Huge thanks are due to:

My Organising Committee:
Alex Cash  
Stephen Chadwick  
Guy Deeming  
Andrew DiBiase  
Nigel Fox  
Trevor Hodge  
Ama Johal  
Ben Lewis  
Simon Littlewood  
Rye Mattick  
Tania Murphy  
Alison Murray  
Kevin O’Brien  
Julian O’Neill  
Rishma Shah

Dina Slater  
James Spencer  
Ann Wright  

To the BOS Board of Trustees

To the WFO Executive Committee

To the Speakers

To the World Village Day organisers

To the Executive of the Orthodontic Technicians Association

To the Session Chairs

To the Poster Presenters

To the Educational Grant Recipients

To the Exhibitors and Sponsors

To the Stewards

To the Programme Session Authors

And last, but not least, a massive thanks to the 6,000 delegates, without whom there would not have been a Congress.

I hope you enjoy this souvenir supplement.

Jonathan Sandler  
Chairman, 8th IOC
Dr Ewa Czochrowska and Dr Pawel Plakwicz

What a great start to the 8th International Orthodontic Congress - a carefully presented inspirational course by Eva and Pawel following 20 years’ experience of working together as a passionate, if gently combative, expert team. Dr Pawel highlighted the importance of the venue since John Hunter completed the first recorded transplantation of a human canine tooth to grow within a cockerel’s comb – the results remain on display within the Hunterian Museum. Eva acknowledged the impact of her postgraduate training at the University of Oslo where she had the privilege of reviewing 25 patients who had undergone autotransplantation 2-4 decades earlier by Slagsvold and Bjørck. This helped to define success criteria with transplanted teeth expected to have an absence of progressive root resorption, normal soft and hard periodontal tissues and a crown to tooth ratio of less than 1, following treatment.

Eva outlined three main orthodontic indications for autotransplantation within the growing patient, as reported by Zachrisson in 2004:

• Agenesis of lower second premolars particularly in a low angle facial type
• Accidental loss /agenesis of maxillary incisors
• Unevenly distributed/multiple agenesis

Careful case selection was critical, recommending cone-beam computerised tomography to evaluate both the donor tooth and recipient site as an essential adjunct to traditional radiography and clinical assessment. Ideal timing for the donor tooth was judged to be between half and full root development with an open apex with premolars the tooth of choice, due to morphology, stage of development for these patients and ease of surgical access.

Surgical procedures and follow up procedures were clearly covered in detail and the course was beautifully illustrated with examples of successful cases, with supporting evidence from the literature for the protocol. Whilst the cases covered a full range of transplantation opportunities, highest success rates are found with premolar transplantation to premolar.
sites. Success depends on case selection, delicate handling of the donor tooth to preserve the viability of the periodontal tissues, adequate preparation of the recipient site into trabecular bone and patience on the part of the orthodontist before bonding up. Pulp healing with obliteration, periodontal healing and root development were all markers of success and there was plenty of evidence to support autotransplantation as a viable option for the growing patient to preserve or even augment alveolar bone.

Following the course, delegates enjoyed a drinks reception in the Hunterian Museum.

Dr Julie C Williams
Academic Clinical Lecturer in Orthodontics
University of Bristol
The auditorium was packed for the welcoming address of the 8th International Orthodontic Congress and expectant members of the profession listened to Professor Jonathan Sandler, chairman of the organising committee of the 8th IOC as he welcomed attendees to ExCeL, London. Dr Justus, the current President of the World Federation of Orthodontists (WFO), also welcomed the world to the congress and bestowed honorary membership of the WFO upon Professor Nigel Hunt and Professor Birte Melsen. This award, the highest honour awarded by the WFO, is presented to orthodontists who have rendered outstanding service to the specialty world-wide.

Both professors spoke of their passion for orthodontics, the research opportunities that the specialty has provided and those friends and colleagues who have supported their work, throughout their illustrious careers so far. Bill DeKock, a founder of the WFO, was presented with the first DeKock service award created in his honour.
The keynote lecture by Professor Anne Marie Kuijpers-Jagtman continued the theme of involvement, in this case the patient, and asked whether the profession is meeting our patients’ expectations. Her wealth of experience of orthodontics within the Netherlands since the 1970s has provided her with the opportunity to see changes in provision, with 55% of 12 year-old patients now receiving orthodontic treatment, compared to 25% 30 years ago. She explored the rationale of why orthodontists provide treatment for patients, such as to improve patients’ social acceptance, chewing ability, reduce risk of wear of the teeth or correct breathing problems despite the paucity of evidence for many of these benefits. She considered that patients often seek treatment to feel more attractive with a bright smile being associated with attractiveness and intelligence. Attractiveness has also been shown in a meta-analysis of the literature to influence an individual’s self confidence (Langlois et al. 2000) and, additionally, certain muscles have been shown to contract involuntarily in test subjects when looking at photographs of unattractive people, as tested using electromyography.

Her work with Pieter Van der Geld and others investigated the self-perception of smile attractiveness to determine the role of smile line and other components of the attractive smile. Eight components of a balanced smile were considered; lip line, smile arc, upper lip curvature, lateral negative space, smile symmetry, frontal occlusal plane, dental components and gingival components. The difficulties of researching the smile, whether it is posed or spontaneous, was also explained with a recommendation to try to measure the spontaneous smile if possible.

If this is what our patients are seeking, and we have limited other evidence for other outcomes, how should we continue to gather data to best record the outcomes that are important to our patients? Professor Anne Marie Kuijpers-Jagtman, described several systems for measuring and reporting patient-centred outcome measures. These included the International Consortium for Health Outcomes Measurement (ICHOM) for cleft lip and palate which includes nine areas such as the number of interventions, number of readmissions and oral health. Under discussion is the development of a core outcome set reflecting patient values for orthodontic treatment for young people, as part of the Core Outcome Measures in Effectiveness Trials (COMET). The take home message was clear - if patients are seeking treatment for aesthetic reasons and the eyes and mouth are important areas of the face aesthetically, our planned outcomes should be patient-centred.

Caroline Holland
Opening Ceremony

The opening lecture on Sunday was followed by a spectacular high-speed celebration of British achievements over the last century acted out in music and dance that set the mood for the 8th International Orthodontic Congress.

Loosely inspired by the opening of the 2012 Olympics, the opening ceremony was designed to give the Congress a powerful lift-off. The Urban Soul Orchestra provided the musical backdrop to a performance which featured events and music from the Victorian era right through to the present, taking in Swing, Rock and Roll, Jive, Hip Hop, with a range of dancers and mime and cabaret artists representing different eras; all against images of the beautiful sights and scenery of the UK.

This was an eclectic show, joyful as well as reflective of the sacrifices of the war years, accelerating to a rousing power-packed climax.

Delegates were then welcomed into the impressive Trade Exhibition to enjoy a celebratory afternoon tea whilst catching up with friends and colleagues. The theme worked well and the buzz of activity following the opening ceremony was palpable – those present were certainly looking forward to the next few days of learning and networking within this great profession of orthodontics.
NHS Commissioning Session

On the opening morning of IOC, the Orthodontic Specialists Group (OSG) organised a NHS Commissioning Session to update delegates on current matters, discuss NHSBSA matters, update progress on commissioning new contracts and the impact of these changes upon the value of orthodontic practices. There was an excellent attendance indicating what a pivotal time this is for specialist practitioners.

Colin Wallis from the OSG brought the audience up-to-date with progress on the Strategic Framework - stage 1 is now complete with BOS input at all levels. The Care Pathway is designed to reduce inequalities in the system via central guidelines with Local Area Teams (LATs) having autonomy to deal with specific local variations. Although the methods of measuring performance (metrics) are still in development, the new Chief Dental Officer is willing to give the profession the opportunity to influence how things might work and improve. Further discussion is taking place on the structure of Managed Clinical Networks (MCNs), how transfer cases are handled and the imminent arrival of central referral management systems in some areas. The metrics still appear to disadvantage popular practices and do not recognise the need for monitoring. Finally, there is still a lack of clarity around the details of how procurement will work.

Next Brian Kelly, from the NHSSBSA, gave his annual insight into trends in the NHS orthodontic service in the UK. The number of Units of Orthodontic Activity (UOA) directed towards treatment has increased as hoped, as compared to UOAs from new patients and reviews, which reflects practices changing how they manage new patients and reviews. Brian also discussed the current metrics, particularly the ratio of new patients and reviews to “starts” and proposed an alternative which he felt was fairer. He also reminded us that it is a statutory requirement to inform the BSA within two months of treatment completion.

Alice Benton, Chair of the National Working Group for commissioning orthodontics and Lead Commissioner for London, presented a commissioner’s view on the implementation challenge. Alice has been closely involved with the new commissioning guides, due to be published in early October. Use of the guides should harmonise how LATs commission services across the country.

All stakeholders have been involved in producing a “descriptive handrail” rather than a prescriptive mandate to ensure the treatment is carried out by the correct clinician. Work remains to be done on how the MCNs are implemented, the final form of the metrics and how contracts are extended. There are still regulatory, capacity and relationship barriers to be unlocked with financial pressures and commissioning resource remaining prominent in the discussions. Next steps will be ongoing engagement with the BOS, pragmatic interim arrangements and early adoption of MCNs to empower clinical leadership and provide responsibility for the local pathway.

Finally, John Grant of Goodman Grant, who provide professional legal services for dental practices, has experience of dealing with practice sales throughout the gamut of NHS contract changes over the last 10 years. LATs have different attitudes to sales and PDS contracts and GDS contracts also differ in their treatment. Each LAT will have a particular view and John cautioned against resorting to judicial review as the outcome is uncertain. He advised opening dialogue with those working for the LAT and taking appropriate professional advice.

