, and risk mitigation. Interests: TMD, digital occlusion (DAHL), sleep medicine.



## Balvinder Khambay

### 4D Facial Imaging: A Hollywood Story with Clinical Impact

Sunny Khambay is Professor of Orthodontics at the University of Birmingham with more than 20 years of research experience in static (3D) and dynamic (3D motion/4D) facial imaging. He is an honorary NHS Consultant. He has supervised over 40 MSc students and overseas PhD students in 3D and 4D facial imaging. He has collaborations with computer science (Glasgow, Hong Kong), morphometric statistics (Leeds & Glasgow), plastic surgery (Glasgow & Birmingham), oral and maxillofacial surgery (Glasgow, Birmingham & Hong Kong). He has one of three facial 4D imaging systems in the UK, which is under routine use.



## Janice Ellis

### Educating for the future workforce

A graduate of Newcastle University, Janice is now Professor of Dental Education at Newcastle University and Hon Consultant in Restorative Dentistry at Newcastle Dental Hospital, where she is currently Restorative Dentistry TPD.



She is an ex- President of the British Society of Prosthodontics, a founder member of the British Alliance of Researchers in Dental Education & Scholarship and Co-Lead of the NIHR Incubator for Clinical Education Research. As a previous Chair of Dental Schools Council Education Committee she was instrumental in developing the Educational Transition Document and part of the GDC reference group developing Safe Practitioner Framework.

## Rupert Austin

### Changes in Prosthodontic Specialty Training

Dr Austin is a Reader and Honorary Consultant in Prosthodontics at King's College London's Faculty of Dentistry, Oral & Craniofacial Sciences where he is the undergraduate academic discipline lead for Prosthodontics. Rupert's educational leadership includes the Board Chair for the Dental Specialty Fellowship in Prosthodontics and he regularly leads research into educational advancements in Prosthodontics.



## Kalpesh Bavisha

### Changes in Restorative Specialist Training

Consultant in Restorative Dentistry. Service lead in Oral Surgery and Dental Oral and Maxillofacial Radiology. Clinical lead of Dental Oral and Maxillofacial Radiology. Head of Dental Implants service. Head of Dental Sleep service. Clinical audit lead in Prosthodontics and Restorative Dentistry. Examiner in M Clin Dent in Pros. Examiner in MSc in Maxillofacial Prosthodontics. Training programme director in Restorative Dentistry. August 2020. Chair of SAC Restorative Dentistry, Endodontics, Prosthodontics, Periodontics. Sep 2022- Nov 2025. Examiner Lead in MPros. April 2022. Question Bank Manager Implant Diploma.



## Rana Al-Falaki

### Nailing It: Wellbeing and Leadership Strategies for Optimal Performance in a Changing World

Dr Rana Al-Falaki is a multi-award-winning specialist periodontist, international speaker, executive leadership & performance coach, and best-selling author, with over 30 years in healthcare. She is the founder the NAIL-IT Leadership System, and NAIL-IT In dentistry—using an evidence-based framework helping professionals achieve sustainable high performance without burnout. Recognised in 2025 as one of Dentistry's Top 50 for her contributions to clinical excellence and wellbeing, she also co-founded the national dental wellbeing platform with the Chief Dental Officer. Dr Rana combines her clinical expertise with behavioural science and leadership strategy to help individuals and teams thrive. Her mission is clear: to support healthcare professionals in leading with resilience, balance, and purpose



## Simon Stone

### Rooted in success: pulpotomies, preservation and predictability

Simon is a Senior Lecturer and Honorary Consultant at Newcastle University and the Newcastle upon Tyne Hospitals where he is currently the Deputy Head of School and leads the NHS Endodontic Service at Newcastle Dental Hospital. He is a Council Member for the British Endodontic Society and represents them on the Specialist Advisory Committee in Restorative Dentistry.



## Martin Ashley

### Hypodontia. Yesterday, today and tomorrow

Martin is a Consultant and Honorary Professor in Restorative Dentistry and Oral Health in Manchester, with a clinical focus on managing patients affected by hypodontia and by cleft lip and palate.



He is the Medical Director for the University Dental Hospital of Manchester, a Board member for the Faculty of Dental Surgery at RCS England, a Senior Fellow for the Faculty of Medical Leadership and Management and was chair of RD-UK for five years.

Martin's free to access Mouth Care Matters on-line course has run since 2021 and is accessed by learners in over 100 countries.

## Aws Alani

### Implant Dentistry Education: Everyone wants the view, nobody wants the climb

Aws is an Associate Professor in Restorative Dentistry at Peninsula Dental School and Consultant in Restorative Dentistry at Kings College Hospital, his main roles include course director for the MSc in Endodontics and course director for the Diploma in Operative Dentistry at KCL. He qualified from KCL in 2003, completed vocational training in Essex and subsequently held junior hospital positions at Guy's Hospital and King's College Hospital, before completing an MSc in Endodontics at the Eastman. He moved to Morriston Hospital in South Wales to work in the Maxillofacial Unit, he subsequently completed his specialist training in Restorative Dentistry in Newcastle. During his training he lead relief work trips to Romania and Ghana with 'Young Smiles for Romania' and 'Global Brigades'.



In 2013, Aws became the International Team for Implantology Scholar in Toronto, Canada, working at the Hospital for Sick Children and Bloorview Kids Rehabilitation Hospital. He returned to London in 2014 as Consultant in Restorative Dentistry at King's. His main remit is the management of congenital and acquired defects within an MDT environment, working alongside Paediatric Dentistry and Orthodontics.

He has published over 50 peer reviewed papers, book chapters and textbooks and maintains an active interest in current clinical issues and research. He has won grants from the British Endodontic Society and the Royal College of Surgeons to examine novel root filling materials with associated patents. He is a previous British Society of Restorative Dentistry and British Endodontic Society council member and prize winner. He completed a Master's Degree in Medical Law in 2017 from Cardiff University.

He holds the BSSPD in the highest regard, as he entered for the Schottlander oral prize three years in a row...without success!

## Owen Addison

### Materials Decision Making in the Era of Evidence Overload

## Harry Reintsema

### Development of Maxillofacial Prosthodontics in an ever changing world. Going back to the future



Graduated from Dental School Groningen (NL) April 16th 1982, and PhD-thesis ('the effect of fluoridated toothpastes on plaque covered enamel in vivo') RU Groningen, January 13th 1988. Assistant professor Dental School University Groningen (1982-1991). Maxillofacial prosthodontist in UMCG since 1984 (NVGPT-registered since 2000); retired from UMCG March 1st, 2025. Head of the UMCG Center for Special Dental Care and Maxillofacial Prosthetics (2003-2023). Chair of the NVGPT Dutch National MFP - Training Program Committee (2013-). Board member NVPT/NVGPT (Dutch Prosthetic Society) (1992-2002). President International Society for Maxillofacial Rehabilitation (ISMR) (2013-2016). Board member COBIJT (National Organization Representing Special Dental Care) (2023-). Honorary member Dutch Society for Gnathology and Prosthetic Dentistry (NVGPT). Honorary member British Society of Prosthodontics (BSSPD). Rewarded with the J.G. Schuiringa Award (2000). Was (co)author of several articles on maxillofacial rehabilitation and implant dentistry and participated in the organization of several conferences and workshops on maxillofacial rehabilitation. Fields of interest concern e.g. the dental/prosthetic treatment of Head-and-Neck Oncology patients and patients with congenital or acquired orofacial defects, and prosthodontic (implant-)treatment in general.

# Schottlander oral presentation abstracts

## Development and Validation of Entrustable Professional Activities (EPAs) for Prosthodontics: What Should a Prosthodontist Be Able to Do?

Fatemeh Amir-Rad\*, Gerry McKenna, Susan Morison, Nabil Zary, Nabeel Alsabeeha

SO1

*Queen's University Belfast*

**Background:** Competency-based education (CBE) is increasingly adopted in prosthodontic specialty training, yet programs often lack explicit, observable tasks and progression milestones to support entrustment and independent practice. Entrustable Professional Activities (EPAs) translate competencies into real clinical work and provide supervision scales to structure progressive autonomy. However, prosthodontics lacks a validated, specialty-specific EPA framework.

**Aims and objectives:** The aim of this study was to develop and validate a core set of EPAs for Prosthodontics specialty training.

**Materials and methods:** A stepwise approach was employed, incorporating an asynchronous online nominal group technique for EPAs identification and development, and a mixed-method, consensus-validation research design using an international two-round modified Delphi technique for EPAs validation. An expert group of five members identified essential activities for clinical competence in Prosthodontics based on daily Prosthodontics tasks, and a review of the national and international professional standards, drafting EPAs titles and descriptions. The quality appraisal of initially developed EPAs was conducted using the EQual rubric.

In the first modified Delphi round, panellists rated the importance, clarity, and specifications of preliminary EPAs. In the second round, respondents rated the clarity and specifications of revised EPAs, information to support entrustment decisions, and expected entrustment at each level of specialty training. The aggregated scores for each EPA were provided. Content Validity Index (CVI) thresholds ( $\geq 0.8$ ) and median ratings ( $\geq 4$ ) guided retention and revision.

**Results:** From 20 initially drafted items, 11 EPAs were confirmed after expert review and entered the Delphi consensus rounds. Eight EPAs underwent targeted revision between rounds for title clarity and specification/limitations. In Round 2 ( $n=18$ ), all EPAs met or exceeded predefined thresholds for indispensability, clarity, specifications/limitations, and completeness of information supporting entrustment (median  $\geq 4$ ; CVI  $\geq 0.8$ ).

Supervision-level expectations were agreed for most EPAs, with minor divergence for one EPA (EPA-2) prompting clarificatory text. The final EPAs span two domains: (1) assessment and planning (history/examination; diagnosis/problem list; evidence-based, patient-centred treatment planning and monitoring) and (2) patient management (complete and partial edentulism with removable and fixed/implant-supported prostheses; complex fixed rehabilitation for dentate patients; temporomandibular disorders; maxillofacial prosthetics).



**Discussion:** This international, consensus-driven framework articulates observable, assessable prosthodontic activities linked to supervision scales, aligning CBE with authentic workplace practice. By mapping to national and international competencies, the EPAs are adaptable across regulatory contexts while remaining specialty-specific. The concise set balances breadth and feasibility for implementation, supports programmatic assessment, structured feedback, and summative entrustment decisions, and offers a shared language for progression.

**Conclusion:** The resulting eleven Prosthodontics EPAs outline the core tasks of Prosthodontists. The robust methodology employed may be broadly applicable to other dental specialty training programmes developing specialty-specific EPAs.

## Where are the dental technicians? Structural mathematical modelling of workforce supply and demand in the United Kingdom

AJ Gormley\*, C Keating, NX West

SO2

University of Bristol

**Background:** Dental technicians play a central role in prosthodontic service delivery, yet quantitative planning of this workforce has lagged behind that of other oral health professions. Demographic ageing of both the general population and the existing technical workforce, alongside constrained training inflows and increasing prosthodontic complexity, raises concern about future capacity to meet demand. This study projected UK dental technician supply and prosthodontic laboratory demand from 2025 to 2040, explicitly characterising structural drivers of imbalance and uncertainty.

**Methods:** Dental technician supply was modelled using a structural, age-stratified cohort workforce model formulated as a discrete-time Leslie matrix system. Annual transitions captured ageing, retirement, background attrition, and stochastic inflows from training, with outputs expressed in full-time equivalents (FTEs).

Prosthodontic demand was estimated independently using a structured component, age-cohort utilisation model. Age-specific prosthodontic status and restoration prevalence were parameterised using Adult Dental Health Survey data from 1998, 2009, and 2023, enabling reconstruction of birth-cohort-specific prosthesis stocks and replacement trajectories. Demand evolution was modelled using a finite-state, cohort-based Markov process, with expected procedure volumes mapped to laboratory workload using procedure-specific time requirements. Digital workflows were incorporated as a time-varying productivity coefficient acting on minutes per unit, without altering underlying clinical utilisation.

Parameter uncertainty was represented using probability distributions, and the coupled supply-demand system was evaluated using Monte Carlo simulation with 10,000 iterations. Baseline demand was calibrated to baseline supply in 2025, with sensitivity analyses excluding digital productivity gains.

**Results:** The observed 2025 workforce of 4,966 registered technicians corresponded to an estimated mean effective supply of 4,740 FTEs. Mean supply declined at

approximately -2.6% per annum, reaching 3,220 FTEs by 2040 [UI: 2,600–3,950], a 32% reduction. In Leslie-matrix terms, the system exhibited a dominant growth factor  $\lambda \approx 0.974$ , consistent with net workforce contraction.

With digital productivity gains included, mean prosthodontic laboratory demand in 2040 was approximately 4,200 FTEs [UI: 3,200-5,350]. The projected workforce gap in 2040 was approximately -980 FTEs [UI: -2,250 to +220], with the probability of demand exceeding supply exceeding 50% by 2028 and rising to approximately 90% by 2040. In sensitivity analyses assuming no digital productivity change, demand increased to approximately 5,400 FTEs by 2040 [UI: 4,200-6,850], with a probability of workforce shortfall greater than 99%. Back-testing showed reconstructed GDC workforce totals deviated by less than 5%, and over 90% of observed survey prevalence estimates fell within modelled uncertainty intervals.

**Clinical significance:** Digital productivity moderates, but does not resolve, projected prosthodontic workforce shortfalls. Without targeted action on training, reworktion, and late-career participation, declining technician capacity is likely to constrain prosthodontic service delivery within the next decade. This framework provides a template for modelling the dental technician workforce dynamics under demographic and technological change.

## Beyond Consent: Implementing Shared Decision-Making in the Hypodontia Care Pathway

**Dan Lee**

**SO3**

*Eastman Dental Institute, UCL*

**Statement of the Problem:** The management of hypodontia is complex, typically requiring multidisciplinary input and prolonged treatment pathways. Shared decision-making (SDM) is essential to ensure that patients and their guardians are actively involved in decisions that reflect their preferences, values, and long-term goals, alongside clinical expertise. However, there is limited research exploring patient and guardian experiences of SDM in hypodontia, and no published evaluation of how SDM discussions are documented within dental clinical records.

**Aims:** To evaluate patients' and guardians' experiences of shared decision-making in a hypodontia clinic, assess the perceived usefulness of a SDM support tool and information resources, and audit the quality of SDM documentation in clinical records.

**Materials and Methods:** This mixed-methods study comprised two components. The first was a cross-sectional, questionnaire-based evaluation conducted in the hypodontia clinic at the Royal National ENT and Eastman Dental Hospitals. Prior to consultation, patients and guardians were provided with an 'Ask 3 Questions' SDM postcard and a participant information sheet containing a QR code linking to the hospital's hypodontia webpage. Questionnaires assessing the usefulness of the postcard, understanding of the condition based on the webpage information, and satisfaction with patients' and guardians' SDM experience (derived from the 3-item CollaboRATE questionnaire) were completed post-appointment and analysed.