Guy Deeming chaired the Q and A session, which was conducted via the conference app allowing the speakers time to respond to a wide variety of questions.
This year the UTG session at IOC gave our trainees the opportunity to present their research, undertaken as part of their training programmes, at an international forum.

This session has always been very popular, giving the trainees an opportunity to raise their profile within the orthodontic community and I would like to thank all those who attended the UTG session at the Congress.

As always, this session was very well attended and the quality of the presentations were outstanding. My personal thanks for all their work goes to our judges Professor Fraser McDonald, Professor David Bearn and Dr Susi Caldwell, whose questioning did make for a very lively debate.

The winners really excelled with first prize going to Miss Sara Hosni from Liverpool for her work on “Cervical Vertebral Maturation (CVM) as a Valid Predictor of Growth”. Second place went to Elinor Chalmers for her presentation on “The Assessment of Dental Arch Relationships in UCLP with 3D Scanning” and Catherine Brierley gained third prize for her work into “How accurate are Theramon® microsensors at measuring time intra-oraIy?” All the short-listed abstracts of the presentations are due to be published in the Journal of Orthodontics in the near future.

Finally, we had the great honour to present the William Houston Gold Medal to Mr Andrew Garry, University of Liverpool for his performance in the MOrth examination at the Royal College of Surgeons of Edinburgh.

Norah Flannigan
UTG Secretary

Professor Fraser McDonald presenting the Gold Medal to Andrew Garry

UTG winners Sara Hosni, Elinor Chalmers and Catherine Brierley
ABO/WFO Symposium for Orthodontic Board Certification

During the 8th International Orthodontic Congress (IOC), the WFO and the Executive Committee of the American Board of Orthodontics (ABO) hosted a half-day symposium on board certification with the goal of assisting orthodontic certifying boards around the world and those national and regional WFO affiliate organisations that wish to form a new certifying board.

As a result of this meeting, the WFO is now aware that individuals representing the Costa Rican Academy of Orthodontics, the Czech Orthodontic Society, the Chinese Orthodontic Society, the Egyptian Orthodontic Society, the Italian Board of Orthodontics, the Mexican Board of Orthodontics, the Argentinean Board of Orthodontics, the Brazilian Board of Orthodontics and Facial Orthopedics, the European Board of Orthodontists, the French Board of Orthodontics, the German Board of Orthodontics, the Indian Board of Orthodontics, the Japanese Orthodontic Board, the Korean Board of Orthodontics, the Malaysian Association of Orthodontists, the Philippine Board of Orthodontics, the Saudi Board of Orthodontics, the Taiwanese Board of Orthodontics, the Thai Board of Orthodontics, Dr. Eladio DeLeon Jr., ABO president, Dr. Steven Dugoni, ABO president-elect, and Dr. Chun-Hsi Chung, ABO secretary/treasurer, along with Dr. David Turpin and Dr. Thomas Ahman of the WFO Executive Committee, designed the three-hour programme to be both informative and interactive to meet the attendees’ needs and interests. They shared the ABO’s written and clinical certification protocols and conducted roundtable discussions on relevant topics with the intention of supporting existing boards and encouraging WFO affiliate organisations that wish to form orthodontic certifying boards.

Dr. DeLeon provided an overview of the ABO’s certification process, noting major changes that have occurred during the past few years. Dr. Dugoni described the ABO’s implementation of new digital technology in the management of orthodontic records. As in the past, the examinee must provide case presentations that contain specific reports and patient records as required by the ABO. The case is evaluated for quality, accuracy and completeness of the patient records and reports. Dr. Chung summarized the components of the ABO Written Examination, a comprehensive exam that assesses the examinee’s knowledge of basic sciences and clinical concepts based on criterion-referenced testing. Examinees are measured against the skill and knowledge represented by each test item. The difficulty of each item for the minimally competent examinee is the basis for setting the Criterion Standard, one that is represented as an absolute standard on a benchmark scale and is updated every five years.

Because orthodontic certifying boards may struggle with a low rate of participation, Dr. DeLeon, Dr. Dugoni and Dr. Chung encouraged the attendees to certify orthodontists as soon as possible and to have the orthodontists prove their capabilities on a regular basis. This concept is based on the belief that once orthodontists have their board certificates, they will want to maintain their certification and will agree to submit to a series of exams throughout their lifetime.

“It was very encouraging to see the enthusiasm, interest and support displayed by our international colleagues for the ABO’s aspirational goals, which are to provide our orthodontic patients with the highest commitment to excellence, ethically guided compassionate care, treatment based on evidence and an orthodontist devoted to lifelong learning and board certification,” Dr. DeLeon said.

Following the ABO presentation, attendees divided into groups to discuss common issues on the following topics: standards of...
care, accreditation standards, board certified status, components of orthodontic education, psychometric assessment of the exams, recertification, the written examination and the clinical examination. At the end of the symposium, each discussion group summarised their ideas with presentations to the entire audience. The groups’ conclusions are presented below.

Establishment of New Certifying Boards
In regard to the establishment of a new certifying board, the attendees agreed that all educationally qualified orthodontists should be given time-limited board certification at the outset. This should be followed by later examinations. In addition, the certifying board should establish and publicise a deadline date for educationally qualified orthodontists to accept initial certification.

Recertification
Committee members agreed that recertification is important because certifying boards serve and protect the public because certifying boards that recertification is important. Consequently, the group recommended the following:

- Initial directors of the certifying board, as well as their successors, should not have commercial conflicts of interest.
- Ideally, the directors should equally represent all regions or constituencies within the area that the certifying board represents.
- Directors should agree to serve for a minimum of three years and a maximum of as many years as there are regions or constituencies.
- Directors should be replaced in a planned and agreed-to basis.

Examination Process
Most agreed that five to 10 cases should be the minimal requirement. Opinions on the types of cases to include in the model display were more varied. In the end, the group offered the following recommendations regarding the examination process:

- All orthodontists, including recent graduates who have completed their orthodontic training within the past 36 months of application AND who possess the educational qualifications approved by the board, should be able to apply and take the board exam.
- Candidates must display clinical cases (five to 10). Candidates who are within 36 months of their graduation may have a lesser case display requirement and may display cases treated during their residency.
- All educationally qualified orthodontists, including residents in the final year of their training programme, may take the written examination.
- Specific requirements for the case display should be set by the board of directors and be prominently publicised so they are accessible to all candidates.

Following the symposium, Dr. Adriana Pascual of Buenos Aires, Argentina, expressed her appreciation for the meeting.

“I want to congratulate you all, on behalf of the Argentine Society of Orthodontics, for the success of the meeting in London, and express our gratefulness for the opportunity of participating,” said Dr. Pascual, who is a member of the Argentinean Board of Orthodontics and Dentomaxillary Orthopedics.

For additional information on certifying boards, interested individuals may download the WFO Guidelines for the Establishment of New National and Regional Orthodontic Boards from the WFO website, www.wfo.org. The WFO anticipates these guidelines may encourage the establishment of new certifying boards in orthodontics. Existing certifying boards may wish to compare their current guidelines and procedures to those recommended by the WFO and modify them accordingly if they find that their standards would be improved.

Jessica Kassel
Dr. David Turpin
2nd World Orthodontic Editors’ Forum

This was an opportune moment for the editors (or their chosen representatives) of ten major international orthodontic journals including the American, European and Australian Orthodontic Journals, Angle Orthodontist, Journal of Orthodontics, Orthodontics and Craniofacial Research, Orthodontics and Oro-Facial Orthopedics, Seminars in Orthodontics and the World Journal of Orthodontics, to explore the future of orthodontic publishing over the next decade.

Each editor presented an overview of their respective journal and took the audience through a journey of new challenges and controversies facing editorial boards, submitting authors and readers, in an increasingly technological era. Many speakers identified their pattern of global submissions and the types of orthodontic research that was prioritised for peer review. The audience was given an insight into the difficult decisions that face editors and editorial boards in accepting and rejecting potential publications.

A topic close to the heart of every editor was the importance and weight associated with impact factor. Professor Ravi Nanda, Editor-in-Chief of Progress in Orthodontics, drew the attention of the audience to the ‘impact factor game’. He highlighted the pitfalls associated with impact factors, particularly the way they encourage the use of review articles which are often heavily cited, and can inflate journal impact factors. Dr. Jorge Faber, Editor-in-Chief of the World Journal of Orthodontics commented that the obsessive quest for citation can run the risk of mitigating innovation by encouraging authors to only publish in high impact factor journals, which in turn control which work is published.

Online communication as a means of disseminating scientific information was discussed with the possibility that the digital age may precipitate extinction of the printed word. Although it emerged that the scientific population still prefer the tactile nature and physical touch of paper, interesting concepts such as the Journal of Visual Experiments - a video journal that covers many scientific disciplines, suggest that E-journals are here to stay. Dr. Dirk Bister, representing the European Journal of Orthodontics (EJO), spoke on the positive influence of the digital age, particularly the online submission process, which has not only improved the management of submitted articles to the EJO but also significantly increased submission rates.

A major challenge for editors, which potentially threatens to undermine the integrity of orthodontic science, is the darker side of publishing including sham investigations, salami slicing of research and lack of trustworthiness in submissions. This uncomfortable subject matter was discussed with transparency and stimulated considerable debate. The problem of the ‘predatory journal’ - profit-making enterprises, providing poor editorial and publishing services with aggressive marketing and poor quality control was also raised. These journals are often not indexed in library systems, thereby undermining the core of evidence-based medicine and were described very aptly by one speaker as ‘a reservoir of author misconduct’.

Dr. Craig Dreyer, Editor of the Australian Orthodontic Journal, described peer review as the ‘lynchpin about which, the business of science is pivoted’, integral to the process of ethical scientific publication. However, he explained that many pressures exist for investigators to publish ‘or perish’, which can potentially encourage unethical practices.

However, it was not all doom and gloom and it was encouraging to see that many orthodontic journals now have stringent adherence to reporting guidelines, such as CONSORT, EQUATOR, PRISMA and CARE. This demonstrates how the orthodontic scientific community is ensuring greater transparency and accountability to improve the quality of their respective journals. The session was concluded with Dr. Felice Festa’s perspective on the World Editors’ Forum. He encouraged more editors to express their ideas in the forum in the future and acknowledged the need to continue developing our discipline. The forum also stressed the need to attract young orthodontists to basic and clinical research in order to improve the quality of articles and citations rather than just their numbers. The next World Editors’ Forum is likely to be in San Diego in 2017.

Joyti Vasudev
Orthodontist
An Introduction to the World of Invisible Orthodontics

Bright and early on Sunday morning saw a full house for the BLOS ‘Introduction to the World of Invisible Orthodontics’ with three of the World leaders in Lingual Orthodontics; Vittorio Cacciafesta, Peter Taylor and Paul Ward.

Vittorio commenced the morning explaining the power of such a simple bracket that is low profile and affords rapid tooth movement from it self-ligating mechanism. Simply using direct bonding and with a handful of wires, remarkable results can be achieved without relying on patient compliance to wear removable aligners or expensive laboratory work.

Increasing the complexity, Peter Taylor from San Paulo demonstrated the HIRO approach using two patients at opposite ends of the age spectrum. The beauty of the HIRO approach is its versatility and uses prefabricated brackets. The HIRO way can deliver a simple and adaptable approach to comprehensive orthodontic treatment.

The morning concluded with our own Paul Ward illustrating how fully customisable appliances (Incognito) can be used to treat simple anterior alignment patients to complicated dual arch patients.

Perhaps the take home message from all the speakers is that it’s not the system but the biomechanics that’s important when treating patients with lingual appliances.

“As to methods there may be a million and then some, but principles are few. The man who grasps principles can successfully select his own methods.” - Ralph Waldo Emerson.

With patients ranging from those in their teens to those in their later years, Lingual appliances are suitable for everyone and their popularity is set to rocket. The future is most definitely bright for invisible orthodontics.

For those wanting to know more, about HIRO, CAD CAM, Self Ligation and Miniscrews in Lingual Orthodontics, then register for the BLOS Annual Conference and pre Congress course 18 and 19 March 2016, London. Not to be missed.

The purpose of the World Federation of Orthodontists is to advance the art and science of orthodontics throughout the world. In being tasked to organise the 8th IOC, the BOS decided it wanted to inform, inspire and unite delegates from as many places over the globe as possible – not just those delegates who form the fortunate majority and return to well-funded orthodontic clinics at the end of the meeting.  

So for 35 delegates an Educational Grant Scheme meant that their travel, accommodation and congress fees could be covered enabling them to attend the 8th IOC - an experience it is hoped will provide a lasting legacy to the developing world being represented.  

Following a competitive application process requiring personal statements plus an abstract illustrating personal work and research suitable for poster display at the 8th IOC, decisions were made on who the recipients would be in early 2015. This was done so arrangements for travel, especially visa applications, could be made in plenty of time. Finally, on the morning of Monday 28th September, the Congress Chair, Jonathan Sandler, officially welcomed the grant winners along with a number of others whose efforts had made it possible for the delegates to attend.  

Trevor Hodge said: “Early on in the planning of the 8th IOC we realised that we wanted to include orthodontists who have faced huge challenges to train as dentists and orthodontists. We are grateful to Kenes, the conference organisers, for supporting the grant funding and making sure that the 8th IOC leaves a very special legacy.” Thanks to this £50k worth of scholarships these young orthodontists travelled from countries like India, Africa, Nepal, Pakistan, The Philippines, Nigeria, Cambodia and Macedonia to learn from top international speakers.  

So who were the recipients of these grants?  

One grant recipient was Sythan. Following orthodontic studies in Cambodia, Sythan subsequently went to Taipei in Taiwan to undertake training in cleft lip and palate, leaving her children behind, so that she could complete her studies before returning home to help set up Cambodia’s first cleft clinic. Recently widowed, the funding to attend the 8th IOC offered Sythan her first trip out of Asia.  

So what did the Educational Grant winners make of the event?  

Iva Dimovska from Macedonia: “I cannot describe to you how much the past few days have meant to me. It has been a dream come true to be able to listen in person to the world’s greatest orthodontists and to make connection with colleagues from all over the world. As a postgraduate student at the beginning of her orthodontic career this opportunity encourages me even more to work hard, as there are people who appreciate and reward true values”.  

Following the success of this initiative the WFO plan to take forward ideas on supporting our profession in the developing world so watch this space to see ways in which you may be able to help.  

As well as the Educational Grant recipients, the British Orthodontic Society invited three Nepalese orthodontists to attend the Congress as guests of the Society. They described how the earthquake in Nepal in April had ravaged their country and how they were helping their people to rebuild their stricken land.  

Trevor Hodge  
Chair, Allied Health Professional Programme
Dr Sunil Kapila opened this session with an excellent presentation on 3D image aided treatment of impacted and transposed teeth. He focused on the benefits of Cone Beam CT (CBCT) imaging, namely optimal surgical access and the potential for more accurate choice of location for bracket placement with improved biomechanics. He suggested providing the surgeons with detailed written instructions and copies of the images to improve communication between disciplines. Furthermore, 3D biomechanical planning with CBCT imaging was shown to improve the success rate of alignment of impacted teeth, minimising treatment time and damage to adjacent teeth. CBCT can be used to work out the shortest route for crown and root movement in 3D.

Additionally, the optimal directions for force application can be envisioned in three planes of space and a plan made for when these vectors should be changed, in order to design the appliances accordingly. Dr Kapila favoured appliances with good anchorage control such as a base arch wire with the application of TMA auxiliary wires bent and activated to provide the various vectors required. Minimisation of damage to adjacent teeth (i.e. root resorption) may necessitate diverging the roots of adjacent teeth.

This can be achieved by adjusting the initial bracket positioning or avoiding bonding adjacent teeth until the impacted teeth have been moved away; the close association with roots is more easily viewed and therefore managed with a 3D image. Numerous clinical examples that had been efficiently managed with very good results were shared with the audience exemplifying how these principles work even in some severe impaction and transposition cases.

Dr James Mah followed this with an interesting lecture on an unexpected topic: ‘The orthodontist’s potential role in forensic investigations’. The speaker, like the audience, was initially taken aback when presented with the suggestion that orthodontists could have a particular part to play. He was originally approached by Crime Scene Investigation (CSI) Vegas and asked if he could help identify skull remains. Furthermore, it can be aided by the presence of pneumosinus dilatans (a normal sign of ageing in males) and internal frontalis thickening (typical in females). Gender was correctly identified in 100 lateral cephalograms of adults of Taiwanese descent based on 19 landmarks by Hsiao, Chang and Liu (1996). Dr Mah based his development of 29 landmarks on this study to test the accuracy of gender identification in lateral cephalograms of adolescents and found 75% accuracy. Typically, facial reconstructions can be sculpted by artists using clay but these are costly, time consuming and not readily available worldwide. Dr Mah and his team have suggested the creation of a database with cephalometric measurements and images, which upon inputting cephalometric values can generate a “facial likeness” image that could help in police investigations. A truly different aspect to our day-to-day way of helping people.

Leila Khamashta Ledeza
Consultant Orthodontist

Dr Sunil Kapila and Dr James Mah
Carine Carels’ fascinating lecture, ‘What do/should we know about genetics of dentofacial phenotypes?’ was a fast-paced start to the day, exploring the astronomical amounts of data that are available to us now that genome sequencing is a comparatively routine process. We are now able to examine which genes are switched on to induce tissue changes in facial development and examine the consequences of their failure. She explained the clinical process of making a genetics diagnosis and exome sequencing from blood samples, whilst considering the personal and ethical issues that arise from unexpected additional diagnoses to those that the clinician is primarily investigating. She discussed many craniofacial anomalies with a dazzling and complex array of genes that have been identified. These ranged from those causing holoprosencephaly to clefts of the palate through to agenesis of specific tooth types or tooth substance and many more. Examples were beautifully illustrated and demonstrated of how dental diagnosis can lead to further ‘whole body’ genetic diagnosis and the importance of genetic counselling was stressed. She finished the lecture with a photo of five generations of her family showing a clear Carels’ phenotype!

The following lecture was by Jonathan Sandy who gave a summary of UK cleft care over several decades from the initial discoveries of poor UK care made by the Eurocleft study, through the Clinical Standards Advisory Group (CSAG) report, the huge changes implemented in clinical cleft care provision in the UK and the now demonstrable improvements in care. These achievements are most dramatic in speech outcomes. Multidisciplinary improvements have been identified from the compulsory national audit data that is collected and then shared by specialised teams and also verified by ‘Cleft Care UK’. The latter is a research study showing that there are now only 11 centres (16 operating sites) each with a large throughput, and each site operating on (median) 78 cases per year, which was previously only matched by 1 surgeon in the original CSAG studies. Professor Sandy looked to the future positively outlining some high-powered, funded studies involving (amongst other things) surgical techniques, psychology questionnaires and speech analyses, all designed to develop treatment interventions and further enhance care with a robust evidence base. In addition an exciting UK gene bank is being developed from patients and their families to ensure that cleft cases are fully phenotyped. He joked that this was an important area of research that he only pretended to understand! Somehow I doubt that!