The second component was a two-cycle clinical audit evaluating SDM documentation in hypodontia clinical records against the Professional Record Standards Body (PRSB) SDM standard. Fifty clinical notes were reviewed in the initial cycle. Findings informed revisions to the clinical note template, followed by a re-audit of 22 records.

**Results:** Seventy participants completed the questionnaire (60% patients, 40% guardians). The SDM postcard was well received, with 100% finding it easy to understand and 85.5% reporting that it encouraged them to ask important questions; 90% would recommend it to others. Guardians rated the postcard significantly more useful than patients ( $p = 0.003$ ).

Two-thirds of participants (67.1%) accessed the hypodontia webpage via QR code, and 90% of those reported improved understanding; only 10% had accessed the website previously. Overall satisfaction with SDM was high, with median satisfaction scores of 9/10 for patients (IQR 2) and 10/10 for guardians (IQR 1).

In the initial audit cycle, only 4 of 8 PRSB SDM elements met the 80% compliance target. Following template revision, all 8 elements exceeded the standard, with statistically significant improvements in documenting accompanying persons, patient priorities, and shared decision status (all  $p < 0.001$ ).

**Conclusion:** Simple SDM tool ('Ask 3 Questions' postcard) and accessible information resources enhance patient engagement and understanding in hypodontia care. Structured documentation significantly improves the recording and evidencing of shared decision-making, supporting patient-centred, high-quality hypodontia care.

## Developing a Core Outcome Set for the assessment of quality of life in hypodontia studies

James Nelson\*, Gerry McKenna

SO4

*Queen's University Belfast*

**Background:** Current variation in outcome selection and OHRQoL instruments across hypodontia studies limits cross-study comparability, prevents effective meta-analysis, and constrains shared clinical decision-making across the rehabilitation pathway.

**Objective:** To develop a patient-centred Core Outcome Set (COS) for hypodontia trials assessing quality of life, enabling standardised outcome measurement and improved evidence synthesis.

**Methods:** Development of this COS followed the COMET Initiative framework using a mixed-methods design. A systematic review of hypodontia quality of life trials spanning the stages of rehabilitation mapped existing outcome measurement and demonstrated substantial heterogeneity in OHRQoL instruments, with limited comparability between measures designed for children/adolescents and those used in adults. To widen capture of relevant instruments and domains, linked scoping reviews of hypodontia, orthodontic, and prosthodontic trials were undertaken to identify candidate OHRQoL tools and extract their constituent outcomes. These data informed a qualitative phase comprising semi-structured interviews with individuals affected by hypodontia (and parents/guardians

where appropriate) and focus groups with professionals (clinicians involved in hypodontia care, researchers, and dental policymakers). Findings from the systematic review, scoping reviews, and qualitative work were synthesised into draft outcome statements for prioritisation through a two-round Delphi survey. Participants scored each statement using a 5-point Likert scale; consensus was defined a priori as  $\geq 70\%$  agreement. To promote a patient-centred COS, outcomes could be accepted based on patient scores alone or combined patient–professional agreement but could not be accepted based solely on professional endorsement. Statements lacking clear consensus were discussed in an online stakeholder consensus meeting, followed by final voting on inclusion.

**Results:** Sixteen qualitative interviews with patients and four focus groups with 26 professional participants refined the outcome list by confirming priority domains, clarifying wording, and identifying additional outcomes not consistently captured in existing questionnaires. The Delphi survey included 58 respondents in Round 1 (30 patients; 28 clinicians) and 48 in Round 2 (23 patients; 25 clinicians). Of 29 outcome statements, 20 met the predefined threshold for acceptance after Delphi rounds; three additional statements were accepted following structured discussion and voting at the consensus meeting, giving 23 included outcomes. The final COS was organised into seven overarching core outcomes with sub-outcomes: three contextual domains (“Absent permanent teeth and status of primary teeth”; “Hypodontia treatment provision and timescale”; “Hypodontia treatment lifespan and maintenance”) and four constituent impact domains (“Appearance concerns”; “Psychosocial impacts”; “Orofacial physical discomfort”; “Functional (eating) impacts”). The COS showed consistencies with prior hypodontia trial findings but also highlighted gaps in currently used OHRQoL questionnaires, and the need for a ‘life course’ approach.

**Conclusions:** A patient-centred COS for hypodontia quality of life trials was developed using systematic evidence mapping, stakeholder qualitative research, Delphi consensus, and a final consensus meeting. Adoption of this COS should standardise outcome reporting, facilitate pooled analyses, and ensure future trials address outcomes prioritised by affected individuals as well as professionals. Further work is required to support implementation, evaluate feasibility in different trial designs and age groups, and periodically review and refine the COS as hypodontia care pathways evolve.

## Improving Communication Between Oncology and Restorative Dentistry to Optimise Pre-Radiotherapy Dental Assessment: A Quality Improvement Project

Urszula Uryszek\*, Nia Porter, James Owen

SO5

*Morrison Hospital, Swansea Bay University Health Board*

**Background:** Timely and effective communication between Restorative Dentistry (RD) and Oncology services is critical for the management of patients about to undergo head and neck radiotherapy. Prior dental assessment is essential to minimise the risk of osteoradionecrosis and other treatment-related complications. At present, patients discussed at the Head and Neck Multidisciplinary Team (MDT) meeting are booked into RD clinics for assessment. However, additional same-day urgent requests

from Oncology frequently occur. This results in inefficiencies, including prolonged patient waiting times and repeated staff movement between departments to obtain radiotherapy field information, all of which is essential to guide dental decision-making.

**Aim:** This Quality Improvement Project (QIP) aimed to improve interdepartmental communication between RD and Oncology by reducing time spent by RD staff leaving clinic to obtain radiotherapy field information, thereby improving clinic efficiency and patient flow.

**Methods:** Baseline data were collected over 10 consecutive patient encounters prior to intervention. The primary outcome measure was the time (in minutes) spent by RD clinicians leaving the oncology clinic area to obtain radiotherapy field and treatment planning information directly from Oncology staff. Process mapping identified communication gaps as the principal cause of inefficiency.

An intervention was co-designed with Oncology colleagues in the form of a standardised information collection form. The form captures key clinical details required by RD, including radiotherapy field location, dose distribution, planned start date of radiotherapy, and any other treatment details. Oncology staff complete the form and provide it to RD when the patient is ready for dental assessment. Post-intervention data collection is ongoing as part of continuous QIP monitoring.

**Results:** Pre-intervention data demonstrated consistent delays associated with RD clinicians leaving clinic rooms to seek radiotherapy planning information directly from Oncology. Although post-intervention quantitative data collection is ongoing, early qualitative feedback from both RD and Oncology teams has been highly positive. Staff report improved workflow, reduced interruptions to clinic activity, and clearer communication of treatment planning details. It is anticipated that the intervention will result in a substantial reduction in time spent obtaining information, improved patient throughput, and shorter waiting times for same-day oncology referrals.

**Conclusion:** This QIP demonstrates that a simple, low-cost communication tool can significantly improve interdepartmental workflow and efficiency in the care pathway for head and neck cancer patients. Standardising information transfer between Oncology and RD has the potential to enhance patient experience, optimise clinical decision-making regarding dental extractions and preventive care, and reduce unnecessary delays prior to radiotherapy. Ongoing data collection will quantify the impact of the intervention and inform further refinement. This project highlights the value of collaborative, multidisciplinary quality improvement initiatives in complex clinical pathways.

# Schottlander poster presentation abstracts

## A study on digital tooth preparation assessment software in undergraduate pre-clinical skills teaching

Hanin Alsharif\*, Richard Boyle, Pauline Maillou,  
George P. Cherukara

SP01

*School of Dentistry, University of Dundee*

**Introduction:** This research aims to evaluate the effectiveness and efficiency of the PrepCheck digital system as an additional feedback tool in enhancing undergraduate dental students' tooth preparation skills and its potential to enhance students' learning experience.

**Material and methods:** A total of 55 BDS3 students attending the "Crowns Course" and divided into three groups participated in the study. One group (n=24) was randomly selected as the case group and received feedback using the digital tooth preparation analysis system, PrepCheck, alongside standard visual assessment. The other two groups (n =31) served as controls and only received standard visual feedback. All students' tooth preparations for the final test were digitally assessed using PrepCheck against a faculty-approved master preparation. The tooth preparation quality was compared between the case and control groups, employing two distinct grading methods. Additionally, a questionnaire was provided to students who used the digital system to gather their feedback.

**Results:** The findings revealed a positive trend in performance among the case group when using the PrepCheck system. However, the analysis showed no statistically significant differences between the groups in both the tutor assessment only and tutor assessment in addition to using the PrepCheck report. Despite the absence of statistically significant differences, qualitative feedback from participants indicated a favourable reception of the digital system.

**Conclusions:** While the PrepCheck digital system displayed potential in complementing traditional teaching methods and enhancing the learning experience, its integration posed challenges, particularly concerning time constraints. Further research is recommended to investigate further the potential longer-term effects and potential useful applications for integrating digital systems like PrepCheck into dental education.

## Prosthodontic & Aesthetic Management of Anterior Dental Trauma in Patients with High Smile Lines

Rhea Agarwal

SP02

*Kings College Hospital*

**Introduction:** Dental trauma is an unavoidable and often highly emotional event that can have profound and lasting effects on a patient's self-image and psychological wellbeing. The aftermath frequently impacts confidence, social interaction, and willingness to smile or communicate. When the aesthetic zone is involved, patients may feel self-conscious, vulnerable, and emotionally withdrawn, with the trauma acting as a constant reminder of one of the most distressing days of their lives. Long term



trauma management plays a vital role in rehabilitating patients both functionally and aesthetically, helping them to regain confidence and restore their smiles.

**Background:** This case involves a 36-year-old male patient who sustained dental trauma after being kicked in the face whilst on a skiing holiday. The UL1 and UL2 suffered root fractures and were deemed unrestorable and were extracted in primary care. The UR1 sustained a lateral luxation injury with an associated enamel–dentine fracture. This tooth was repositioned, splinted, and restored with a mesial composite. The patient was noted to have a thin to moderate gingival phenotype and a relatively high smile line. Medically, the patient had a background of anxiety and depression, which was significantly exacerbated by the assault and dental trauma, given his high smile line. The aesthetic repercussions had a notable impact on his confidence and psychological wellbeing. Due to these challenges, he was referred to Kings College Hospital for further management.

**Treatment:** Initial management included provision of an immediate denture to restore aesthetics and function. To further enhance symmetry and aesthetic harmony, composite additions were carried out on the UR1, UR2, UR3, and UL3. A single implant was placed in the UL1, UL2 ridge. During the healing phase, the patient reported increasing tenderness associated with the UR1. Special testing revealed the tooth was now non vital and root canal treatment was completed accordingly. The implant site was restored initially with a provisional bridge to allow for soft tissue maturation. The patient grew concerned about a visible concavity at the gingival zenith. To improve the soft tissue contour a connective tissue graft harvested from the right tuberosity was placed. Following satisfactory healing, the implants were restored with a definitive bridge.

**Conclusion:** Management of dental trauma is inherently challenging and is further complicated in patients with thin gingival phenotypes and high smile lines. Soft tissue healing can be unpredictable and is often underestimated when planning implant emergence profiles in the aesthetic zone. Careful planning is essential to achieve optimal outcomes. The patient expressed significant satisfaction with the result, reporting a marked improvement in his confidence and wellbeing, and felt able to finally move on from a prolonged and emotionally difficult chapter of his life.

## Complete Denture Rehabilitation Using Intraoral Scanning and Modjaw Functional Recording

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SP03

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**Introduction:** Contemporary complete denture rehabilitation is increasingly supported by digital technologies aimed at improving clinical efficiency, aesthetic planning, and occlusal precision. The incorporation of facial scanning, functional jaw tracking, and computerized occlusal analysis may enhance the predictability of digital denture workflows beyond conventional static registration methods.

**Case Report:** This clinical case report describes the rehabilitation of an edentulous patient using a fully digital functional workflow integrating intraoral scanning, facial scanning, Modjaw jaw tracking, and T-Scan occlusal analysis.

Edentulous arches were initially captured using an intraoral scanner to record ridge anatomy and soft-tissue morphology. The datasets were imported into computer-aided design software to fabricate 3D-printed wax rims. During the second clinical visit, the printed rims were used to verify and adjust the vertical dimension of occlusion and centric relation. The modified rims were subsequently rescanned, and a facial scan was obtained at this stage to support aesthetic alignment and guide tooth arrangement in harmony with the patient's facial features.

Functional mandibular movements were then recorded using Modjaw jaw tracking, enabling dynamic confirmation of the established maxillomandibular relationship. The updated records were merged with the initial ridge scans to generate a virtual articulator for digital tooth arrangement. A printed try-in denture was evaluated clinically for aesthetics, phonetics, and functional occlusion prior to definitive prosthesis fabrication.

Following insertion of the definitive dentures, T-Scan digital occlusal analysis was employed to objectively assess occlusal contact timing and force distribution, supporting refinement of occlusal balance where required. The complete workflow was achieved in three to four clinical appointments, representing a substantial reduction compared with conventional complete denture protocols.

**Outcome:** The definitive dentures demonstrated satisfactory adaptation, stable occlusal contacts, and favourable aesthetic integration, with minimal post-insertion adjustments. The patient reported high satisfaction with comfort and the streamlined treatment pathway.

**Conclusion:** This case highlights the feasibility of a next-generation fully digital functional approach to complete denture rehabilitation. The combined use of facial scanning, Modjaw jaw tracking, and T-Scan occlusal analysis may enhance reproducibility, clinical efficiency, and occlusal precision, supporting the evolving role of comprehensive digital workflows in modern prosthodontic practice.

## Management of Dental Fluorosis using an Indirect Approach

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SP04

*The Royal London Dental Hospital*

**Background:** A 32-year-old female attended with complaints of discolouration and sensitivity. She noted her discolouration was present since her teeth erupted. She had not accessed any dental treatment before but noted both her parents had a similar appearance with their teeth. She was born in Ethiopia and lived there for the first 23 years of her life. The patient struggled socially due to the discolouration.

**Clinical Examination:** The patient presented with a Class two division two incisal relationship on a class one skeletal base. There was mesial rotation of her UR1 and UL1. She had an unrestored dentition with generalised demarcated brown and white lesions and pitting. There was also hypoplasia of her UR3 and UR4. There was generalised marginal gingival inflammation. She was diagnosed with generalised biofilm induced gingivitis and generalised severe dental fluorosis.

It was deemed the most minimally invasive way to restore her upper dentition was through indirect veneers from UR5 to UL5 and we used direct composite veneers to restore her LR5 to her LL5. Due to the extensive discolouration of the tooth surface, the patient underwent a course of whitening, and we conducted microabrasion prior to placement of any restoration.

This case will discuss the rationale behind choosing each treatment option and the various planning phases we undertook in order to provide a good and predictable outcome.