Rye Mattick
Consultant Orthodontist
Newcastle Dental Hospital
Free Papers 1: Temporary Anchorage Devices (mini-screws)

This session began with a possible solution to the tricky problem of maintaining alveolar ridge height in the pontic region in growing patients with hypodontia. Whilst it is possible to maintain space for the crown of the tooth, easily achieved with a well-designed resin-retained prosthesis or removable appliance, often the bone levels are ignored leaving the patient with insufficient bone for aesthetic implant placement if desired once growth is complete. Dr Ciarlantini described a technique to place mini-screws (using the Aarhus system) horizontally and palatally, with a bonded acrylic tooth ligatured to the head of the mini-screw. In a small study of five patients, average age of eleven years, using six mini-screws, there had been ligature fracture in two cases but the integrity of the cortical plate had been maintained and vertical growth continued over the five years of the study, shown using CBCT scans. Future developments will include using a CBCT and stent for optimal placement of the mini-screw.

Following an excellent repeat performance from the winner of the University Teachers’ Group prize, Sara Hosni, Dr Tuncer presented the results of an RCT using piezocision surgery facilitated en-masse retraction using mini-screws for anchorage. There was no acceleration of tooth movement and it was not found to be helpful since six out of the 15 patients within the experimental group developed rather unsightly bony protrusions following piezocision surgery.

A preliminary study conducted in private practice by Dr Luzi tried to address the difficulty of avoiding lower incisor proclination during Herbst correction of Class 2 division 1 malocclusion. Twenty patients were either assigned to the experimental group or the control, depending on the inclination at the start of treatment. If the lower incisor inclination was more than 101˚, bilateral hooks were added to the Herbst structure which were then attached to mini-screws placed between the lower second premolar and molar bilaterally. Although the sample size was not sufficient for statistical analysis, the lower incisor inclination of the control group increased by 2-11˚ whereas the experimental group increased by 0-4˚, as judged using cephalometric measurement. An alternative, suggested by a delegate, would be to ligature the lower incisor teeth to the mini-screws on each side. There was no discussion regarding any impact of this treatment upon root resorption and further studies are planned.

The final presentation by Dr Maldonado-Noriega detailed a study to measure the microbial profiles associated with successful or failed mini-screws. The microbial profile for those patients with successful mini-screws was more similar to the profile of sub-gingival plaque for routine patients without mini-screws. From this study it was not possible to ascertain whether the increased microbial numbers or the change in microbial profile was merely associated with the failing mini-screw or could be implicated as a reason for failure. Further studies using the checkerboard DNA-DNA hybridisation method of analysis are planned.

These studies, whilst predominantly small-scale preliminary work, are helpful in guiding the direction of future work to explore possible pitfalls and concerns whilst expanding the range of clinical applications of mini-screws.

Dr Julie C Williams
Academic Clinical Lecturer in Orthodontics
University of Bristol
Monday morning at the IOC saw a popular session incorporating three outstanding and contrasting presentations on mini-screws from speakers from USA, Germany and Australia.

Opening the session was Sebastian Baumgaertel with a comprehensive discussion about the treatment planning considerations of using mini-screws. The focus of the talk was potential insertion sites and biomechanics, with an emphasis on shifting from indication-driven site selection to site selection based on anatomical factors. This paradigm shift will improve success rates by reducing the failure associated with macro-anatomical factors such as interference from adjacent roots, sinuses and soft tissues. Dr Baumgaertel concluded the presentation with cases to demonstrate how mini-screws placed in the optimum anatomical site have been employed mechanically to successfully support treatment for space redistribution in hypodontia, space closure for poor prognosis teeth and correction of anterior open bite in a Class III case.

Following on from this, Bjorn Ludwig raised the question whether mini-screws actually improve orthodontic treatment outcome. Dr Ludwig opened with a humorous review of the evolving relationship between experience and confidence, using his own journey with mini-screws to illustrate the point. The possible applications for mini-screws were reviewed with consideration of the increased treatment burden relative to improvement in outcome for each. The overall feeling was that mini-screws may add little to orthodontic treatment outcome in some cases, yet for other cases be irreplaceable. For example, in cases of hypodontia, Dr Ludwig discussed whether slicing of primary molars, as described by Zachrisson, or alternative methods for space closure may be preferable to treatment based around mini-screws. On the other hand, examples of cases requiring unilateral space closure or maxillary labial segment intrusion in a growing patient highlighted that mini-screws may be the optimum treatment method. Dr Ludwig reflected on the difficulties of fulfilling patients’ aesthetic demands in the “selfie” generation and emphasised the necessity for teamwork with restorative colleagues.

The final speaker of the session, Mithran Goonewardene, provided a comprehensive overview of the scope for using mini-screws as an adjunct for occlusal correction in orthognathic surgery. Dr Goonewardene opened with the findings of a recent study that indicate that presurgical decompensation was ineffective for tooth positioning to optimise orthognathic surgical movements. Dr Goonewardene demonstrated how bone plates can be employed to aid effective decompensation in a variety of surgical cases including Class III, anterior open bite, bimaxillary protrusion and cases requiring molar distalisation. The latter part of the presentation offered an alternative orthognathic treatment process where surgery is completed prior to correction of the occlusion. In this approach the skeletal discrepancy is corrected first, resulting in a well-balanced skeletal base with a malocclusion amenable to orthodontics. Cases where this method has been used successfully were shown.

Overall the three speakers provided an interesting and thought-provoking review of current uses for mini-screws, with direct applicability to clinical practice in the UK. The accompanying high quality clinical cases built a broad picture of the potential outcomes that can be achieved with mini-screws.

Dr Sophy Barber
Academic Post-CSST Registrar in Orthodontics
and NIHR Doctoral Research Fellow
University of Leeds
Class II Treatment

Dr Jay Bowman presented a lighthearted lecture titled “All Class II roads lead to Rome: same thing - only different” essentially highlighting how research over the years has shown that similar results are achieved in class II growing patients in mandibular growth irrespective of which treatment approach is chosen; distalisation of upper molars with headgear or fixed distalisers, functional appliances (removable or fixed) or class II elastics. He proposed the key in all these approaches is the disclusion achieved thereby reducing the continued development of Class II relationships throughout growth. Hence Dr Bowman recommended that starting any treatment during adolescence would be key in Class II cases.

Other possible benefits of treatment of severe Class II cases were explored by Dr Sabine Ruf who asked the “What, Why, When and How” questions. Sadly, up to 43% of children are affected by bullying or cyber-bullying in Europe, with 69% in 2013 in the UK. Evidence shows that treatment of children with a Class II malocclusion reduced the bullying rate by 95% (Seehra et al 2013). Furthermore, she pointed out the possibility of an association between orthodontic treatment of those patients affected by restricted posterior airways and improved breathing, suggesting that this could become a screening question during examination of our Class II patients. This idea was supported by a preliminary study (Claudino et al 2103) showing an inverse association between ANB angle and velopharyngeal volume (measured using CBCT). Lastly the recent Cochrane review 2013 on Class II timing of treatment (Thiruvengatuchari et al 2013) found the incidence of incisor trauma decreased by 41% with early two-phase treatment compared to a later one phase course of treatment, which could guide the decision of when to start treatment in some cases. Dr Ruf concluded that there was a group of Class II patients who may significantly benefit from treatment in terms of general health, dental health and quality of life but more evidence is required to look at the success rate and stability of the different methods of treatment.

Finally, Dr Ewa Czochrowska outlined the evidence for ground rules for orthodontic treatment in adult patients with severe periodontal disease. Firstly, the periodontal disease should have been stabilised before orthodontic treatment as tooth movement amidst active periodontal disease can lead to further attachment loss. Her clinical recommendation as some of the markers of this stability included achieving <15% bleeding on probing scores and satisfactory salivary bacterial testing. She conducted a prospective study in 2013 on the effect of orthodontic treatment on periodontal tissues in adult patients with periodontal disease (15 aggressive and 30 chronic) and found that the type of periodontal disease, gender and smoking status did not significantly influence attachment loss. The minimum amount of bone support required for orthodontic treatment was the second ‘borderline’. Since this limit has not been quantified in the literature it remains a clinician-patient decision with the proviso of the need for long-term retention with fixed retainers. The third ‘borderline’ was the patient’s attitude and risk factors known to have detrimental effects on the susceptibility and severity of the condition such as gender, smoking, diabetes, obesity, stress levels and osteoporosis. Ewa presented a number of her treated cases with excellent results where radiographically bone levels had been maintained, despite pre-existing severe bone loss. In conclusion, these patients can be successfully treated with orthodontic treatment, often significantly improving aesthetics and occlusion, with the proviso of the need for long-term retention with fixed retainers. Her recommendation was for orthodontists to liaise closely with periodontal specialists for the management of these cases.

Leila Khamashta Ledezma
Consultant Orthodontist
Guy’s and St Thomas’ NHS Foundation Trust
Free Papers 2: Clinical Research

This thought-provoking session began with Dr Georgios Kanavakis from the USA who described the trends in the characteristics of systematic reviews and RCTs published in high impact orthodontic journals. His team found most high quality research has previously been conducted in North America and Europe but was pleased to report increasing numbers of published high quality research articles from South America, Australasia and Asia. The importance of careful study design, essential to a high quality study, was highlighted by the next speaker Dr Spyridon Papageorgiou, Germany who found orthodontic treatment effects were inflated in retrospective compared to prospective studies and harms were better reported in randomised compared to non-randomised studies, extracted from published orthodontic meta-analyses.

The effects of three specific appliances were reported - firstly Dr Minfang Huang, China who described a plastic mandibular advancement appliance for the management of obstructive sleep apnoea. The appliance was shown to be comfortable but also tough due to its soft internal surface and hard external surface. The group’s findings demonstrated the appliance was well tolerated by patients and led to a reduction in polysomnographic parameters in 92% of subjects. Dr Cagri Gaziloglu, Turkey studied the effects of a skeletally anchored Akkaya Vertical Protraction Appliance (AVPA) in Class III subjects. The appliance involves protraction headgear, two mini plates inserted in the anterior maxilla and a mandibular bite raising appliance. In high angle cases the AVPA was shown to prevent anterior rotation of the maxilla and increases in lower face height. Thirdly Maria Markova, Russia described the changes in upper airway parameters following the treatment of Class II patients with the Double Lock Twin Force® Bite Corrector (Henry Schein Orthodontics). Her cephalometric findings provided evidence of an increased distance between the soft palate and posterior pharyngeal wall following the use of the appliance.

Dr Sercan Akyalcin (University of Texas) followed with a captivating presentation titled ‘Evaluation of 3D root surface changes and resorption following rapid maxillary expansion’. His team superimposed 3D CBCT images of premolar and molar teeth before and after expansion. The results revealed, on average, premolar and molar teeth undergo 0.3 – 0.5mm root resorption, mainly affecting the apical and buccal root surfaces. Dr Akyalcin noted he would still use rapid maxillary expansion in practice due to the reparative potential of root cementum.

Patient-focused outcomes were measured by three studies. A multi-centre RCT, conducted in the UK and Italy and presented by Dr Zaid Esmail, UK investigated the efficiency and colour performance of coated aesthetic arch wires. The team found aesthetic arch wires were no different in terms of alignment efficiency but BioCosmetic® archwires (Forestadent, Germany) had the best aesthetic performance. Another UK study, by Dr Mary Kearney, explored laypeople’s opinions of lower labial segment irregularity and orthodontic re-treatment through focus groups. Concurrently the team investigated lay and professional perceptions of lower labial segment relapse using study models and a quantitative survey. The results revealed lay people were concerned by the financial and time implications of orthodontic re-treatment and horizontal rather than vertical irregularities of the lower labial segment increased people’s perceptions of the need for re-treatment. Finally patient-reported outcomes were also sought by Dr Maria Beccuti, Italy who conducted interviews with patients one month after orthognathic ‘surgery first’ approach using the Face-Q appraisal scale. She found patients had improved psychological well-being and social functioning after surgery.

John Perry
Specialty Registrar in Orthodontics
University of Cardiff
Contemporary Orthodontic Practice

Three eminent speakers seen as leaders in their field ensured that the auditorium was packed for the afternoon session on contemporary orthodontics.

Dr David Sarver is well known as an engaging speaker who dispenses plenty of clinical tips throughout his beautifully illustrated presentations. Running with the theme of patient-focused outcomes which was a feature of this congress, he presented his work on macro-aesthetics of the face, mini-aesthetics of the smile and micro-aesthetics of the teeth and dental tissues. It was a pleasure to spend time just admiring the skill of an excellent orthodontist but seeing the process of systematically recording this level of detail prior to treatment planning was informative and useful. The importance of reviewing and reflecting upon the outcomes was emphasised in order to achieve even greater results and seeing the cases over many years helped to illustrate how our patients mature. Understanding the potential for these changes, particularly in respect of the soft tissues, was seen as key when deciding upon the ideal treatment plan, in collaboration with the patient and their wishes.

The second speaker, Dr Marco Rosa, is renowned for his interceptive treatment options to treat both anterior and posterior cross bite whilst the patient is still within the mixed dentition. The need to treat these cases early is well supported by the literature. Jonathan Sandler during his talk ‘How Research effected my clinical practice’ reflected upon all the research projects he had been involved in over the past 29 years since qualifying as an orthodontist. He explained the reasons for his scepticism about cephalometrics and presented alternative 3-D digital methods of evaluating tooth movement which he used in his recent implant studies. Details were also given about the landmark Manchester Twin Block multi-centre RCTs, which received so much attention over many years. Mid-palatal implants and rare-earth magnets were also the subject of much research by the Chesterfield team. Jonathan encouraged all Orthodontists to get involved in research projects as it will greatly enhance their enjoyment of orthodontics both as a science and an art. Jonathan Sandler

Monday afternoon’s ‘Tooth movement’ session in the ICC Capital Hall attracted a large crowd for some of the biggest names in the fields of biological tooth movement and aligner technology. The chairs for the session were Padhraig Fleming (Barts and The London School of Medicine and Dentistry) and Siti Adibah Othman (University of Malaya, Malaysia).

First to the stage was Dr Tim Wheeler (University of Florida Gainesville) to help navigate through the world of clear aligners. He presented research demonstrating that aligner systems which attempt small tooth movements at each aligner stage are more successful than those which attempt larger movements. He discussed the development of the Invisalign first premolar extraction solution and also the SmartTrack™ aligner material (Align Technology) which is more flexible and durable compared to older aligner materials. Dr Wheeler also discussed the lack of evidence to support the use of AcceleDent® (OrthoAccel Technologies, Inc) to increase the rate of tooth movement when used with aligners or fixed appliances.

Professor Orhan Tuncay (Temple University, USA), author of the first and only Invisalign® textbook, continued this session with a discussion of predictable aligner performance. He stressed that aligner software cannot predict individual biological tooth movement and therefore tooth movement should be tracked carefully to ensure aligners are not...
Tooth Movement continued

changed too early. Professor Tuncay demonstrated the use of large buccal attachments to express torque effectively and noted the recent new finding that T-cell activation is required for orthodontic tooth movement.

To close this fascinating session Professor Ali Darendeliler (University of Sydney) gave a comprehensive review of the evidence concerning accelerated tooth movement. He started his talk by noting we are a long way from achieving the maximum possible rate of physiological tooth movement of 3mm/month. He discussed research findings showing improved bone healing with mechanical vibration and its possible beneficial role following orthognathic surgery. The findings of a trial to assess the effectiveness of Hummingbird (Oral B) and AcceleDent® (OrthoAccel Technologies, Inc) were presented and showed no clinically significant difference in the rate of tooth movement between the two methods. Professor Darendeliler concluded by highlighting research which shows piezocision increases root resorption and causes iatrogenic root damage even in the hands of experienced surgeons.

This session, like many others at the congress, demonstrated that having the opportunity to hear from researchers first hand can greatly assist clinicians in their evaluation of the evidence to support or refute the benefits of a particular treatment.

John Perry
Specialty Registrar in Orthodontics
University of Cardiff

Free Papers 3: Basic Science

The afternoon session of free basic science papers covered a diverse range of orthodontic problems including agenesis, supernumerary teeth, crowding and mandibular prognathism. Dr Yamaguchi began by asking what decides the number and location of missing teeth in patients with hypodontia. One to two per cent of Japanese have a missing mandibular incisor and 80 Japanese patients with this anomaly were analysed using whole exome sequencing. Fourteen variants of the novel gene CDH23 were found in 21 patients. The other side of the coin was studied by Dr Seppala as she studied Gas 1 mutant mice which develop supernumerary teeth. These mice were found to have localised increased proliferation of the anterior part of the tooth organ and reduced cell death in the region of the dental lamina corresponding to overlapping expression of two genes, Gas1 and Ptc1. Without the Gas1 gene, inhibition of proliferation in the rudimentary tooth bud region could not occur, resulting in supernumerary teeth. Studies on these mice help to understand molecular mechanisms that underlie similar mutations in GAS1 in humans.

The prevalence of crowding within a South Indian population (30-60%) led Dr Rangasamudra to study 60 patients to evaluate the association of genetic polymorphisms in BMP2 gene variants, several of which were associated with Class 1 crowding. He speculated that prenatal identification of these patients and gene manipulation of the amniotic fluid could be a futuristic method of correcting crowding, although the ethics of this was not discussed. Back in Japan, Dr Kaji and his team undertook the first genome-wide association study of 240 skeletal Class 3 patients undergoing orthognathic surgery. Two microsatellite markers, from an initial 23 465 were found to have significant association with mandibular prognathism, following pooled DNA genotyping. The first susceptibility region 1p22.3 corroborates previous results but the second, 1q32.2 was new, or in genetic terms, a novel locus. SSX2IP and PLXNA2 were found to be speculative candidate genes of mandibular prognathism.

An engaging presentation by Dr Rizk from Hong Kong explained the process of tissue engineering using dental pulp stem cells collected from extracted teeth. Using a viral vector to carry the gene for chondrogenesis to the cells, these were then seeded onto polyactic fibre scaffolds. These cells demonstrated attachment, proliferation and viability and the scaffolds were also successfully implanted into the backs of nude mice. Dr Rizk reported that these 3D cartilage constructs could prove useful in future treatment of cartilage defects.

‘Basic’ science was also attempting to answer some of the questions being discussed in the clinical part of the conference - can we move teeth faster, can we retain them and can we reduce the risk of root resorption? Dr Garcia-Lopez investigated the effect of micro-pulse vibration upon bone homeostasis using mouse osteoblasts cultivated in vitro. Micro vibration for 20 minutes led to inhibition of some cytokines supporting the theory that extremely small mechanical signals may be capable of serving as a regulatory mechanism for bone homeostasis. Dr Burak evaluated vascular endothelial growth factors in rats but they were found to have no positive effect on osseogenesis. Finally Dr Kaczor-Urbanowicz used electrophoresis to identify salivary biomarkers that had increased expression within the saliva of orthodontic patients with moderate to severe root resorption compared with controls. Her team is currently working to produce immunoassay strips to try to identify those patients prone to developing root resorption. It could also be possible in the future to use these tests throughout treatment to monitor patients.