**Clinical Management:** Following initial assessment, a diagnostic wax up was produced and transferred intraorally. This helped us decide on the appearance of the final outcome but also helped plan the level of reduction required for veneer placement. This was an important step as the patient did not have a well aligned arch, particularly with the central incisors being mesially rotated, meaning there was a different degree of preparation needed on different teeth. A buccal preparation guide was made from the diagnostic wax up and was used clinically to help guide tooth reduction. There was also careful consideration of veneer material choice, cement choice and thickness of the veneer to ensure appropriate masking of the underlying discolouration. In the lower arch, selective reduction in areas of discolouration was done and highly opaque composite was used to place conformative composite veneers to mask the discolouration.

**Discussion:** This case highlights the importance of meticulous and careful planning prior to providing irreversible prosthodontic treatment. It also highlights that sometimes a minimally invasive approach still requires a level of invasiveness that needs to be planned carefully and discussed with the patient prior to commencement of treatment. The patient was happy with the outcome.

## The masking ability of high translucent monolithic zirconia for multiple shades cores using different resin cement shades: in vitro study

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SP05

*MBRU, Dubai*

**Background:** High-translucency multilayer monolithic zirconia is widely used for its favourable mechanical properties and enhanced aesthetics; however, increased translucency may reduce its ability to mask discoloured substrates, compromising colour predictability. The final optical outcome is influenced by ceramic thickness, substrate colour, surface treatment, and resin cement shade. Despite its growing clinical use, evidence-based guidelines for minimum masking thickness and cement shade selection remain limited.

**Objective:** This in vitro study aimed to evaluate the influence of zirconia thickness, background substrate colour, and resin cement try-in paste shade on the masking ability of Ceramill Zolid FX Multilayer high-translucency monolithic zirconia. A secondary objective was to identify a clinically relevant thickness cutoff and propose a protocol for resin cement shade selection to improve colour predictability over discoloured backgrounds.

**Materials and Methods:** A total of 180 CAD/CAM-fabricated monolithic zirconia discs (Ceramill Zolid FX Multilayer, A1) were prepared in three thicknesses (0.5, 1.0, and 1.5

mm), sintered, polished, and ultrasonically cleaned. Specimens were evaluated over simulated substrates (IPS Natural Die shades ND2, ND5, ND8, ND9; composite resin A1; and cobalt-chromium alloy) using resin cement try-in pastes (translucent, white opaque, and A1) with standardized cement thickness (0.1 mm). Colour measurements were recorded before and after glazing using a calibrated spectrophotometer, and mean CIELab values were calculated from three readings per condition. Colour differences ( $\Delta E_{00}$ ) relative to a VITA Classical A1 shade tab were calculated using the CIEDE2000 formula and interpreted against a clinical acceptability threshold ( $\Delta E_{00} \leq 1.8$ ). Statistical analysis was performed at  $\alpha = 0.05$ .

**Results:**  $\Delta E_{00}$  values decreased with increasing zirconia thickness and after glazing. Among unglazed specimens, mean  $\Delta E_{00}$  values were highest for 0.5-mm zirconia (6.80) and decreased at 1.0 mm (4.25) and 1.5 mm (4.05). Glazing significantly reduced  $\Delta E_{00}$  at all thicknesses (mean reduction =  $-0.88$ ;  $p < 0.001$ ), with the greatest improvement at 1.5 mm ( $-1.44 \Delta E_{00}$ ), resulting in 27.22% clinically acceptable outcomes, whereas no acceptable matches were achieved at 0.5 mm regardless of glazing. Cement shade influenced  $\Delta E_{00}$  primarily at greater thicknesses, with opaque and A1 cements producing lower values than translucent cement, while darker backgrounds consistently increased  $\Delta E_{00}$ .

**Conclusion:** Zirconia thickness was the dominant determinant of masking ability in high-translucency monolithic zirconia, outweighing the effects of background colour, glazing, and cement shade. Specimens 0.5 mm thick consistently exhibited unacceptable colour differences ( $\Delta E_{00} > 1.8$ ) across all substrates and cement shades, whereas increasing thickness significantly reduced  $\Delta E_{00}$  values, with 1.5-mm zirconia demonstrating the most favourable and clinically acceptable outcomes, particularly after glazing. Background substrate colour significantly influenced color change, especially at reduced thicknesses, while glazing produced a statistically significant but thickness-dependent improvement in masking ability. Cement shade selection improved colour outcomes only at greater thicknesses and could not compensate for inadequate ceramic thickness.

## An Investigation of Retentive Force and Deformation in Milled, Printed and Cast CoCr Denture Clasps

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SP06

UCL

**Background:** Cobalt–chromium (Co–Cr) alloys are widely used for removable partial denture (RPD) clasps due to their favourable mechanical properties, corrosion resistance, and long-term clinical reliability. Clasp retention is essential for prosthesis stability and patient comfort. While conventional lost-wax casting has been the standard fabrication method, digital manufacturing techniques such as CAD/CAM milling and selective laser melting (SLM) are increasingly adopted. However, evidence directly comparing the retentive and deformation behaviour of clasps fabricated by these methods under standardised conditions remains limited and inconsistent.

**Aim:** To compare the retentive force, deformation behaviour, and microstructural characteristics of Co–Cr denture clasps fabricated using casting, milling, and selective laser melting.

**Materials and Methods:** Standardised Akers clasps were digitally designed and fabricated using casting, milling, or SLM ( $n = 10$  per group). All clasps were engaged

on identical metal abutments with a 0.5-mm undercut. Specimens underwent 5,000 insertion-removal cycles in artificial saliva using a universal testing machine. Retentive force was recorded at predefined intervals. Deformation was assessed by superimposing pre- and post-cycling three-dimensional scans and calculating surface deviation metrics. Microstructural features were examined using scanning electron microscopy.

**Results:** Across all fabrication methods, retentive force decreased slightly with increasing insertion-removal cycles, but clinically acceptable retention was maintained throughout testing. Cast Co-Cr clasps demonstrated the lowest median retentive force and the widest distribution of values, indicating greater variability in performance. In contrast, milled and SLM clasps exhibited higher median retentive forces with narrower interquartile ranges, reflecting more consistent behaviour. Despite these observable trends, statistical analysis showed no significant differences among the three fabrication techniques in terms of mean retentive force and force variability after 5,000 cycles ( $p > 0.05$ ).

Surface deformation analysis revealed minimal dimensional changes for all groups following cyclic loading. Milled clasps showed the most uniform deformation patterns, with the lowest variability across the clasp surface. SLM clasps exhibited slightly greater deformation variability, while cast clasps demonstrated moderate variability; however, none of these differences reached statistical significance. Microstructural examination using scanning electron microscopy identified distinct manufacturing-related surface morphologies for each technique. Cast specimens showed features consistent with conventional solidification, whereas milled and SLM specimens exhibited more homogeneous structures. Importantly, no evidence of fatigue-related microcracking or structural failure was detected in any group.

**Conclusion:** Within the limitations of this in-vitro study, Co-Cr clasps fabricated by casting, milling, and selective laser melting demonstrated comparable retentive force and deformation behaviour following simulated long-term clinical use. All three fabrication techniques produced mechanically reliable clasps, supporting the clinical applicability and Consistency of both conventional and digital manufacturing approaches for RPD clasp fabrication.

## Comprehensive Multidisciplinary Management in Oligodontia

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SP07

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**Background:** Oligodontia presents significant functional and aesthetic challenges due to the absence of multiple permanent teeth, often retained deciduous teeth, microdontia and alveolar bone deficiencies, therefore requires long-term multidisciplinary care. Treatment planning must consider patient compliance, growth, and bone preservation to create a stable occlusal scheme to support definitive prosthetic rehabilitation. This case outlines the stages of orthodontic, surgical, and restorative management of a patient with extensive hypodontia, highlighting collaborative decision-making between teams over a prolonged treatment period.

**Patient Information:** A 22-year-old medically fit male was first referred to Luton and Dunstable Hospital in 2013 after identification of several congenitally missing teeth (UR874, UL48, LL8754321, LR12578) and microdontia affecting UR21 and UL12 at age 10. Over subsequent years, retained deciduous teeth were removed in stages

following joint orthodontic–restorative planning to create prosthetically ideal mesio-distal dimensions for future tooth replacement. After successful orthodontic alignment and confirmation of skeletal maturity, definitive replacement options were revisited. Recent CBCT imaging demonstrated a narrow knife-edge ridge in the anterior mandible, classified as Cawood and Howell Classification IV, raising considerations for ridge augmentation prior to implant placement using autologous bone.

**Management and Outcome:** Orthodontic treatment successfully established adequate mesio-distal spacing, notably, a 3-unit space in the lower anterior region, allowing for replacement of the mandibular incisors with implant-supported restorations rather than a cantilevered or tooth-supported prosthesis. During the most recent surgical procedure, the retained lower primary incisors were extracted. The decision was made to bone graft the anterior mandible using a block bone graft harvested from the retromolar region which positioned lingual to the existing ridge to facilitate correct labio-lingual implant placement and to optimise the future emergence profile of the restorations. Implant placement is planned approximately three months following graft integration, guided by restorative planning.

This will be followed by prosthodontic rehabilitation including implant-supported restorations in the anterior mandible, alongside direct or indirect restorative build-up of the microdont maxillary lateral and central incisors to achieve appropriate tooth proportions, symmetry, and anterior guidance. Occlusal planning will focus on establishing mutually protected occlusion, ensuring function whilst minimising damage to the implants and restored teeth.

**Key Learning Points:** Oligodontia requires coordinated, long-term multidisciplinary planning and can be aided by CBCT assessment to provide invaluable information about ridge morphology and grafting potential for prosthodontic-led planning. Autogenous grafts provide predictable ridge augmentation prior to implant placement, providing predictable functional and aesthetic outcomes.

## Restoring Function and Aesthetics in Severe Anterior Tooth Wear: A Prosthodontic Case Report

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SP08

*King's College Dental Hospital*

**Background:** Advanced tooth surface loss in elderly patients can significantly affect aesthetics, comfort, and oral function, often prompting referral for complex restorative care. Treatment planning becomes especially challenging when active pathology and loss of occlusal vertical dimension coexist, highlighting the value of a structured and staged approach. A patient centred treatment plan must be devised to ensure conservation of the patient's dental capital while easing their transition into removable dentures.

**Case Description:** An 81-year-old male was referred for management of advanced tooth wear predominantly affecting his maxillary anterior teeth. His primary concerns were poor aesthetics, pain associated with the upper left canine, and loss of anterior tooth height resulting in saliva spillage. Medical history included arthritis and allergy to antihistamines; he was a non-smoker. Clinical and radiographic examination revealed a swelling and periapical lesion associated with the symptomatic, cracked UL3. There was generalised tooth surface loss into dentine affecting all teeth which was moderate on the posterior teeth and severe on the upper 3-3 teeth with loss of crown height. The UR12 and UL2 were worn to gum level and the UL1 was fractured and lacked adequate ferrule to restore.

**Management:** Initially, a restorability assessment and root canal treatment on the UL3 was necessary to relieve pain and infection. Once the patient was out of pain, I provided detailed oral hygiene advice and demonstrated targeted use of interproximal brushes. The restorative phase began with the UL1 and UR1 being smoothed as overdenture abutments and the lower incisors were smoothed at the incisal edge - primary impressions were then taken. A jaw registration was taken at an increased occlusal vertical dimension, and diagnostic wax-ups of UL34 and UR346 were prescribed. An aesthetic preview using a mock-up and upper partial wax try-in was completed. The UL34 and UR346 were built up in composite and an acrylic upper partial denture was constructed as a transitional denture to allow the patient to acclimatise to the new occlusal vertical dimension. The patient adapted to the acrylic denture successfully and a partial cobalt-chromium denture was constructed. Following fit of the upper chrome prosthesis, some clasp adjustments were carried out at review to improve retention and comfort during function.

**Outcome:** The patient attended a review where he reported improved comfort, function, and aesthetics following delivery of the definitive prosthesis. He was subsequently discharged back to his GDP.

**Conclusion:** This case highlights that rehabilitation of severe tooth wear in elderly patients is not solely a technical challenge but a dynamic process requiring staged intervention, patient adaptation, and ongoing review. The use of teeth otherwise deemed unrestorable as overdenture abutments enabled preservation of alveolar bone and provided psychological benefit by allowing the patient to retain natural tooth roots and proprioception, while simultaneously achieving improved aesthetics with the denture.

## Management of Severe Root Resorption of a Maxillary Central Incisor Secondary to an Ectopic Canine: A Prosthodontic Perspective

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SP09

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### Aims:

- To present a rare orthodontic treatment modality utilising an ectopic canine to replace a permanent central incisor
- To highlight the importance of collaborative interdisciplinary planning and treatment execution to manage such patients
- To discuss why this treatment modality was preferable over alternative fixed restorative treatment options

**Background:** The prevalence of ectopic maxillary canines is reported at approximately 1.5%, with palatal displacement most common. While early interceptive management is well established, ectopic canines associated with severe root resorption of adjacent dentition present a far greater clinical and restorative challenge, particularly in adolescent patients.

**Case:** This case report describes the multidisciplinary management of a 10-year-old male referred with an ectopic UL3 causing significant external root resorption of the UL1, with additional resorption of the UL2. Careful orthodontic, surgical, and restorative planning was necessary to achieve a functional and aesthetic outcome while recognising the long-term prognostic implications.

Following referral, a CBCT confirmed advanced external root resorption of the UL1 and resorption of UL2, without pulpal involvement, secondary to the ectopic UL3. Multiple options were considered, including retention of compromised incisors with acceptance of poor prognosis, orthodontic alignment with delayed tooth loss, and strategic extraction with orthodontic space closure. From a prosthodontic perspective, early extraction of a severely compromised incisor was considered preferable to prolonged retention, likely serial restorative intervention, and premature failure necessitating complex future replacement. A multidisciplinary team approach resulted in a definitive treatment plan involving the extraction of UL1, UR3, the retained ULC, and LL4, LR4, followed by comprehensive fixed appliance therapy. Orthodontic objectives included alignment of UL3 into the UL1 position, disguising the UL3 as the UL1 and U4s as U3s in premolar substitution to achieve acceptable occlusal function. Prosthodontic objectives focused on avoiding early implant placement or fixed prostheses, preserving alveolar bone, and minimising lifelong restorative burden through orthodontic space closure and tooth substitution.

Restorative input as part of the MDT was integral to achieving an acceptable aesthetic outcome. During orthodontic treatment, direct composite build-up of UL3 was carried out to modify tooth form and proportions to resemble a maxillary central incisor. Adhesive restorative techniques were employed using isolation, matrix systems, and layered resin composite, with callipers used to assess symmetry relative to the contralateral incisor. Consideration of the emergence profile prompted further orthodontic refinement to reposition UL3 buccally, reducing bulkiness of the restoration and optimising soft tissue contour.

Post-orthodontic bleaching with 16% carbamide peroxide was undertaken to reduce shade disparity.

**Conclusion:** This case highlights the value of interdisciplinary decision-making in young patients, demonstrating how minimally invasive restorative techniques combined with orthodontic space management can preserve future treatment options, reduce lifelong restorative burden, and deliver a functional and aesthetic outcome despite a compromised initial prognosis.

## Effect of intraoral scanner integration on gateway assessment performance of third year BDS students in fixed prosthodontics.

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SP10

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**Background:** Digital technologies are increasingly integrated into fixed prosthodontics teaching, but their effect on high-stakes analogue assessments remains unclear. This study evaluated whether integrating intraoral scanner (IOS)–supported exercises into a third-year Bachelor of Dental Surgery (BDS3) fixed prosthodontics course influenced gateway performance in crown preparation.

**Aim:** To evaluate the effect of integrating intraoral scanner (IOS) use into a third-year BDS fixed prosthodontics course on students' gateway assessment performance.

**Methods:** Three consecutive BDS3 cohorts were included: two pre-IOS cohorts receiving conventional analogue teaching (2022–2023, 2023–2024) and one IOS cohort (2024–2025) that received additional structured IOS teaching and supervised scanning exercises using Trios 3 scanners (3Shape) before the gateway. The gateway

examination assessed crown preparation on typodont teeth using a standardised rubric, with no digital component. Primary outcome was first-attempt pass/fail percentage; secondary outcome was total gateway mark. Pass rates were compared using chi-square tests, and mean scores using one-way ANOVA with post-hoc comparisons, in line with common approaches in dental education research.

**Results:** Across the three years, first-attempt pass rates increased from 54.2% to 59.2% and 67.6%, and mean first-attempt marks rose from 10.65 to 11.58 and 12.66 on the course scale. The IOS cohort showed a significantly higher first-attempt pass rate than the combined pre-IOS cohorts, and significantly higher mean scores, while the two pre-IOS cohorts did not differ significantly.

**Conclusion:** Introducing IOS-supported preparatory exercises, while retaining a purely analogue crown-preparation gateway, was associated with improved first-attempt pass rates and modest increases in total marks. These findings suggest that IOS can function as a beneficial teaching adjunct to enhance crown-preparation performance in undergraduate fixed prosthodontics.

## Dental Student Knowledge, Understanding and Confidence in the Diagnosis and Management of Erosive Tooth Wear.

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SP11

*Cardiff University*

**Background:** Erosive tooth wear is highly prevalent in the UK and represents a growing clinical challenge due to its multifactorial aetiology and complex management. Despite this, there is limited UK-based evidence evaluating undergraduate dental students' preparedness to examine, diagnose and manage erosive tooth wear. This study aimed to assess the knowledge, understanding and confidence of Cardiff University dental students in the diagnosis, prevention and treatment of erosive tooth wear, and to identify areas of educational strength and weakness within the undergraduate curriculum.

**Methods:** A cross-sectional questionnaire-based study was conducted involving Bachelor of Dental Surgery (BDS) and Dental Therapy and Hygiene (DTH) students at Cardiff University ( $n = 306$ ) between November and December 2023. The survey included closed-ended questions assessing students' knowledge of erosive tooth wear-related learning objectives and understanding of aetiological factors and clinical presentations. Student confidence was evaluated using Likert scale responses linked to three erosive tooth wear cases of increasing clinical complexity. Statistical analysis included Chi-square tests, paired and unpaired t-tests, Pearson's correlation coefficients and two-way ANOVA, with statistical significance set at  $P < 0.05$ .

**Results:** The overall response rate was 38.6% (118/306). Responses were higher among BDS students (39.9%, 113/283) than DTH students (21.7%, 5/23); consequently, DTH responses were excluded from further analysis. Knowledge, understanding and confidence demonstrated significant positive correlations (knowledge-confidence:  $r = 0.80$ ; knowledge-understanding:  $r = 0.50$ ; understanding-confidence:  $r = 0.60$ ;  $P < 0.001$ ). Year group and age were significantly associated with increased knowledge, understanding and confidence ( $P < 0.001$ ).

While students showed good understanding of erosive tooth wear aetiology, misconceptions persisted. Notably, 41.6% of respondents incorrectly identified sugar as an aetiological factor, and confusion between erosion and other forms of tooth

wear was evident across all year groups. Knowledge of clinical guidelines was limited: only 58.4% reported being taught the relevant sections on erosive tooth wear from Delivering Better Oral Health, while fewer than 15% reported being taught the British Society of Restorative Dentistry guidelines. Furthermore, over 85% of students reported not being taught, or were unsure if they had been taught, key examination skills such as saliva secretion measurement, facebook use and radiographic identification of erosive tooth wear.

As case complexity increased, student confidence in treatment planning ( $P = 0.015$ ), case management ( $P < 0.001$ ) and willingness to treat cases independently decreased significantly.

**Conclusion:** This is the first UK study to comprehensively evaluate undergraduate dental students' knowledge, understanding and confidence in managing erosive tooth wear. Although students demonstrated reasonable overall understanding, significant deficiencies were identified in guideline awareness, examination skills and restorative management, particularly for complex cases. These findings highlight the need for targeted curriculum development to better equip future graduates for evidence-based management of erosive tooth wear. Further research should include larger samples of DTH students and extend to other UK dental schools to assess national trends.

## The importance of the light curing step. An investigation of dental light curing units within a teaching dental hospital.

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SP12

*Birmingham Community Healthcare Trust*

**Introduction:** With the gradual withdrawal of dental amalgam, resin-based composite (RBC) has become the material of choice for direct restorations. Successful placement of RBC is highly technique sensitive and depends on multiple factors, including moisture control, material handling, operator technique, and adequate light curing. Despite its importance, the performance of dental light curing units (LCUs) is often assumed rather than verified in routine clinical practice. A lack of awareness of actual LCU irradiance output may result in inadequate polymerisation, compromised restorations, and reduced clinical efficiency. This investigation aimed to assess the irradiance output, maintenance status, and clinical implications of LCUs in use at Birmingham Dental Hospital (BDH), and to compare measured values with manufacturers stated outputs.

**Methods:** All LCUs located in the Restorative (clinics 1–4), Paediatric, and Orthodontic departments at BDH were identified. Irradiance output was measured using a single calibrated dental radiometer (Bluephase Meter II) under standard clinical lighting conditions over three separate days. The Bluephase Meter II was selected due to its validated accuracy when compared with laboratory-grade spectrometry. For each LCU, data were collected on clinic location, manufacturer, model, serial number, commissioning date, service history, storage method, portability, and light-tip diameter. Statistical analysis was performed using one-way analysis of variance (ANOVA) in Minitab v22.1.0.0 to assess differences in irradiance between models, clinics, portability, and device age. LCUs with evident mechanical or optical defects were excluded from statistical analysis and reported separately for clinical action.

**Results:** A total of 71 LCUs were assessed. Only five units achieved mean irradiance values consistent with manufacturers stated minimum outputs. Portable LCUs,

particularly the B.A. Optima 10, demonstrated considerable variability both within and between clinics, with mean irradiance values ranging from 582.8 to 814.0 mW/cm<sup>2</sup>. In contrast, fixed Acteon Miniled units exhibited higher mean irradiance and no statistically significant variation between devices. ANOVA demonstrated statistically significant differences ( $P < 0.05$ ) for all variables assessed, except for irradiance consistency among fixed Acteon Miniled LCUs. A clear reduction in irradiance with increasing device age was observed for B.A. Optima 10 units, with marked deterioration after five years of service.

**Discussion:** The findings indicate that the majority of LCUs at BDH do not deliver the irradiance assumed by manufacturers' recommendations. Based on measured outputs, commonly used curing times were insufficient to achieve an energy density of 20 J/cm<sup>2</sup>, particularly when additional clinical factors such as increased curing distance are considered. While extending curing time may partially compensate for reduced irradiance, this may increase chairside time and the risk of cumulative pulpal temperature rise. Fixed LCUs demonstrated superior reliability and consistency, allowing greater confidence in composite polymerisation.

**Conclusion:** This investigation demonstrates significant variability and underperformance of LCUs within BDH, particularly among portable devices. Routine irradiance monitoring, improved clinician awareness, standardised operating procedures, and planned replacement of ageing portable LCUs are recommended to optimise composite curing, reduce restoration failure, and improve patient outcomes.

## Manchester University Dental Hospital Cleft Lip and Palate (CLP) Service Evaluation.

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SP13

*Manchester University Dental Hospital*

**Background:** Cleft lip and/or palate (CLP) is a common congenital condition associated with a wide range of functional, aesthetic and dental challenges. Individuals with CLP frequently present with dental anomalies such as hypodontia, altered tooth morphology and compromised alveolar bone, requiring complex restorative input across the lifespan. Management is delivered within a multidisciplinary cleft service, with restorative dentistry playing a key role in supporting oral function, aesthetics and long-term dental health, particularly as patients transition into adulthood or re-enter services as adult returner patients.

The Manchester Cleft Service forms part of the North West England, Isle of Man and North Wales Cleft Network and provides ongoing care for a large and diverse patient population. Understanding how restorative services are accessed, delivered and staffed within this setting is essential to ensure effective, equitable and sustainable care. This service evaluation aimed to characterise patient demographics, referral pathways, treatment provision and staff involvement within the restorative component of the cleft service, to inform future service planning and quality improvement.

**Aim:** To evaluate the current service provision of restorative care for patients with cleft lip and palate (CLP) at Manchester University Dental Hospital, and to establish a benchmark for future service evaluation within the North West.

**Methods:** A shared patient list was created between the two restorative consultants delivering the CLP service. All restorative CLP patients recorded on the Hive electronic

system from 2022 onwards were included. Demographic data, referral pathways, cleft type, treatment needs, care delivered, and staff involvement were extracted and analysed. Descriptive analysis was performed using Microsoft Excel, with graphical representation of results.

**Results:** 91 patients treated between 2022 and 2025 were analysed. Females comprised 51% of referrals, with White British ethnicity predominating (75.8%). The most common age group was 15–20 years, and most patients resided in Greater Manchester or Cheshire (63.7%). Referrals originated primarily from the Orthodontic Department at Royal Manchester Children’s Hospital (52.7%), followed by general dental practitioners (GDP) (20.9%); 73.6% of patients were registered with a GDP.

Adult returner patients represented 54.9% of the cohort. Unilateral cleft lip and palate was the most prevalent cleft type (69.2%). The principal reasons for referral were aesthetic concerns (75.8%) and functional improvement (28.6%), with dissatisfaction with appearance cited by 78.0% of patients. Common treatments included removable dentures (25.8%), resin-bonded bridges (18.3%), and composite additions (15.0%). Most patients were treated exclusively by consultants (92%), with 61.5% also accessing care from other cleft team specialties, most frequently Speech and Language Therapy.

**Conclusion:** This evaluation highlights a diverse CLP population with predominantly aesthetic-driven treatment needs. While consultant-led care predominates, selected treatments may be suitable for delegation to training restorative dentists. Ongoing data collection will support future service development and longitudinal comparison.

## Enhancing Clinical Documentation and Consent in Complex Prosthodontics: A Qualitative Pilot Study of AI-Transcription in Treatment Planning.

**Oliver Cunningham**

SP14

*Broadway Dental Surgery*

**Introduction:** Prosthodontic rehabilitation involves complex decision-making, where clinicians must navigate diverse treatment options ranging from removable prostheses to implant-supported restorations. Ensuring robust informed consent and accurate documentation of these intricate discussions is paramount for patient safety and medicolegal protection. However, the administrative burden of traditional note-taking often creates a cognitive bottleneck during clinical consultations. The emergence of AI and automated transcription services offers a potential solution. This pilot study investigates the user experiences of dental practitioners utilising AI-transcription software during complex prosthodontic treatment planning sessions, focusing on how digital transformation can support communication and legal compliance.

**Methods:** A qualitative pilot study was conducted using semi-structured interviews with ten dental professionals (D1–D10), including foundation trainees and associates. Participants were recruited via purposive and snowball sampling from varied clinical settings within the NHS. The focus was the practical application of AI-transcription tools during patient discussions involving treatment options, risks, and consent procedures for prosthodontic work. Data were analysed using reflexive thematic analysis according to Braun and Clarke’s (2020) framework. This methodology allowed for identification of deep-seated experiences regarding the software’s impact on clinical flow, record quality, and dental team efficiency.

**Results:** Analysis revealed four dominant themes. First, Clinical Nuance and Accuracy: AI-transcription successfully captured the intricacies of prosthodontic jargon and specific patient preferences that standard templates often overlook. Second, The Passive Digital Observer: Practitioners described the software as a supportive presence that provided significant medicolegal fortification during consent discussions, particularly for irreversible procedures. Third, Reduction in Cognitive Load: The automated tool allowed clinicians to maintain better eye contact and engagement with patients, fostering a patient-centered approach. Finally, Barriers to Digital Adoption: Participants noted initial apprehensions regarding GDPR, hardware procurement, data privacy and adapting current behavioural workflows.

**Discussion:** The results suggest that AI-transcription significantly enhances clinical methodology in prosthodontics. By accurately documenting the underlying clinical rationale and prognostic justifications for treatment choices, it provides a superior medicolegal audit trail compared to traditional methods. Furthermore, it addresses the specific needs of prosthodontists who require detailed accounts of risk-benefit discussions. While the pilot demonstrated clear clinical benefits, addressing the behavioural barriers to adoption remains critical. Overcoming initial GDPR-related hesitation and ensuring the availability of necessary hardware are steps for implementation. The transition to AI-supported documentation represents a major educational research opportunity, particularly for early-career dentists learning to manage complex consultations while maintaining high standards.

**Conclusion:** AI-transcription represents a transformative clinical tool for prosthodontics, offering enhanced precision in documenting complex treatment planning and consent. This study indicates the barriers and benefits to clinical efficiency and medicolegal security. Future implementation strategies should focus on supporting the behavioural transition and addressing hardware procurement to unlock the full potential of digital documentation in primary dental care. This research provides a foundation for broader adoption of AI-driven methodologies in specialised dental fields, ensuring that the next generation of practitioners can deliver high-quality care with increased professional integrity, enhanced clinical confidence, and clinical documentation standards for all patients requiring advanced prosthodontic care within the digital landscape.

## Clinical Practice Guidelines and Current Literature on Non-Operative Management strategies for managing Erosive Tooth Wear- An Umbrella Review.

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SP15

*NHS Wales*

**Aims and Objectives:** This umbrella review aims to provide a comprehensive overview and appraise current clinical practice guidelines (CPGs), systematic reviews (SRs) and meta-analyses (MA) on the non-operative management of ETW to highlight discrepancies and consensus between them.

**Background:** Erosive tooth wear (ETW) is a prevalent dental condition causing irreversible tooth surface loss, caused by acid dissolution excluding bacterial acids. ETW develops due to multifactorial aetiologies, leading to dentine hypersensitivity and functional and aesthetic complications if not managed effectively.