Dr Julie C Williams
Academic Clinical Lecturer in Orthodontics
University of Bristol
The World Village Day offered WFO affiliate organisations the unique opportunity to present either a half or full day scientific programme. We were delighted that this day attracted an unprecedented level of interest, presenting the unique opportunity to demonstrate what the world of orthodontics had to offer, on a truly global scale. Unlike any previous International Orthodontic Congress, the 8th IOC attracted no less than 15 different National Societies from around the world and proved to be the largest meeting of its type. To accommodate the scale of interest received, 8 parallel sessions ran throughout the day event. This offered the best opportunity to-date to learn about the outstanding clinical and/or research work being undertaken within our Specialty and, as a combined programme, proved to be very attractive to all delegates attending the meeting.

Dr. Ama Johal
World Village Day Programme Chair

The BOS World Village Day
The British Orthodontic Society proudly showcased a series of world-class talks, presented by speakers who eloquently discussed their experiences and research as leading clinicians in their field of interest, kicking off with a talk from Mr David Birnie and Dr Nigel Harradine on ‘Digital Orthodontics - Benefit or Burden’. With advances towards digital orthodontics increasing year on year, delegates learnt about the possible applications of digital technology, the impact of digital orthodontic applications on clinician time and the potential short and long term benefits to patients. Mr Birnie also described the Toyota business objectives and explained how their adopted business matrix could be applied to improve quality, cost and efficiency in the clinical setting. The use of digital healthcare applications to simulate treatment outcomes and to improve compliance with appliance wear or oral hygiene instructions was discussed, in addition to the benefits of using intra-oral scanners and 3D printing applications to produce appliances in the future. The need to invest in more costly capital projects and to train staff to use new software programmes were highlighted as potential downsfalls.

This year, the prestigious Northcroft Lecture entitled ‘Did I ask you how you felt about that?...benefits of patient-centred research’ was delivered by Professor Susan Cunningham.
After describing the evolution of the Northcroft Lecture, Professor Cunningham’s presentation focused on the uses of patient-centred research and the impact it may have on the provision of orthodontic services in the future. The results of several systematic reviews and qualitative studies undertaken by some of her research students were discussed - including those that have explored the effect that different methods of information provision have on patient anxiety levels. The development of a patient decision making aid and its application during routine consultations was also clearly described, in addition to learning points from several studies that have focused on quality of life measures and orthognathic outcomes. As one of the leading researchers on the psychology of dento-facial deformity and outcomes of orthodontic and orthognathic surgery, Professor Cunningham was able to deliver an informed and insightful opinion on the relevance, impact and need for more patient-centred research to ensure that healthcare services meet basic patient needs and improve treatment outcomes. Following a short coffee break and a wander around the trade exhibition stands, Dr Vince Kokich opened the second half of the morning’s talks with his presentation titled ‘The interdisciplinary team: A collaborative approach to optimise treatment outcomes for the orthodontic patient’. This emphasised the need to adopt a systematic and interdisciplinary approach to optimise treatment outcomes for patients seeking an improvement in anterior aesthetics. Dr Kokich outlined some of the aesthetic and diagnostic parameters, such as incisor inclination and clinical crown height, that need to be considered when managing patients who present with deep overbites, tooth wear and trauma to the anterior teeth. A series of impressive photos demonstrating treatment outcomes for some of his most challenging cases reinforced the need to adopt a holistic and team based approach.

The clinical theme continued when Dr Padhraig Fleming took to the podium to discuss a range of surgical and non-surgical techniques available, or currently in development, to help reduce treatment time. The biology of tooth movement in addition to the risks and benefits associated with accelerating a course of a treatment were clearly explained and illustrated. Appropriate case selection, sequential forward planning and the adoption of appropriate and innovative clinical techniques were highlighted as ways to execute cases quickly and safely.

Dr Lars Christensen’s lecture complemented the Northcroft lecture delivered by Professor Cunningham earlier in the morning. Both focused on patient expectations - the need to manage, extrapolate and report them. His talk entitled ‘Managing patients’ expectations’ focused on customer satisfaction and...
The BOS World Village Day

Dr. Christensen discussed the influence that patient expectations may have on orthodontic treatment. He commented on research papers which have focused on motivating factors for orthodontic treatment. The difference between external and internally motivated patients and the effect it may have on outcomes and expectations was also deliberated. Practical examples of how Dr. Christensen uncovers his patients' motivation for treatment were explained, such as the use of age specific questionnaires to be analysed and further explored during his consultations. The use of modern technology such as intra oral cameras and treatment simulating software were highlighted as ways to reinforce proposed outcomes and highlight areas of concern with a view to ensuring consent is informed.

The afternoon session began with an informative talk from an experienced and well-researched clinician on the use of mini-implants. Dr. Richard Cousley analysed the literature available on molar intrusion and commented on some of the results that have been reported on dento-skeletal changes. The answers to many commonly asked questions regarding the use of temporary anchorage devices were revealed and supported with some clinical examples. The advantages and disadvantages of mini-implant systems used to manage anterior open brites was also beautifully summarised and supported by up to date research findings.

Delegates were then treated to an amusing and entertaining lecture given by Professor Martyn Cobourne. His presentation covered the uses of and evidence supporting supplementary techniques, mainly vibrational forces, to help reduce treatment time. His presentation began with a reminder of some of the most common strategies adopted, such as the selective use of appliances, bracket prescriptions and arch wire sequences. This led onto the main focus of his talk on research conducted in three orthodontic clinics in the UK. The method and results of this multicentre, randomised control trial, involving 81 subjects randomised to receive treatment supplemented by daily use of an intra-oral vibrational device (AcceleDent) and a sham non-functional device was discussed in detail. The results indicated that there was no evidence to support the use of vibrational forces to accelerate tooth movement.

Implants were the topic of interest when Dr. John Scholey discussed space requirements and implant specifications for adult restorative cases. His talk entitled ‘There’s no space like bone – moving teeth for the adult restorative interface’ concentrated on the clinical treatment of adult inter- disciplinary restorative cases where orthodontic treatment has been used to reposition teeth to facilitate restorative care. Dr. Scholey summarised the types of bone grafts available, in addition to their uses and pitfalls. The use of orthodontic bone generating techniques and the benefits of adopting some of his described methods when managing periodontal and hypodontia type cases was also covered in this very useful and clinically relevant presentation. Delegates were able to learn how to overcome some of the commonly described clinical problems encountered when opening space for implants and appreciated the importance of timing the end of active orthodontic treatment with implant placement to maximise chances of success.

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The impressive programme ensured delegates enjoyed an entertaining and insightful day and were able to heighten their understanding on an array of important and contemporary topics relevant to all clinical orthodontists. It was well attended and talks were all very well received. A successful day for the British Orthodontic Society!

Miss Sujata Sharma
Post CCST Orthodontics
Ashford and Eastman
Wednesday 30 September 2015

Imaging

The first lecture of the day was given by Lucia Cevidanes who introduced CBCTs to assess treatment outcomes in 3D, the software and superimposition of images that were presented by other lecturers later in the day. The speaker directed the audience to the fantastic open source software and Dental and Craniofacial Bionetwork for Image Analysis tutorial videos, found online by searching ‘DCBIA videos’ which are available to everyone for a clear explanation of the way in which the 3D superimpositions are carried out. The benefit of these 3D images was clear as the speaker emphasised that the key to successful treatment is not necessarily the appliance or gadgets used, rather the need to ensure there is a deep understanding of the problem. This deeper understanding is possible with the benefit of the 3D images. The speaker showed the use of the 3D superimpositions in a variety of cases including mandibular changes using functional appliances and distraction osteogenesis.

CBCT: Identification of anatomic boundary conditions

important to orthodontists – David Hatcher

From the title I expected this lecture to be a tutorial on reading CBCT scans which would have been very useful in my clinical practice. It was not what I expected, but I found the lecture interesting nonetheless. The boundary areas the speaker discussed were the temporomandibular joint, roots and ridges and the airway. The speaker explained how the jaw has to function at a high level to maintain a high level of performance as it plays a role in breathing, chewing, speaking and swallowing. The jaw will adapt to maintain these functions however, there are a number of factors that will affect its effectiveness such as the position of the condyles in the fossa, growth patterns, disc movement, condylar changes and tissue damage within the temporomandibular joint. The speaker also discussed patients with thin alveolar processes and drew a correlation between these patients and those with unstable joints and airway difficulties. He then discussed patients with airway difficulties and reminded the audience that when they assess the airway they should look at the position of the mandible and maxilla, the paranasal sinuses, the airway itself, the spine and the cranial base.

Paroo Mistry
Specialist Orthodontic Practitioner

Free papers 4: Cleft and Class III

Following on from the internationally powered lecture series running on the first two days of the conference, the free papers session was an exciting opportunity for global researchers to showcase their projects.

The organisers had dedicated the morning session for researchers in the field of cleft lip and palate orthodontics and it was stimulating to witness the extensive research that is taking place. Dr Emad Hussain started the session by describing the multidisciplinary approach to cleft patient care in Palestine. The speaker explained how visiting clinicians from the USA over the past 10 years had helped to set up a network to centralise cleft lip and palate care. This centralised structure is now benefiting patients throughout the region as well as providing a centre of expertise and training for clinicians. Dr Hussain described how centres in the USA and regions such as Taipei had influenced the Palestinian re-organisation. This echoed Professor Jonathan Sandy’s presentation on Monday which explained the benefit of centralised schemes for both efficacy and efficiency.