**Methodology:** A systematic search was conducted until March 2024 using the Preferred Reporting Items for Systematic Reviews and Meta-analysis (PRISMA)

statement. SR abstracts were reviewed according to the inclusion and exclusion criteria, data was extracted and risk of bias was assessed using the ROBIS tool.

**Results:** From the systematic search, 24 SRs and 10 CPGs met the eligibility criteria. 14 SRs had low risk of bias, five had unclear risk and five had high risk of bias. CPGs showed consensus on obtaining patient histories, clinical examination, dietary analysis and counselling, clinical indices and remineralisation agent application. CPGs recommended sodium fluoride (NaF), amine fluoride (AmF), stannous fluoride (SnF<sub>2</sub>) and casein phosphopeptide-amorphous calcium phosphate (CPP-ACP) application and NaF was the most recommended remineralisation agent. However, SRs consistently demonstrated varied effectiveness of different remineralisation agent types, with SnF<sub>2</sub> showing superior effectiveness.

**Conclusion:** This umbrella review identified significant discrepancies between current CPGs and SRs. A generalised consensus exists among CPGs on obtaining detailed patient histories, clinical examination, dietary analysis and counselling, using clinical indices and remineralisation agent application. Overall, types of remineralisation agents, clinical indices and overall preventative management significantly varied and CPGs lacked detailed guidance on non-operative strategies. CPGs recommended the application of NaF, AmF, SnF<sub>2</sub> and CPP-ACP however, SRs demonstrated varied effectiveness of these agents, with SnF<sub>2</sub> showing superior effectiveness. Overall, there is insufficient evidence to draw definitive conclusions on non-operative management strategies.

## A qualitative study of patient experiences of dentofacial adverse effects after proton therapy.

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SP16

*Manchester University NHS Foundation Trust*

**Background and Aims:** It is understandable that at the point of cancer diagnosis, a patient's and their guardian's, if applicable, principal focus is on survival. However, with childhood head and neck (HN) cancer survival rates increasing, patient focus is shifting towards managing treatment-related late adverse effects (AE). Proton beam therapy (PBT), a type of radiotherapy, offers a theoretical reduction in AE in childhood HN cancer patients. The development of the teeth and jaws in this population, however, presents many unanswered questions. To understand both the presence and implications of AE to dentofacial development, the perspectives of HN childhood cancer survivors (CCS) and/or their families was explored in a qualitative study. The voices of individuals with lived experiences of having and supporting a loved one with this diagnosis and treatment are fundamental in prioritising and designing research. With this in mind, a secondary objective of establishing a patient advisory group to support the study was set.

**Methods:** DENTOFACIAL-PBT is a multi-stage, multi-site, mixed-methods study examining AE to dentofacial development in UK HN-CCS treated with PBT. In stage 1, the perspectives on the impact of PBT on dentofacial development was explored via virtual semi-structured interviews. 10 interviews were conducted by the first author with five HN-CCS [aged 16 – 20], one HN-CCS aged 12 alongside her mother, and four parents of HN-CCS [aged 9 – 15] who participated alone. Recruitment posters were limited to key areas in three large hospitals in England and a convenience sampling approach was adopted. Audio recordings of interviews were transcribed, and reflexive

thematic analysis was performed. Transcripts were manually coded and grouped into themes and sub-themes.

**Results:** Data was garnered from 10 participant interviews lasting between 20 - 70 minutes with HN-CCS [age at treatment range: 2.8 – 15] both independently and alongside parents, and with parents on their own. The following themes were generated: knowledge is power (preparedness, timing), no man's land (isolation, connection, survivor's guilt), fear of the unknown (parental anxiety, 'a difference'), late effect navigation (personalisation, survivor curiosity, 'a coordinator') and trust (trust in the oncology team and PBT, navigating dental concerns). This study has allowed patient and parent perspectives to be incorporated into a feasibility study protocol. Furthermore, the development of a patient advisory group has and continues to support co-production.

**Conclusions:** This study has enhanced our understandings of patient and parental perspectives and highlighted priorities and challenges facing both patients and clinicians in the world of dentofacial AE. Striking the balance between imposing fear and supporting a patient and/or their guardian in being fully informed remains a challenge. However, this study highlighted how HN-CCS want to be involved in the conversation and want to develop support networks. Within the speciality of Restorative Dentistry, we are often faced with adult HN-CCS with dentofacial AE, which can present numerous clinical challenges. It is important that we maintain and develop collaborating working links with oncology teams to develop knowledge and support survivorship care of this cohort.

## Treatment complexity in undergraduate removable prosthodontic clinics in Glasgow University.

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SP17

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**Background and Aim:** Dental students at Glasgow Dental School have removable prosthodontic clinics during BDS years 3 and 4. Anecdotally, patients on these clinics have increasingly complex prosthodontic and patient-management needs. This study, part of a larger Quality Improvement Project (QIP) aims to objectively assess the complexity (tier) of treatment being completed by the students on these clinics.

**Methods:** The dental records of all patients treated on the undergraduate removable prosthodontic clinics in a two-week period (17/11/25-28/11/25) were reviewed by one of the authors and allocated to a treatment tier.

Partial denture cases were allocated using the RCS(Eng) restorative dentistry index of treatment need guidelines as follows: Tier 2: prostheses contributing to anterior guidance; free end saddles with differential support; cases requiring tooth modification and/or issues with path of insertion. Tier 3: implant retained prostheses.

For edentulous patients all cases referred for secondary care, seen and subsequently allocated by a consultant to student clinics were considered tier 2. Cases referred by GDPs to students were also considered tier 2 if the GDP had made dentures which the patient was not happy with. These cases were not able to be treated in primary care and thus go beyond tier 1 treatment. Self-referrals and referrals from non-prosthodontic consultant clinics were considered tier 1. Edentulous patients with implant retained prostheses ranked tier 3.

### Results:

- 176 patients were treated with BDS3 treating 68 and BDS4 treating 108.
- 55 cases (31%) were tier 1, 114 cases (65%) were tier 2 and 7 (4%) were tier 3.
- For BDS3: 18 cases (26%) were tier 1, 49 cases (72%) were tier 2 and 1 case (2%) was tier 3
- For BDS4: 36 cases (33%) were tier 1, 66 cases (61%) were tier 2 and 6 cases (6%) were tier 3.
- All tier 3 cases were implant retained complete lower dentures.

**Discussion:** Whilst the majority of patients being provided with dentures are tier 2, the clinics are supervised by either specialists or practitioners with a specific interest in removable prosthodontics. With a maximum staff:student ratio of 1:6 and most students seeing only one patient per session it is possible to deliver tier 2 levels of care for patients. A formal review of patient reported outcome measures would help to confirm this.

At present the allocation of patients to the different year groups does not consider treatment complexity. However, the next stage of the QIP is to review how the waiting lists are managed to enable administration staff to allocate the less complex cases to BDS 3. For example self-referred cases could be prioritised for BDS 3.

Some self-referred cases will meet tier 2 criteria, but as they were not clinically reviewed, they were globally allocated to tier 1 and there is likely underreporting of tier 2 cases.

**Conclusions:** BDS student clinics are providing a substantial amount of tier 2 care. By providing this care BDS students are supplementing NHS service provision at a time when demand for Tier 2 provision in removable prosthodontics outstrips capacity.

## Restorative and Prosthetic Challenges in Oral Cancer Patients : A Narrative Review

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SP18

*Trinity College Dublin*

Oral cancer treatment frequently causes complex functional and anatomical changes that affect restorative and prosthetic rehabilitation. Surgery, radiotherapy, and chemotherapy, used alone or in combination, can result in complications such as trismus, hyposalivation, mucositis, osteoradionecrosis, altered oral anatomy, and microstomia. These sequelae create ongoing challenges for clinicians and have a significant impact on patient function, comfort, and quality of life.

This poster presents a narrative review of the restorative and prosthetic challenges encountered in oral cancer patients. It is submitted in application for the Schottlander Poster Prize. The review is informed by current literature and clinical experience within a specialist hospital setting. Particular emphasis is placed on how treatment-related complications influence clinical decision-making, prosthesis design, retention, stability, tolerance, and long-term prognosis.

Common clinical scenarios are explored, including difficulty with impression making due to restricted oral access, compromised denture retention secondary to xerostomia, increased risk of mucosal trauma in irradiated tissues, and the limitations of conventional removable prostheses following extensive surgical reconstruction.

The importance of early dental involvement and multidisciplinary planning is highlighted. Preventive strategies prior to oncological treatment are discussed, alongside the role of ongoing supportive care. Prosthodontic approaches such as sectional dentures, obturators, implant-supported prostheses, and modified impression techniques are reviewed as ways to overcome anatomical and functional limitations.

Restorative and prosthetic rehabilitation in oral cancer patients must be highly individualised. Treatment should balance functional demands, biological risk, and patient tolerance. Successful outcomes depend on careful planning, appropriate timing of intervention, and close collaboration between restorative dentists, surgeons, oncologists, and allied healthcare professionals. By outlining common challenges and practical rehabilitative considerations, this poster aims to promote a patient-centered approach that prioritises long-term function, comfort, and quality of life following oral cancer treatment.

## Rebuilding Identity After Cancer: A Multidisciplinary Approach to Implant-Retained Maxillofacial Prosthetics

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SP19

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A 51-year-old female with a history of midline nasal floor squamous cell carcinoma (SCC) underwent radical surgical management, including subtotal rhinectomy and anterior maxillectomy (canine-to-canine), in September 2011. Postoperatively, she developed upper lip retraction and a persistent oronasal fistula. Adjunctive chemoradiotherapy was not required. In March 2013, she underwent tracheostomy, neck access, and reconstruction with a composite fibula free flap and split-thickness skin graft at the Queen Elizabeth Hospital Birmingham, Oral and Maxillofacial Surgery department. Subsequent rehabilitation included placement of dental implants in the fibula neo-maxilla and nasal implants in the pyriform aperture region in July 2015. These implants were used to provide retention for both a nasal prosthesis and an oral prosthesis.

A multidisciplinary team comprising an OMFS Head and Neck consultant, a Restorative consultant, and a Consultant Clinical Reconstructive Scientist collaboratively planned treatment. Innovative digital planning and custom surgical guides were employed to place four dental and nasal implants via an intra-oral approach, thereby minimising the surface area of de-epithelialised fibula flap required during implant placement.

Prior to the reconstructive procedure in 2015, the patient experienced instability of an upper partial denture and a poor aesthetic outcome, including a high lip line secondary to post-surgical scarring and upper lip retraction. She also suffered from multiple comorbidities related to the oronasal communication, including nasal leakage, difficulty with eating, drinking, and speech impairment.

These issues had a profound negative impact on the patient's quality of life, rendering her largely housebound with reduced confidence in daily activities following cancer treatment. Following placement of the dental and nasal implants, she was provided with a new magnet retained nasal prosthesis and a stud locator retained dental obturator to restore missing dentition. Pre- and post-operative clinical photographs demonstrate a significant and life-changing improvement in both aesthetic and functional outcomes. While oncological surgery was life-saving, reconstructive head and neck surgery restored a quality of life worth living.

## Comprehensive Management of Anterior Aesthetics in a Young Patient

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SP20

*Royal London Dental Hospital*

A 19-year-old female patient was seen for the comprehensive management of failing restorations, and for the management of her anterior aesthetics. Her medical history is complicated with meningitis as a baby resulting in developmental abnormalities, and facial skin grafts being required, as such the patient had significant facial scarring and a negative outlook on her facial appearance. Although she wished for an aesthetic improvement, she had distrust in dentistry and was concerned as to what could be provided.

In the initial phase patient management was key, with her requiring motivation and building a good rapport to gain trust before more complex treatment could be attempted. This was one of the biggest challenges in this case, success at which allowed a comprehensive dental rehabilitation to be completed.

The patient had poorly contoured and leaking restorations on her UR1/UL1 which were compromised with reduced tooth structure and a pin retained restoration on the UL1. The UR2 was diminutive with unusual morphology in a talon cusp. Additional to this the patient's oral hygiene was suboptimal with caries on the LL5 and LL6, and endodontic involvement. The patient queried whether her medical history may have impacted the development of her anterior teeth, though this could not be fully ascertained with certainty the upper anterior teeth showed signs of developmental defects. The patient's periodontal health was poor at presentation with generalised bleeding on probing with visible plaque and calculus deposits.

The initial treatment plan for the patient consisted of a comprehensive preventative regime including diet assessment and oral hygiene instruction. The second phase was management of the primary disease with management of the LL56 including endodontic treatment and cuspal coverage restorations (emax onlays). The upper anterior teeth were restorability assessed, a diagnostic wax up completed and restored with direct composite resin utilising an injection moulding technique. The aesthetic alterations were significant for the patient and resulted in a much-improved facial and dental appearance. The benefits of this are both functional and psychological. This case highlights how a comprehensive management plan with the use of prosthodontic, periodontal and endodontic treatment, alongside improved patient compliance can result in a good aesthetic and functional outcomes for a young patient.

## Polyps, Prosthodontics, and Patient-Centred Care: Complete Denture Rehabilitation in a Patient with Cowden Syndrome

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SP21

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**Aims:** To present the prosthodontic management of an edentulous patient with Cowden syndrome and complex oral anatomy. To highlight the importance of phased treatment planning and mucosal stabilisation to improve long-term prosthodontic success.

**Introduction:** Cowden syndrome is a rare autosomal dominant condition characterised by multiple hamartomas and mucocutaneous lesions. Oral mucosa is significantly affected, with extensive nodular, papillomatous, and polypoid changes. These features can complicate comfort, retention, stability, and long-term success of removable prostheses. Limited guidance exists regarding prosthodontic rehabilitation in edentulous patients with Cowden syndrome. This case report presents a structured clinical workflow demonstrating successful complete denture provision in a patient with complex oral soft tissue anatomy.

**Case:** A 67-year-old male with Cowden syndrome was referred with significant discomfort and extensive papillomatous changes affecting their oral mucosa. The patient had been edentulous since age 14 and had worn the same maxillary and mandibular complete dentures for over 40 years. The patient reported oral soreness, alongside poor denture retention and function.

Clinical examination revealed nodular upper and lower ridges with multiple soft tissue polyps. The maxillary anterior flabby ridge was inflamed, consistent with denture stomatitis. The existing dentures no longer provided an appropriate occlusal vertical dimension or facial support, resulting in overclosure and angular cheilitis. Proceeding with definitive prosthodontic treatment was contraindicated due to mucosal inflammation.

**Stabilisation Phase:** Stabilisation of oral mucosa was required to improve comfort and prosthodontic outcomes. Tailored oral and denture hygiene instructions were provided to reduce bacterial and candidal colonisation. The patient's existing dentures were relined with a soft tissue conditioner to reduce mucosal trauma and support healing. Definitive prosthodontic treatment commenced once mucosal inflammation had sufficiently resolved.

**Definitive Prosthodontic Management:** Conventional complete denture techniques were adapted for the patient's complex ridge anatomy. Primary impressions were taken using a muco-compressive technique to accommodate the prominent nodular ridges. Secondary trays were designed to relieve and accurately record the anterior flabby ridge in a minimally displaced position, aiming to improve denture stability and reduce ridge trauma.