Exploitation of advances in 3D photogrammetry was a theme across many talks at the IOC and Dr Sivabalan Vasudavan from the Harvard School of Dental Medicine described his research looking at surgical outcomes for nasal asymmetry. The speaker explained how the 3D technique was used to create a symmetrical computerised nose prior to surgery. The surgical result was superimposed onto the computerised model to assess the outcome. This was then used to compare whether internal nasal splints would be needed to protect cartilage. Research in this field is continuing to develop this technology and its potential to extend the evidence base for differing clinical techniques.
The Status of Orthodontics around the world - the WFO session

This session offered fascinating glimpses of our profession and its standing within South Africa, Russia, Brazil and China, including details of who can undertake orthodontics within these countries, the training pathways and differences in accreditation. The challenges of large populations and relatively small numbers of qualified orthodontists were shared by South Africa (110), Russia (2000) and China (2500) but there has been a five-fold increase in the number of Brazilian orthodontists over the last five years, with over 20,000 now practicing in Brazil. Following these presentations, Dr Roberto Justus reflected on the WFO achievements during his previous five years as President including increased WFO membership, the development of the WFO online journal and high levels of international support for the increasing standards of orthodontic care and the establishment of orthodontic Boards. Dr Justus showed his appreciation to the committee for the past five years and also thanked the organising committee of the 8th IOC before introducing the WFO President-Elect Dr Allan Thom. Dr Thom is the first UK orthodontist to become President of this prestigious organisation and takes up the role at the culmination of the 8th IOC.

Dr Thom paid tribute to the new Executive drawn from all regions of the world with representatives of the highest calibre and dedication. He reported how the WFO has progressed from strength to strength over the last 20 years with 111 affiliate societies representing almost 10,000 fellows. He stressed that the prime responsibility of the newly elected Executive is to maintain close contact with fellows within their region and to promote the WFO’s goals, namely to encourage high standards of orthodontics throughout the world, support education and promote desirable standards of training and peer reviewed accreditation. Dr Thom congratulated Dr Kaczor-Urbanowicz in her work to set up the WFO Residents/Post Graduate Orthodontic Students Group (WFPOS) and announced that the option of free WFO membership to post graduates has been extended until 27th September 2016.

His vision of the next five years included developing the concept of WFO facilitation of young orthodontists from less affluent countries to attend the IOC. Dr Thom acknowledged the many organisations with whom the WFO enjoy excellent working relationships and recorded particular thanks to the American Association of Orthodontists for their support and friendship.

Dr Jonathan Sandler, Chair of the 8th IOC, spoke with some emotion of the eight years of planning undertaken by his organising committee during their every waking hour! He emphasised the importance of garnering support from all possible sources including Royalty, dental trade, politicians, allied professions and national and regional orthodontic associations. There had been over 6000 registrations for the 8th IOC including over 1000 Allied Health Professionals.

A brief taste of the planning being undertaken for the 9th International Orthodontic Congress was described by Dr Keiji Moriyama since it will be held in Yokohama on the 4-7th October 2020. He highlighted the excellent facilities and the ease of getting to Yokohama since the airport handles 2100 flights a week from over 70 countries. He warmly invited delegates to join him at the 9th IOC and to enjoy Japanese hospitality. We were then treated to a beautiful video presentation to whet our appetite for the 9th IOC.

Dr Allan Thom
WFO President
Orthognathic Surgery

The orthognathic surgery session began with a joint presentation by an Italian orthodontist-surgeon team, Renato Cocconi and Mirco Raffaini. They based their presentation on what they have defined as the three levels of intervention; the framework of the hard tissues, the hard tissue morphology and soft tissue enhancement. This was a beautifully illustrated and well presented lecture by two excellent clinicians. They demonstrated their ethos of ‘face driven treatment’ as opposed to ‘occlusion driven treatment’ with a multitude of patients who had undergone combined orthodontics and orthognathic surgery. Their philosophy was based on utilising the position of the incisors and the jaws as a framework for the soft tissues, with fascinating and transformative results.

Their management of the underlying hard tissue of the mid-face, nose and chin was also illustrated, using skilfully executed rhinoplasty and genioplasty. Finally, they emphasised the importance of correct soft tissue morphology with soft tissue reshaping as required and illustrated this with examples of muscular reconstruction.

This was followed by a presentation on “Surgery first for the management of class III orthognathic patients” by Professor Junji Sugawara. This presentation was based on the surgery first protocol developed by Professor Sugawara and colleagues in Japan with results from over 200 patients treated in this way. Professor Sugawara described the protocol for surgery first which is based on rigid fixation of the bony segments, using a robust, well-designed titanium plate skeletal anchorage system (S.A.S.). He illustrated the success of this technique showing excellently treated cases with an average treatment time of orthodontics and surgery of only 14.8 months. Other possible advantages of this approach included being able to predictably schedule the operation at a time to suit both the patient and the hospital team and avoiding worsening the facial profile prior to surgery that is a routine part of conventional pre-surgical orthodontics for these patients.

Dr Sadaf Khan
Consultant Orthodontist
Eastman Dental Hospital

Free papers 5: Clinical Research

The theme of the Northcroft Lecture this year was patient centred research and the benefits of this research towards the individual. The importance of this approach to research globally was confirmed by many papers during this session which presented the psychosocial benefits of particular treatment regimes, for example, looking at the effects and benefits of facemask and reverse chin cup therapy. Dr Nahush Shah, specialty registrar from The Royal Derby Hospital, described his qualitative research looking at the cross sectional validation of child perception questionnaires. He explained the importance of measuring both validity and reliability of questionnaires to ensure the usefulness of results.

In vivo studies presented by Dr Aradhana Agarwal aimed to provide light upon the age old issue of enamel demineralisation during orthodontic treatment. The study looked at the benefit of using composite containing amorphous calcium phosphate for orthodontic bonding. The results were encouraging, showing significantly more resistance to demineralisation when compared to conventional composite.

Free papers session at conferences such as these allow both the speakers and the audience to engage in international research; it allows the scientific community to provide support to one another by promoting, critiquing and advancing research practice. Unfortunately it is not possible to describe each of the thoughtful and unique studies presented in the free papers session in this short article, however abstracts are available both online and in paper editions of the IOC programme.

Dr Manveer Basati
Specialty Registrar in Orthodontics, Eastman Dental Institute and Hospital
Tooth Movement

The advantage of a topic such as “Tooth movement” for a session at IOC is the variety of presentations that cover this fundamental area for orthodontists. Dirk Wiechmann, well-known to many of the audience for his work with custom-made lingual appliances, spoke about the benefit of the ‘perfect slot’ for accurate tooth movement. He explained that this is much more achievable with high speed milling with +/-1 micrometer accuracy in custom made lingual appliances, compared to stock labial brackets shown to be produced with significantly more variability and therefore error. The speaker showed an interesting case of recession affecting a lower anterior tooth. He demonstrated how effective torque expression from the fully customised lingual appliance brought the root back into the bone and the gingival margin further improved with a connective tissue graft. I was impressed.

Continuing the theme of customisation, Dr Wiechmann recommended custom-made arch wires, to match the patient’s arch form describing large variations in arch form seen particularly between different racial groups. He also explained that the main reason he uses lingual appliances is not the aesthetic advantage, but rather the reduced decalcification seen in lingual cases.

Simon Littlewood then spoke about retention - a really enjoyable and practical lecture, and probably the one I discussed most with my colleagues when back at work after the conference. I see so much variation in retainer type and retainer regimen amongst my colleagues. Most tend to do as their trainers before them have done, rather than basing their practice on the evidence base. The common retention regimen of six months full time wear and six months nights only trace back to a suggestion made by Dr Hawley at a meeting in 1919 without any formal research being done. The speaker quoted a number of careful studies such as Gill (2007) and Thickett (2010) which show no benefit of wearing retainers full time compared to nights only. Furthermore, Sun et al 2011 suggested that full time retainer wear can damage the retainers thus favouring part time retainer wear from the start.

Dr Littlewood discussed the relative merits of the vacuum formed retainer compared to the bonded retainer. He explained that there is no best answer and clinicians simply need to consider the advantages and disadvantages of the bonded retainer in each case. For example the RCT undertaken recently in Leeds to compare bonded and vacuum formed retainers, demonstrated that there is more plaque retention and calculus formation with bonded retainers. However, patients preferred bonded retainers as they found them more comfortable, needed less compliance and had less effect on speech, although they also found them harder to clean than vacuum formed retainers. So the jury is still out, but the retainer decision needs to be made on a case by case basis to ensure the right retainer is selected for each particular patient.

Dr Ted Eliades closed the morning with an interesting talk going back to basics of the pre-adjusted appliance, one we all know so well. It was a clearly structured talk that was easy to follow and just made sense. The speaker spoke about factors that influence the effectiveness of the pre-adjusted edgewise appliance, such as the wire, brackets, adhesive, the elastomeric module and the periodontal ligament. He also spoke of factors that can affect the periodontal ligament and need to be considered in orthodontic planning but remain outside our control, such as patient’s age, periodontal disease, systemic disease and connective tissue disorders. Some of these seem so obvious, however to actively consider the effects they may have on the orthodontic treatment, can change the outcome of those difficult cases. For example, the fact that the elastic module becomes slack over time means that the passive self ligating bracket occasionally exerts a higher force than conventional brackets during alignment. He also reminded the audience not to assume that the larger dimension wires are always stiffer as a 0.016” x 0.025” TMA or 0.022” SS wire is stiffer than a 0.021” x 0.025” TMA or NiTi - something I will now consider when dealing with compromised roots.