Jaw registration re-established an appropriate occlusal vertical dimension to restore facial profile and correct overclosure. At try-in, denture stability, occlusion and speech were assessed prior to processing. Definitive maxillary and mandibular complete dentures were fitted with an emphasis on patient comfort and function.

**Review and Maintenance:** Given the complex oral soft tissue anatomy, the patient was placed under close review to monitor tissue response to the new prostheses. Follow-up assessed mucosal health and denture fit, revealing the need for more frequent adjustments and relines than a conventional complete denture patient. Ongoing monitoring aimed to support long-term tissue health and prosthodontic success.

**Conclusion:** This case emphasises the importance of phased treatment planning, including tissue stabilisation and preventive care, prior to definitive prosthodontic rehabilitation in patients with complex oral soft tissue conditions. Through a patient-centred approach, tailored denture techniques and ongoing maintenance, predictable, functional, and long-lasting outcomes can be achieved in complex prosthodontic cases.

## Multidisciplinary Management of a patient with Multiple Unerupted Teeth and Localised Bony Changes in the Mandibular Right Quadrant

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SP22

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**Background:** Unusual patterns of bone development causing multiple unerupted teeth in a young patient are rare and can be diagnostically complex. Managing such cases requires multidisciplinary approach between orthodontics, surgery, radiology, and restorative dentist to reach an accurate diagnosis and develop a long-term plan for function and appearance.

**Case Overview:** A patient was referred by their general dentist due to several unerupted teeth in the lower right jaw. The patient was otherwise symptom-free but showed a skeletal Class I relationship with a Class II Division 2 malocclusion. Radiographs revealed multiple unerupted teeth and an unusual bone appearance in the lower right quadrant. Initial differential diagnoses included fibrous dysplasia and localised sclerosing osteomyelitis. However, biopsy confirmed normal lamellar bone, and parathyroid hormone levels were within normal limits.

The patient's main concerns were the absence of lower right teeth (LR2–5) and mild facial asymmetry with the chin deviating to the right. Orthodontic intrusion of the upper right teeth (UR3–5) was carried out to recreate restorative space lost due to overeruption. Once the occlusal plane was corrected, mandibular recontouring surgery was performed to improve symmetry and prepare the site for restoration. Dental implants were subsequently placed in the LR4 and LR5 regions, achieving a stable and aesthetic result.

**Conclusion:** This case highlights the importance of comprehensive investigation and collaborative planning in the management of developmental bone variations in young patients. Early diagnosis and coordinated orthodontic–restorative treatment can achieve functional and aesthetic success, even in cases with atypical bone morphology.

## A case report: The influence of denture treatment on dietary patterns in a Diabetes Mellitus patient.

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SP23

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Tooth loss is a life-changing experience, not only physically but also psychologically. Among the many causes of tooth loss, certain systemic conditions, such as diabetes mellitus, significantly impair periodontal health, often resulting in multiple tooth loss. A critical concern for these patients is that upon losing their teeth, they are prone to choosing a soft diet to compensate for their impaired masticatory performance. This leads to a vicious cycle that aggravates their general condition. Highly processed, soft diets tend to be rapidly absorbed, triggering glycaemic spikes; the repetition of these conditions exacerbates the diabetic state and further worsens periodontal health.

Restoring a patient's dentition can normalise dietary patterns, and consuming healthy food can help control glucose levels. Therefore, restoring a patient's dentition should be regarded as a first-line intervention to interrupt this vicious cycle.

The present clinical case reports an observational record of how restored dentition influenced a patient's diet. The patient presented with a totally edentulous maxilla and a partially edentulous mandible. The patient had been suffering from severe acute diabetes mellitus, and due to the serial loss of teeth, previously made dentures had not been used for years. The patient was instructed to maintain a diet diary before and after the denture insertion to monitor dietary patterns, and blood glucose levels were compared. The records revealed a significant improvement in both dietary patterns and the stability of blood glucose levels. This case implies the effectiveness of prosthetic treatments for patients with diabetes mellitus. In this regard, dental professionals should be integrated into multidisciplinary teams for diabetes management to ensure holistic patient care.

## All-on-4 Implant Rehabilitation for a Severely Resorbed Mandible: A Case Report

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SP24

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**Aims:** To highlight a case utilising the all on 4 concept to restore an edentulous mandible with complex anatomy.

**Case:** A 64-year-old female patient was referred with a main complaint of a loose lower denture. She was unhappy with the denture as it was unstable and affected her eating, speech, and confidence. She had previously received four lower dentures; however, all of them failed due to severe ridge resorption. The patient was keen to have a fixed option if possible. Her past medical history included controlled hypertension.

Clinical and radiographic examination showed severe mandibular ridge resorption. On radiographic examination, the mental foramina were noted to be very close to the crest of the ridge, making implant placement more challenging and further conventional denture treatment unpredictable. After discussing all available treatment options with the patient, including the risks and benefits, a decision was made to rehabilitate the mandible using the All-on-4 implant concept. This option was chosen to maximise support, increase anteroposterior spread while avoiding the mental nerve and without the need for bone grafting.

Four implants were placed in the interforaminal region. The posterior implants were tilted 30 degree to increase the anteroposterior spread and to improve prosthetic support. Multi-unit abutments were connected at the time of surgery, and good primary stability was achieved for all implants. Immediate temporisation was carried out using the patient's own lower denture, which was modified chairside and converted into a provisional fixed restoration on the same day.

The patient was reviewed at one week, two weeks, and one month post-operatively. Healing was uneventful, and no biological or mechanical complications were noted. The patient reported a significant improvement in stability, comfort, and chewing ability compared to her previous dentures. She also expressed high satisfaction with the outcome and improved self-confidence.

Unfortunately, due to the war situation, long-term follow-up was limited. However, an orthopantomogram taken in April 2025 showed stable implant positioning with no signs of peri-implant bone loss or pathology. The patient is currently in the final prosthetic

stage under the care of a prosthodontist. Written patient consent was obtained for the use of clinical photographs and radiographs for academic purposes.

**Conclusion:** This case demonstrates that the All-on-4 concept can be a reliable and effective treatment option for patients with a severely resorbed mandible, particularly when the mental foramina are close to the ridge crest and conventional denture treatment has failed. Immediate temporisation using the patient's existing denture provided rapid functional and psychological benefits. Despite limited long-term follow-up, radiographic findings showed stable outcomes. Careful planning and appropriate patient selection remain essential for success.

## Management of Fluorosis

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SP25

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**Introduction:** Dental fluorosis is a developmental disturbance of enamel caused by excessive fluoride ingestion during tooth development. It results in varying degrees of enamel hypomineralisation, ranging from mild white opacities to severe brown staining and surface irregularities. Fluorosis can lead to aesthetic concerns and may negatively impact psychosocial wellbeing. Management often requires a staged approach to preserve tooth structure whilst achieving acceptable aesthetic outcomes.

**Case Presentation:** A 22-year-old female patient was seen at the Royal London Dental Hospital regarding dissatisfaction with the colour of her teeth. Medically she had cerebral palsy and learning difficulties. The patient reported aesthetic concerns affecting her confidence and social interactions. She had grown up in Somalia, where there are naturally increased fluoride levels in drinking water.

Clinical examination revealed generalised enamel white and brown lesions and mottling, predominantly affecting the upper incisors. There was an increased overjet and overbite, alongside incompetent lips, contributing to increased visibility of the maxillary anterior teeth and possibly a contributory factor of discolouration from environmental factors.

**Management and Outcome:** Treatment planning focused on stabilising periodontal health and addressing aesthetic concerns using a minimally invasive approach. Initial management involved comprehensive periodontal stabilisation, including oral hygiene instruction tailored to the patient's dexterity needs, and full mouth supra and subgingival scaling. This phase aimed to establish a stable periodontal environment and remove any surface staining contributing to the discolouration.

Following periodontal improvement, a combination of minimally invasive aesthetic procedures was undertaken. Enamel microabrasion was performed to reduce the brown discolouration. This was followed by external tooth bleaching to improve overall tooth shade and reduce contrast between affected and unaffected enamel. Resin infiltration using the ICON system was subsequently carried out to mask residual white spot lesions, by altering the refractive index of hypomineralised enamel. Finally, conservative composite restorations were placed to improve the contour of the teeth.

The combined treatment approach resulted in significant aesthetic improvement whilst preserving tooth structure. The patient reported high levels of satisfaction with the outcome and demonstrated improved confidence.

**Conclusion:** This case demonstrates the successful management of dental fluorosis in a medically complex patient using a combination of minimally invasive techniques. The integration of periodontal stabilisation, microabrasion, bleaching, and resin infiltration provided effective aesthetic rehabilitation using a minimally invasive approach.

## Clinical exposure and confidence in occlusal assessment among Leeds dental undergraduates: a cross-sectional survey

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SP26

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**Introduction:** Occlusal assessment is integral to prosthodontic and restorative diagnosis, planning, and delivery. Translating occlusal concepts into consistent chairside assessment can be challenging for undergraduates. This study evaluated Leeds dental students' exposure to occlusal assessment techniques, self-reported confidence, and perceived gaps in training and feedback.

**Methodology:** A quantitative cross-sectional online questionnaire was distributed to all Year 3–5 students at the University of Leeds (n=288). The survey captured: (i) exposure to specified occlusal assessment techniques; (ii) confidence for each technique using a 4-point Likert scale (1=very confident; 4=not confident at all); and (iii) perceived barriers. Data was analysed using descriptive statistics and non-parametric tests.

**Results:** Fifty-one students responded (17.7%): Year 3 n=15 (29%), Year 4 n=10 (20%), and Year 5 n=26 (51%). Exposure was highest for routinely used methods (articulating paper 88%; incisal classification 76%) and lower for techniques more commonly required in complex occlusal evaluation (lateral guidance 67%; retruded contact position (RCP) 53%; shimstock 31%; fremitus 25%; facebow 18%; occlusal indicator wax 12%). Confidence broadly reflected exposure: articulating paper had the highest confidence (mean 1.59, SD 0.67), whereas facebow use (mean 3.57, SD 0.61), occlusal indicator wax (mean 3.33, SD 0.71) and shimstock (mean 3.04, SD 0.89) were the lowest. Overall, 53% (n=27) felt unprepared to assess occlusion; 43% (n=22) reported formal training, and 57% (n=29) reported none. Feedback was reported as "always/often" by 41% (n=21) and "rarely/never" by 59% (n=30). The most commonly reported barriers were lack of confidence and difficulty translating theory to clinic (both 71%, n=36), followed by insufficient training (69%, n=35); lack of time was least reported (12%, n=6). Confidence in assessing occlusion in complex conditions differed by year group (H=9.91, p=0.007), with Year 5 higher than Year 3 (p=0.005), but progression was not linear.

**Discussion:** Low confidence clustered around advanced techniques relevant to prosthodontic diagnosis and planning and aligned with limited reported exposure, suggesting that confidence may be driven by opportunities for supervised clinical application rather than theoretical teaching alone. The high proportion reporting no formal training and infrequent feedback indicates inconsistent reinforcement within clinical teaching. Interpretation is constrained by the single-institution, cross-sectional design, modest response rate, and self-reported outcomes, which may not reflect objective competence. Future work should use larger multi-centre and longitudinal designs, incorporate qualitative student and staff perspectives, and triangulate confidence with objective competency measures.

**Conclusion:** Undergraduate dental students exhibit variable confidence in occlusal assessment, particularly in advanced techniques, possibly due to limited hands-on experience. While aligning with broader concerns about occlusion education, this study offers new insights by focusing on students' reported experiences. The findings suggest that strengthening occlusion teaching could help bridge gaps in student confidence and clinical preparedness at the University of Leeds.

## Prosthodontic and Surgical Considerations of Integrating Pterygoid Implants in Zygomatic Full-Arch Rehabilitation

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SP27

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Rehabilitation of the severely atrophic maxilla using zygomatic implants is a well-established surgical solution, however significant prosthodontic challenges remain, particularly in relation to anteroposterior (A–P) spread, cantilever management, framework design, and long-term hygiene access. Increasingly, attention has shifted toward prosthodontically driven refinements of established zygomatic protocols to improve biomechanical load distribution and restorative predictability in full-arch implant rehabilitation.

From a prosthodontic perspective, incorporation of pterygoid implants represents a valuable adjunct to zygomatic implant protocols. By providing posterior anchorage distal to the maxillary sinus, pterygoid implants increase the effective A–P spread of the implant distribution and eliminate distal cantilevers. This has important restorative implications, such as enabling more predictable occlusal scheme design.

The reduction of cantilever length is of particular biomechanical relevance. As cantilever length increases, bending moments and prosthetic forces rise disproportionately. Rodriguez et al. demonstrated a 213% increase in abutment strain associated with a 20 mm cantilever compared to no cantilever. Clinically, excessive cantilevers have been associated with abutment loosening, component or implant fracture, marginal bone loss, and, in some cases, implant failure. The integration of posterior pterygoid anchorage addresses these risks by repositioning functional load.

From a surgical standpoint, the addition of pterygoid implants facilitates a more parallel implant placement configuration compared with the “A-frame” distribution often required when posterior support is provided solely by zygomatic implants. This may reduce reliance on extended prosthetic cantilevers and aggressive zygomatic positioning. Furthermore, pterygoid implant placement avoids the need for sinus augmentation procedures in severely atrophic posterior maxillae, potentially reducing surgical morbidity, treatment time, and procedural complexity.

Engagement of dense cortical bone within the pterygoid region frequently allows achievement of high primary stability, with composite insertion torque values commonly in the region of 120ncm, supporting immediate loading protocols. In addition, pterygoid implants may function as rescue or adjunctive implants in cases of compromised posterior support or unexpected intraoperative limitations, providing valuable surgical and prosthodontic flexibility in complex full-arch reconstructions.

Enhanced posterior support also may improve prosthodontic outcomes in patients with high or broad smile lines, allowing more favourable prosthesis aesthetics.

Despite the prosthodontic and biomechanical advantages associated with posterior implant integration, specific prosthodontic complications must also be considered. Prosthesis design in full-arch implant rehabilitation, particularly when extending posteriorly, may compromise hygiene access if contours are over-bulked. In addition, posterior implant placement may introduce occlusal challenges, including premature contact with opposing mandibular second and third molars. In some cases, this may necessitate selective occlusal adjustment or extraction of these teeth to allow adequate restorative space. These considerations highlight the importance of prosthodontically driven treatment planning, careful occlusal analysis, and interdisciplinary decision-making to minimise complications and optimise long-term outcomes.

This poster aims to illustrate how integration of pterygoid implants into zygomatic protocols represents a prosthodontically driven refinement rather than a replacement of established techniques, with potential benefits in biomechanics, restorability, and long-term maintenance.

## RP3D: Creating a 3D Digital Library for Denture Design Education

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SP28

*University Of Birmingham*

**Introduction:** Removable partial dentures (RPDs) continue to be a relevant treatment modality to replace missing or lost teeth. RPDs restore function and improve aesthetics, whilst simultaneously being generally well tolerated by patients. The success of an RPD is contingent on the correct design and execution, a task which undergraduate students and qualified professionals find difficult and daunting depending on their experience levels.

Traditionally, students are taught denture design through lectures, 2D images, and limited demonstrations on physical models by clinical teachers. These limitations can reduce students' spatial understanding of design concepts and can also be associated with decreased confidence when applying knowledge to clinical scenarios. The aims of this study were to design and develop an interactive 3-dimensional library of clinical cases of partially dentate patients and evaluate its effectiveness on student confidence with RPD design following its use.

**Method:** 10 partially dentate stone models and their corresponding denture framework were selected from patient cases during denture construction. The models were selected with the intention of including one of each Kennedy class for mandibular and maxillary arches. The models were scanned using an intraoral scanner and processed in modelling software to add educational interactive features and embedded into the virtual learning environment accessible to students at no additional cost. A pre-post intervention survey was carried out with second-year dental students, and responses were collected using a Likert scale and converted to numerical values (e.g., "Strongly Disagree" = 1, "Strongly Agree" = 5).

**Results:** All participating students (n=52) reported a net increase in confidence across all 7 domains examined, with a mean increase of +1.78 across individual questions, and an average total change of +12.48. Pass rate of participating students was 90.38% (47/52 students), compared to 85.53% of students in the BDS2 cohort (65/76 students), and 79.17% in the cohort of the previous year (57/72 students).

**Conclusion:** Results demonstrated positive impact in confidence and performance in students that used the 3D digital denture library and indicate promise to be an effective tool to increase student understanding and confidence in denture design when used in a blended approach with digital teaching methods.

**Keywords:** Dental Education, Denture Design education, Digital education, Prosthodontics Education

## Prosthodontic Rehabilitation of an Edentulous Post-Oncology Patient following Mandibular Rim Resection and Skeletal Class II Relationship

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SP29

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**Background:** Prosthodontic rehabilitation of post-oncology patients presents significant anatomical, functional and psychological challenges. Loss of alveolar continuity, obliterated sulci, fibrosed mucosa, and altered neuromuscular coordination compromise denture support, retention, and stability. This case presents an evidence-based protocol for rehabilitating a completely edentulous patient with mandibular rim resection and severe skeletal Class II relationship, integrating biomechanical and aesthetic considerations.

**Case Summary:** A 68-year-old male presented with complete edentulism and a Brown Class I mandibular defect following resection for T3N1M0 squamous cell carcinoma of the buccal mucosa with radial forearm free-flap reconstruction. The residual mandible demonstrated severe atrophy, vertical height loss and obliterated sulci. Severe Class II skeletal morphology compounded anatomic and functional imbalance. Mucosa fragility, muscular inelasticity, hyposalivation, and restricted oral aperture further reduced denture-bearing area quality.

**Clinical Protocol:** Prosthodontic objectives included optimising border extension within surgically constrained anatomy, achieving a reproducible retruded axis relation, and re-establishing an occlusal scheme compensating for skeletal and neuromuscular discrepancies.

Primary impressions were taken in impression compound with alginate wash to capture the complete denture-bearing anatomy. Special trays were constructed with selective spacing for master impressions taken in zinc-oxide eugenol. Jaw relation records were established in retruded axis position at a physiologic vertical dimension, confirmed by phonetic and facial analysis. The Class II skeletal discrepancy required posterior occlusal plane flattening and reduced compensating curves (Curtis et al., 1988). Anterior tooth position was adjusted to maintain lip support while controlling overjet and overbite. Semi-anatomic 20° cusp teeth were placed within the neutral zone and arranged to preserve Pound's triangle to reduce lateral leverage. A bilateral balanced occlusal scheme harmonised eccentric movements (Kawai et al., 2017). Polished surface contours were shaped concave in buccal and lingual aspects to enhance neuromuscular control, with flange thinning across grafted areas to prevent tissue displacement of the dentures.

**Results:** Post-delivery evaluation confirmed stability, retention, border seal, balanced occlusal contacts, and no ulceration. Neuromuscular adaptation occurred within two weeks. At the 12-month review, no further adjustments were required. Patient reported an improvement in social functioning and capacity to eat varied foods.

**Discussion:** Predictable outcomes in resected mandibles depend on three key prosthodontic controls: accurate border extension, selective tissue loading, and occlusal stability. Borders must accommodate scar contracture and altered muscle function. Differential pressure impressions optimise load distribution across stress-bearing areas while relieving fibrosed tissues. Occlusal plane adjustment is critical in Class II morphology to maintain balanced articulation. The rehabilitation applied established biomechanical principles of retention and stability with suboptimal support (Watt & MacGregor, 1986) due to surgically modified anatomy. Incorporating Curtis et al.'s (1988) occlusal scheme for Class II edentulous patients minimised anteroposterior shear and improved masticatory efficiency. Patient adaptation was evaluated by patient-reported outcomes; improved OHRQoL was evidenced by social engagement and confident mastication and speech.

**Conclusion:** Comprehensive prosthodontic management can restore function and aesthetics in post-oncology edentulous patients through precise impression design, occlusal realignment, and neuromuscular re-education. Even with unfavourable skeletal and soft-tissue morphology, stable prostheses can be achieved by rigorous application of prosthodontic biomechanical principles improving a patients' OHRQoL.

## Digital Design and Fabrication of a 3D-Printed Gothic Arch Appliance for Accurate Centric Relation Recording in Complete Dentures

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SP30

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**Introduction:** Accurate recording of centric relation (CR) is fundamental to predictable occlusion in complete denture fabrication. Commonly used CR registration techniques including tongue retrusion, bilateral manipulation (Dawson technique), chin-point guidance, and the swallowing (Gysi) method are technique-sensitive and may be associated with operator variability and reduced reproducibility, potentially leading to occlusal discrepancies at the denture try-in stage. Gothic arch tracing is a well-established, patient-guided, physiologically based method of jaw registration that offers repeatability; however, its routine clinical use is limited by fabrication complexity and cost of existing metal based gothic arch systems.

Recent advances in digital design and additive manufacturing provide an opportunity to modernise gothic arch tracing and simplify its clinical application. Translating a traditionally CNC-machined mechanical device into a reliable, single-use 3D-printed appliance presents specific design and material challenges, including component tolerances, material strength and wear resistance, biocompatibility, and dimensional accuracy within dental 3D printing workflows.

**Aims / Objectives:** To describe the digital design, fabrication, and clinical application of a 3D-printed gothic arch appliance for complete denture jaw registration, and to discuss its clinical and laboratory advantages compared with conventional centric relation recording techniques.

**Methods:** A digitally fabricated gothic arch appliance was designed for incorporation into edentulous record bases. Custom STL files for the strike plate, registration stylus, and stylus holder were developed using Shapr3D computer aided design modeling software. Iterative optimisation of component geometry, material thickness, and stylus

thread pitch was undertaken to achieve appropriate tolerances and functional reliability for additive manufacturing.

The appliance was manufactured using a Stratasys J5 MediJet 3D printer with a biocompatible rigid dental resin, followed by standard laboratory post-processing procedures. Clinically, the appliance was used intra-orally to record centric relation via a gothic arch tracing.

Following finalisation of the appliance design, a structured teaching session was delivered to laboratory technicians to discuss the principles and clinical benefits of gothic arch tracing for complete denture fabrication, as well as to improve communication between clinicians and the laboratory team regarding jaw registration requirements. In parallel, a standard operating procedure (SOP) for the fabrication of the 3D-printed gothic arch appliance was developed to ensure consistency and reproducibility in appliance manufacture. This educational and standardisation process facilitated positive interdisciplinary communication and enhanced laboratory confidence in the use of the system.

**Results:** The digitally printed gothic arch system produced consistent and repeatable centric relation records with clear apex identification and minimal operator variability. Improved accuracy of jaw registration was associated with reduced discrepancies at the tooth try-in stage and fewer occlusal adjustments at denture insertion. Laboratory feedback indicated enhanced clarity of clinical records, increased confidence during articulation compared with conventional operator -guided records.

**Conclusion:** Digitally designed and 3D-printed gothic arch appliances represent a practical and effective approach to centric relation recording during complete denture fabrication. This workflow combines the established accuracy of gothic arch tracing with the reproducibility of digital fabrication, improving clinical reliability.

## Experiences and Perceptions of Undergraduate Dental Students on Transitioning from Simulation Training to Clinical Practice

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SP31

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**Aim:** This study aimed to explore and analyse dental students' experiences and perceptions of their training in simulation environments, and to assess the impact of this training on their confidence and readiness for clinical practice, with particular focus on indirect prosthodontics.

**Materials and Methods:** This qualitative study involved 56 fourth-year undergraduate dental students from Queen's University Belfast, all invited to participate voluntarily in focus group discussions as part of their fixed indirect prosthodontic course. Six focus groups were conducted by a familiar clinical tutor after students had completed their training, which included phantom-head and Simodont practical teaching. Each semi-structured session explored perceptions of the phantom head and Simodont teaching, and how students felt these translated into the clinical setting. Discussions were audio-recorded, anonymised, transcribed verbatim, and analysed using Delve software to identify themes.

**Results:** Undergraduate students highlighted that simulation training was key to building a framework for their clinical skills, with one noting, "I do think it's overall

good, just a great starting point, and it's not too big of a jump." The phantom head sessions were perceived as particularly valuable; students felt they most closely replicated the clinical environments of the two modalities in which they trained, thereby facilitating familiarisation with dental instruments and positioning. "And even the idea of like, changing burs, changing instruments in CTL is much more ... realistic to clinic." The Simodont simulation session was viewed as enhancing fine motor skills, "It's because it has better tactile sensation".

Although students outlined these perceived benefits, they also highlighted a gap in their confidence as they moved into the clinical environment, attributing it to challenges that were not fully replicated there. Students expressed that, although simulation provided a safe and supportive environment for technical skill development, the demands of patient care introduced new dimensions to clinical practice that required adjustment. "No matter how much CTL you do, the first time you do it, on clinic, it will always be really different."

Participants supported the idea of increased time in simulated environments throughout the course, as they felt this would improve their confidence. "If there was ... an opportunity to ... practise the specific prep that they were going to do that next week in clinic, that would be a good opportunity".

**Conclusion:** Simulation training in dentistry develops skills and confidence. Students preferred phantom-head sessions to Simodont for prosthodontic techniques but recognised Simodont's value for early fine motor skill development. The study highlights the need for structured support as students transition from simulated to real-patient care. Combining realistic simulation with early patient contact can better prepare students and bridge pre-clinical and clinical training.

Further research into the long-term impacts of simulation on clinical performance and patient outcomes will guide curriculum improvements in prosthodontics.

**Keywords:** Dental education; simulation training; phantom head; Simodont; clinical readiness; undergraduate dentistry; prosthodontics.

## Balancing Biology, Function and Aesthetics in the Management of Severe Tooth Wear

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SP32

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**Background:** Severe tooth wear combined with partial edentulism and occlusal instability presents a significant prosthodontic challenge, particularly in elderly patients with complex restorative and periodontal needs. Effective management requires early intervention, careful occlusal planning, and a minimally invasive, staged approach to restore function, aesthetics and long-term stability.

**Case Presentation:** This poster presents the case of Mr. M, a 76-year-old gentleman referred to Birmingham Dental Hospital in June 2024 with longstanding complaints of food trapping, dentine sensitivity, and difficulty chewing secondary to insufficient posterior support. He also expressed aesthetic concerns related to over a decade of progressive tooth wear and previous trauma to the maxillary central incisors. Clinically, the patient presented with a heavily restored dentition, multiple edentulous spaces, and generalised severe tooth surface loss from both attrition and intrinsic erosion.

The maxillary anterior teeth demonstrated palatal erosion with defective composite restorations, while the mandibular anterior teeth exhibited incisal wear with evidence of pulpal regression. Occlusal analysis revealed loss of posterior support, occlusal instability, and a reduced occlusal vertical dimension (OVD), contributing to impaired mastication, compromised facial support, and reduced quality of life.

**Rationale for Intervention:** Given the progressive nature of his condition, intervention was essential not only to restore function and aesthetics, but to safeguard the remaining dentition and prevent further deterioration. Without rehabilitation, ongoing tooth surface loss, food packing and periodontal disease risked advancing into further tissue breakdown, caries, mobility and increasing restorative complexity. Early prosthodontic intervention was therefore critical in preventing future biological and mechanical failure.

**Treatment Planning and Execution:** Treatment objectives were both functional and aesthetic: to restore masticatory efficiency and speech, reduce food trapping, stabilise occlusion, improve facial support, and enhance patient confidence. A phased treatment plan was implemented following comprehensive assessment, including articulated study models, occlusal analysis and diagnostic wax-ups. Initial management focused on prevention and stabilisation, with tailored oral hygiene instruction, dietary counselling and periodontal therapy. Occlusal reorganisation was achieved by increasing the OVD using a transitional lower acrylic partial denture, which was well tolerated and allowed assessment of adaptation prior to definitive care. Following successful adaptation, definitive rehabilitation employed a hybrid restorative approach. Indirect milled composite palatal veneers were provided for the maxillary anterior teeth to restore palatal contours and anterior guidance, combined with direct composite restorations to improve aesthetics. Posterior support was restored using definitive removable prostheses, comprising an upper acrylic overdenture and a cobalt-chromium lower partial denture.

**Outcome and Conclusion:** Mr. M adapted exceptionally well to the increased OVD and new occlusal scheme, reporting resolution of sensitivity and food entrapment, improved chewing ability and high satisfaction with his appearance. Clinical outcomes demonstrated a stable, functional and aesthetic occlusion with improved periodontal health. This case highlights the value of staged, minimally invasive prosthodontic rehabilitation in managing severe tooth wear, illustrating the importance of risk-based planning, reversibility and patient-centred care in achieving predictable, life-enhancing outcomes. It also demonstrates how undergraduate-led, consultant-supported care can successfully deliver complex full-mouth rehabilitation while maintaining biological principles, patient motivation, and realistic long-term maintenance strategies within primary care settings.

## **Integrating Tradition and Technology: A Telescope Bridge Fabricated with Analogue and CAD/CAM Technology in Zirconia**

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**Introduction:** Severe hypodontia presents complex restorative challenges, including reduced tooth number, compromised occlusal support, and unfavourable abutment distribution. Prosthetic rehabilitation must provide predictable retention, biomechanical

stability, and long-term maintainability. Telescopic prostheses remain a reliable treatment option in such cases, particularly where conventional fixed prosthodontics is contraindicated. While CAD/CAM technology offers improved precision and material consistency, its effective use depends on the sound application of established prosthodontic principles.

**Case Presentation:** A 60-year-old male patient presented with a history of severe hypodontia and longstanding functional and aesthetic concerns. Clinical examination revealed a mandibular porcelain-fused-to-metal telescopic bridge that had been in service for 35 years. Replacement was indicated due to material wear and aesthetic limitations, while retention and retrievability remained key patient priorities. Following comprehensive assessment, diagnostic wax-up, and discussion of treatment options, a mandibular zirconia telescopic bridge with an upper cobalt–chrome partial denture was selected.

**Treatment Planning and Technique:** A hybrid analogue–digital workflow was employed. Conventional techniques were used to obtain the master impression. During retruded contact position registration, a hybrid technique incorporating a digitally printed gothic arch tracer was utilised. The resulting articulated models were digitised, and the secondary structures were designed and milled in zirconia using CAD/CAM technology. Clinical try-in stages confirmed fit, retention, occlusal relationships, and aesthetics prior to final delivery. Occlusion was refined to optimise load distribution and prosthesis stability.

**Outcome:** The definitive prostheses demonstrated excellent retention, stability, and aesthetics. Occlusal support and masticatory function were restored, with improved patient comfort and confidence. The patient reported high satisfaction with both functional and aesthetic outcomes at review.

**Conclusion:** This case confirms the continued relevance of telescopic prostheses in the management of severe hypodontia. Combining analogue prosthodontic control with CAD/CAM-fabricated zirconia prostheses allows predictable, durable, and maintainable outcomes. A structured hybrid workflow remains an essential approach for managing complex restorative cases in contemporary prosthetic dentistry.

## Challenges of Fixed Implant Rehabilitation in a Patient with Composite Grafts

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SP34

*Guy's and St Thomas Trust*

**Introduction:** Fixed implant rehabilitation in patients treated for head and neck cancer presents complex prosthodontic, biological and psychosocial challenges. Composite graft reconstruction alters anatomy, soft tissue quality and occlusal relationships, complicating conventional prosthodontic pathways. This poster presents a clinical case demonstrating the multifactorial considerations required to achieve functional stability, biological health and patient satisfaction following oncological mandibular reconstruction.

**Clinical Case:** Mr RL, a 64-year-old male, was diagnosed with squamous cell carcinoma of the left mandible in February 2022. Treatment included a segmental anterior mandibulectomy, left fibula free flap reconstruction and bilateral neck dissection. Previously fully dentate, he subsequently required rehabilitation of the mandibular dentition from LR6 to LL4. Management involved an interim removable

prosthesis followed by fixed implant-supported rehabilitation. Treatment planning was complicated by altered anatomy, grafted bone and mucosa, compromised soft tissue quality and the long-term functional consequences of cancer treatment.

### **Challenges:**

*Interim Prosthesis and Communication:* Provision of an interim removable prosthesis in patients with extensive mandibular defects can be challenging due to limited support, reduced stability and compromised function. These limitations often fail to meet patient expectations, particularly in individuals seeking restoration of mastication, speech and social confidence. Despite these challenges, interim prostheses remain valuable, helping assessment of tooth position, occlusal relationships and patient compliance. They also support treatment planning through the fabrication of radiographic and surgical guides. Effective communication is essential, as patients frequently desire a return to pre-diagnosis function, which may not be achievable. Honest discussion regarding limitations, risks and the prolonged nature of fixed rehabilitation is critical to align expectations with realistic prosthodontic outcomes.

*Implant and Occlusal Considerations:* Four 8 mm Astra EV implants were placed in the reconstructed mandible. Implant planning required careful consideration of implant depth relative to the occlusal table, implant positioning, transmucosal components emerging through skin and muscle, and the quality and positioning of grafted bone. Differences between surgical and prosthodontic priorities were evident. Graft placement prioritised facial symmetry and aesthetics, while prosthodontic requirements favoured optimal implant positioning for function. This discrepancy contributed to occlusal challenges, resulting in a Class III incisal relationship following rehabilitation despite a preoperative Class II relationship.

*Soft Tissue Management:* Following implant placement, the patient developed recurrent painful hyperplastic peri-implant soft tissue changes. Grafted mucosa, reduced keratinised tissue, thin tissue phenotype and plaque susceptibility were significant contributors. Prosthetic factors, including emergence profiles, embrasure design and transmucosal component selection, further influenced tissue response. Management required a staged, multidisciplinary approach incorporating prosthetic contour modification, optimisation of transmucosal components, reinforcement of oral hygiene and careful occlusal monitoring.

**Conclusion:** A stable fixed prosthesis with improved comfort and soft tissue health was achieved, although ongoing maintenance remains essential. This case highlights that successful fixed rehabilitation in head and neck cancer patients relies on integration of surgical, biological, prosthetic and patient-centred factors rather than implant osseointegration alone. It reinforces the importance of multidisciplinary planning, realistic communication and biologically driven prosthodontic design.

## **UK Survey of Dental Teaching Hospital Production Laboratories**

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**SP35**

*Liverpool University Dental Hospital*

**Introduction:** The aim of the study was to understand the manning and current banding structures operating across Dental Teaching Hospital Laboratories in the UK. Secondary aims of the project were to look at digital production capability and volume. Data from the study could be used to generate recommendations for future growth

and restructuring to ensure that our Dental Production Laboratories are able to meet the demands of the modern NHS, our patients and changing workforce.

**Methodology:** A list of Dental Teaching Hospital Laboratories was constructed by contacting all teaching hospital institutions and obtaining the contact details of respective laboratory managers. Surveys were sent to laboratories who supply undergraduate, postgraduate and staff technical work via an onsite laboratory. The survey was open between January to April 2025. The survey was split into five sections: 1. Laboratory Staff Numbers, 2. Laboratory Staff Structure and Banding, 3. Laboratory Service Requirements, 4. Staff Recruitment; Training and CPD, 5. Laboratory Digital Capability and Data Management.

**Results:** 15 institutions were contacted, and 7 responses were obtained. The mean total WTE for institution laboratories (crown and bridge, prosthetics and orthodontic) was 20.2 (8.55 – 26.8). The mean total WTE for the crown and bridge, prosthetics and orthodontic sub-departments were 6.1, 10.7 and 3.4 respectively. The mean number of staff employed with ages <25, 25 – 34, 35 – 44, 45 – 54, and 55 – 64 was 1.4, 2.6, 6.3, 7.3 and 4, respectively. The mean technician: undergraduate student ratio for crown and bridge technicians was 47.1 and for prosthetic technicians 24.3. An apprentice scheme or involvement in teaching trainee technicians was reported by 6 laboratories. Funding available for CPD was reported by 3 institutions and fundings to return to university for higher degree qualifications by 3 laboratories. A digital workflow in the laboratory was reported by 6 laboratories with 2 laboratories having a dedicated digital / CAD-CAM sub department. Intra-oral scanning was being accepted within 6 laboratories and 3D printing capabilities was also possible in 6 laboratories. Milling capability was possible in 4 laboratories. Private work as an income generation exercise was reported by 2 laboratories.

**Conclusion:** The results of this survey display the current manning and banding structure of UK dental teaching hospital production laboratories and display the current utilisation of digital workflows. Data from this study can be used to make recommendations on the development and focus areas for improvement to aid laboratories in meeting the demands of the NHS.

## Digital versus Conventional Maxillary Obturators: A Clinical Case Comparison

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**Aim:** To compare conventional and digital workflows for maxillary obturator fabrication within a single clinical case, evaluating clinical complexity, treatment stages, efficiency, cost implications and patient-reported quality of life outcomes.

**Introduction:** Maxillary obturators are a well-established treatment modality for rehabilitating patients with significant maxillary defects, resulting in notable improvements in speech, mastication and quality of life. Conventional fabrication techniques using analogue impression techniques and traditional laboratory workflows are frequently carried out however, the literature highlights limitations including multiple clinical stages, patient discomfort and potential impression inaccuracies. Recent prosthodontic literature has increasingly offered digital workflows which involves

scanning, computer-aided design and CAD-CAM manufacturing as an alternative and improved approach. These digital techniques have been reported to improve efficiency, reproducibility and patient tolerance. However, the clinical evidence comparing the two obturator fabrication techniques within the same patient remains limited.

**Case description:** A 79-year-old male with a history of an adenoid cystic carcinoma of the left maxilla, treated with surgical resection and adjuvant radiotherapy, was referred for prosthetic rehabilitation.

Clinical examination revealed a unilateral maxillary defect with associated communication between the oral and nasal cavities, resulting in impaired speech, compromised mastication, and reduced prosthesis retention.

A conventional maxillary obturator was initially fabricated using a multi-stage workflow. This included primary and secondary impressions, bung impression and fitting to record the defect undercuts, jaw registration, trial insertion, and definitive fitting. A minimum of seven clinical appointments were required, excluding review visits. Additional appointments were necessary due to the concurrent fabrication of a lower cobalt-chromium removable partial denture.

Following a period of clinical use, a digitally manufactured obturator was subsequently produced. An intraoral scan of the existing prosthesis and supporting tissues was obtained, and a CAD-CAM workflow was utilised for design and manufacture. This process required a single scanning appointment, followed by a subsequent fitting visit.

At review, both obturators demonstrated satisfactory retention, stability, and functional performance. No clinically significant differences were observed in terms of seal or support. However, the patient reported greater comfort, improved perceived fit, and increased confidence during function with the digitally manufactured prosthesis. The reduced number of appointments and absence of analogue impression procedures were also reported to be more acceptable to the patient.

**Conclusion:** Both conventional and digital workflows produced clinically acceptable maxillary obturators in this case. However, the digital technique required significantly fewer clinical appointments, reduced patient burden, and improved perceived comfort. These factors suggest potential advantages in terms of treatment efficiency, patient experience, and cost-effectiveness.

While patient-reported outcomes remain subjective and digital technology may not be universally available, this case highlights the potential value of digital obturator fabrication in appropriately selected patients. Further clinical studies with larger sample sizes and longer follow-up periods are required to establish long-term outcomes and cost-benefit analyses.

## A Fix That Sticks: A Novel One-Appointment Chairside Hard Reline Technique for Upper Maxillary Complete Dentures

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SP37

*Oxford University Hospitals NHS Foundation Trust*

A 52-year-old male presented with reduced retention of a maxillary complete denture constructed in March 2024. The patient reported progressive looseness and a drop during function, although adhesives were not yet required, function was compromised. The patient was undergoing complex oncology treatment and expressed a strong

preference for fewer clinical appointments and an inability to be without his denture at any stage, making conventional laboratory based relining techniques unsuitable.

Clinical examination demonstrated acceptable overall denture adaptation but inadequate posterior extension, with insufficient engagement of the hamular notches bilaterally. Due to the patient's medical status and treatment priorities, a novel chairside technique was selected to deliver immediate improvement in retention and stability while simultaneously establishing a clinically suitable longer-term prosthesis all within a single appointment. During this appointment diagnostic greenstick border moulding was initially undertaken over the hamular notches and posterior palatal seal, resulting in a marked improvement and confirming the need for further extension. The technique was therefore booked a for a one visit chairside hard reline.

At the second appointment, circumferential greenstick border moulding was repeated to accurately capture the hamular notches. The extension was indexed using a denture flask and laboratory putty. Following removal of the greenstick, Tokuyama chairside reline was applied to reline the posterior polished surface and then placed intra-orally to refine the fitting surface, allowing controlled engagement of anterior undercuts without trauma. Finishing and polishing were completed chairside using a straight handpiece and acrylic trimming bur.

This chairside technique resulted in a marked and immediate improvement in denture retention and stability, with the patient reporting restored confidence in function. By eliminating laboratory stages, the approach reduced the number of appointments, avoided a period without the denture, and minimised the risk of laboratory error, key advantages for patients undergoing complex medical treatment. The indexed, clinically tested extension provides a reliable and reproducible blueprint for a future definitive hard reline. This case highlights how a patient centred, chairside relining approach can deliver immediate functional benefit while strategically planning for long-term prosthodontic success in medically complex patients.

## Comprehensive Management of Moderate to Severe Tooth Surface Loss Using a Multidisciplinary Restorative Approach

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SP38

*Barts Health NHS Trust*

**Background:** A patient presented with moderate to severe generalised tooth surface loss accompanied by acquired tooth loss, resulting in functional and aesthetic concerns. These included dentine exposure, reduced occlusal vertical dimension, and compromised restorability of multiple teeth. Management required a comprehensive restorative strategy to re-establish function, aesthetics, and long-term stability, while prioritising preservation of the remaining tooth structure. The complexity of the presentation necessitated a staged, multidisciplinary approach incorporating endodontic, fixed, removable, and adhesive restorative modalities.

**Clinical Examination:** Clinical assessment demonstrated generalised pathological tooth wear with extensive enamel and dentine loss and a reduction in occlusal vertical dimension. Multiple teeth were structurally compromised, with some requiring endodontic intervention due to pulpal involvement. Other teeth exhibited insufficient coronal tooth tissue to support definitive restorations without reinforcement. The dentition comprised a combination of unrestored worn teeth, previously restored teeth, and edentulous spaces requiring prosthetic rehabilitation.

**Clinical Management:** Following comprehensive assessment, a phased treatment plan was implemented. Composite build-ups were used to stabilise the occlusion and assess tolerance to an increased occlusal vertical dimension, supported by provisional acrylic dentures. Endodontic treatment was carried out on selected teeth, with fibre posts placed where indicated to enhance retention of core build-ups. Definitive rehabilitation included the provision of milled crowns and partial cobalt–chromium dentures to restore function and aesthetics.

**Discussion:** This case highlights the importance of meticulous diagnosis, risk assessment, and phased treatment planning in the management of advanced tooth surface loss. It demonstrates how a minimally invasive philosophy can be maintained within extensive rehabilitation by combining additive adhesive techniques with conventional fixed and removable prosthodontics. Careful sequencing of treatment and active patient involvement were fundamental in achieving a predictable and satisfactory outcome. The case underscores the value of a multidisciplinary approach in managing complex restorative challenges associated with severe tooth wear.



# Save the date...

## Prosthodontics - The Detail Matters

**The British Society of Prosthodontics  
2027 Annual Conference, Thursday 18th  
and Friday 19th March 2027 at the East  
Midlands Conference Centre, Beeston Lane,  
Nottingham, NG7 2RJ**

It is my honour to be President of the BSSPD for 2026-27, and I warmly invite you to our annual conference in Nottingham on Thursday 18th and Friday 19th March 2027.

This year's theme, 'Prosthodontics – The Detail Matters', reflects the balance between innovation and fundamentals in today's practice. Digital workflows and artificial intelligence continue to enhance precision, efficiency and patient outcomes, while also making dentistry more enjoyable for all. However, results are only as good as what feeds the machine – predictable outcomes still depend on strong clinical and scientific foundations, and attention to detail.

Our programme will bring together leading speakers and colleagues to explore contemporary prosthodontics – from core clinical concepts to multidisciplinary care – including opportunities for discussion, debate and hands-on learning. Whether you are starting out in your career or an experienced clinician, there will be something to challenge, update and inspire.

I very much look forward to welcoming colleagues, friends and new faces to Nottingham in Spring 2027.

**Neil Poyser**

President Elect, BSSPD





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