Paroo Mistry
Specialist Orthodontic Practitioner
Evidence Based Orthodontics

This entertaining session looked at how we use evidence from research and considered how we should measure outcomes of orthodontic treatment. Dr Greg Huang, editor of a comprehensive textbook on the subject, gave a careful overview of evidence-based dentistry and the hierarchy of evidence before stressing the importance of actually looking at the evidence for a treatment rather than blindly following the claims of a manufacturer. Indeed, he considers that we have a duty to our patients to practice evidence-based orthodontics using systematic reviews and meta-analyses in searching for the answers, even when this challenges our daily practice. Dr Huang ably illustrated the process of applying research findings to clinical practice with his experience of undertaking a randomised clinical controlled trial to evaluate the effectiveness of two regimens for successful treatment of white spot lesions, as judged by both the expert and the layman. The patients, who had completed fixed appliance therapy within the previous two months, were also asked to visually self-assess the level of improvement in the appearance of the white spot lesions. This highlighted the importance of using outcomes to measure results that are relevant to the patient. There was no statistically significant difference in the effectiveness of Mi Past Plus or PreviDent fluoride varnish compared to a standard oral hygiene and toothpaste regimen for reducing white spot lesions during an eight-week period.

Professor Donald Burden expertly developed the theme of evidence to consider what we actually achieve with orthodontic treatment in terms of health and well-being. He proposed that a malocclusion could have a detrimental long-term effect upon an individual’s dental health, psychological well-being and their social well-being. These three possible effects were discussed in turn, including the prevention of dental disease, improvement in function, prevention of trauma, management of speech problems and impact upon well-being. In conclusion, Professor Burden said it is unlikely that a substantial oral health benefit from orthodontic treatment, at the population level, can be proved. He felt it was also unrealistic to expect that correction of a person’s crooked teeth will radically change their psychological make-up, which is complex and subject to many influences, including the personality of the individual.

The main value of orthodontic treatment, however, is to allow individuals to cope more effectively in social situations, without concern for the appearance of their teeth. In a health service context this is wholly compatible with the WHO definition of health as ‘a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity’.

Finally, Dr Ama Johal presented an enlightening lecture entitled “The key to successful orthodontic treatment lies in what we tell our patients”. Emerging evidence from both medicine and dentistry shows that there is increasing recognition of the importance of involving patients in their own treatment, with the overall goal of improving outcomes. The lecture emphasised the importance of facial and dental aesthetics in modern society and how we as orthodontists remain the purveyors of these. Recent research findings by Dr Johal and co-workers involving a range of patient- and clinician-centred measures evaluating the impact of malocclusion on quality of life were presented in an informed manner. The treatment effects upon the patients’ quality of life, self esteem and aesthetics were well supported by a range of clinical cases treated to a very high standard. The importance of identifying prognostic indicators in treatment outcome were reported, in particular the role of the mother of the patient. The positive effects of treatment, particularly upon their daily lives and quality of life, were identified and a new approach to treatment care offered, utilising patient-centred measures to ensure a successful treatment outcome.

Dr Julie C Williams
Academic Clinical Lecturer in Orthodontics
University of Bristol
Surgical Anchorage

Dr Wilmes, from Dusseldorf, considered innovative skeletal anchorage strategies to extend orthodontic and orthopaedic treatment. The use of median and paramedian palatal implants were described particularly for movement of teeth by distalisation using a Beneslider to obtain some impressive results. Mesialisation to close spaces due to hypodontia was also illustrated, for example to bring canines and premolars forward to close anterior space from missing lateral incisors. “Mousetrap mechanics” for intrusion of buccal segments with two mini-implants in the anterior palate has previously been reported by this team in the Journal of Clinical Orthodontics and this technique has been found to be useful for the management of small open bites. Clinical tips for successful insertion of these implants was also well described.

The second speaker, Dr Uribe from UConn Health, USA has published extensively on the mechanics of skeletal anchorage particularly in interdisciplinary treatment. Dr Uribe spoke about the use of implants to achieve the aims of treatment in complex adult multidisciplinary cases. He suggested that primary treatment objectives for these cases should be based around a fast treatment duration, reducing the cost of treatment and primarily addressing the patient complaint. The presentation then went on to illustrate these aims showing a number of successfully completed adult patients, some of whom underwent a combination of orthodontics, orthognathic surgery and restorative dentistry to achieve their goals.

The conference ended with a presentation by Hugo De Clerck with an update on results for bone anchorage orthopaedics for the treatment of skeletal III malocclusions. Studies comparing two protocols for maxillary protraction (Cevidanes et al 2010) showed how Bollard mini-plates for the treatment of skeletal III malocclusions produced significantly larger maxillary advancement in pre-pubertal patients than face mask therapy, with a difference of 2-3mm. He then presented his current research by showing a series of superimposed CBCT images of the anterior cranial base in order to determine the skeletal changes that take place using bone-anchored orthopaedics. These changes included remodelling within the glenoid fossa, reduction in the gonial angle and clockwise rotation of the mandible. He finished the presentation with a note of optimism that the use of bone anchored implants with intermaxillary elastics may yet provide the answer to management of cleft patients who have for so long only had recourse to surgical advancement of the mid-face. He remains encouraged by on-going work in Brazil on cleft patients that is yielding promising results to date. Clinical examples of his work can be seen on his website http://www.hugodeclerck.net/info%20orthodontist.html.

Dr Sadaf Khan
Consultant Orthodontist
Eastman Dental Hospital
Free Papers 6: Clinical Research

On this, the last day of the conference, the afternoon session still held everyone’s attention and was expertly chaired by Professor Cunningham and Dr Harrison. The first speaker, Meghna Vandekar, presented her research on autotransplanting impacted anterior teeth. Her randomised controlled trial found autotransplantation gave improved results in terms of aesthetics, treatment time and root resorption compared to applying orthodontic traction to these teeth. The reduced treatment time for autotransplantation was more than six months and this is an interesting area for further long term follow up studies.

Dr Rai’s work in India looked at the ergonomics of lingual orthodontics since a large proportion of orthodontists offering lingual orthodontics reported suffering from musculoskeletal disorders. Currently there is little training on how to minimise these disorders. Simple yet effective measures such as mirrors stuck to the back of a lower impression stock tray to give direct vision to the upper arch and stretching every 40 minutes improved discomfort. Dr Rai also developed a motion assessment tool linked to a smart phone application to provide direct postural feedback thus allowing the operator to improve their posture in real time.

Dr Garg compared the masticatory efficiency and occlusal contacts pre-treatment and post-treatment on patients who had four premolar teeth extracted for orthodontic reasons. He used an interesting method to study masticatory efficiency using photospectroscopy of a dye released from a raw carrot whilst chewing. Decreased masticatory efficiency (by 10%) and reduced occlusal contacts were detected post-treatment compared to pre-treatment, although it was acknowledged that there were many confounding factors associated with this measure.

The next presentation, given by Dr Wang, assessed augmented corticotomy assisted pre-surgical orthodontics of Class III patients compared to standard treatment. Patients treated with corticotomies had reduced treatment times, increased scope of tooth movement, increased labial bone thickness and better periodontal preservation than cases treated by traditional means. This was followed by an excellent presentation by Dr Jambi whose research compared the effect of the modified Clark Twin Block and the Herbst functional appliances on anchorage for fixed appliances, treatment planning and extraction decisions. Both types of functional appliance were equally effective at reducing overjet and reducing the anchorage demands for fixed appliances. The type of functional appliance used did not affect the extraction decision with the only factor affecting the extraction decision being the space requirement, as measured using the Royal London Space analysis.

The long-term follow up of molar distalisation on patients treated with the Pendulum appliance followed by fixed appliances was studied by Dr Fontana who presented results seven years post-retention. He measured this using maxillary superimposition of cephalograms and found that the Pendulum appliance caused significant distalisation, half of which (average 2.1mm) was maintained at the end of growth. Most relapse occurred during the fixed appliance phase, with no significant changes detected in the post-retention phase.

A second long term study, an impressive 30 year follow up of 100 cases of autotransplantation, was presented by Dr Paulsen. Autotransplanted premolars and molars to replace missing teeth or incisors lost to trauma can successfully withstand orthodontic tooth movement 3-9 months after autotransplantation and can erupt normally into occlusion. He presented an interesting method of assessing eruption and continued development using colour-coded radiographs taken at different review intervals. Dr Paulsen had an overall success rate of 91.5%. This final presentation of an excellent, thought provoking and inspirational conference mirrored the opening pre-conference symposium on autotransplantation and the attendees continued to gather in the corridors exchanging ideas and email addresses as they returned to their offices and clinics around the globe.

Kate Parker
Specialty Registrar in Orthodontics
The programme was opened by Paul Mallett, Orthodontic Technicians Association (OTA) Chairman, who welcomed delegates to London and introduced the first speaker, Roger Harman, from RealKFO orthodontic laboratory in Germany with his lecture, Difference in technology trends: UK Vs Europe. Mr Harman said that orthodontic technology is not standardised, with the appliance of choice being determined by the country one is in and the university visited. He then outlined the results of a survey carried out into the different appliances.

The second speaker was Guido Pedroli from Switzerland, head of the laboratory at the Clinic of Orthodontics and Pedodontics at the Dental School of the University of Zurich. His presentation was called Retention – one objective, different approaches. Guido’s opening message was that maintaining the final orthodontic treatment result is the goal of orthodontic retention and can only be guaranteed by placement of an intact, passive and permanent fixed retainer. He described a technique for bonding maxillary fixed retainers and demonstrated the steps for both the technician and the clinician. He compared different types of wires and transfer systems and highlighted the importance of increasing the surface roughness of the wire and teeth to be bonded, correctly positioning the retainer as well as maintaining the passivity of the retainer during bonding.

The second session followed a break and a visit to the trade exhibition and was chaired by Neale Price who welcomed the next speaker, Mariano Zocche, and his translator. Mariano has run an orthodontic laboratory in Vicenza, Italy, since 1983 and his presentation, Bites and occlusal plates, began with an overview of occlusal plates and the characteristics of appliances such as bite planes, bite guards and Michigan splints. He went on to discuss the different shapes and materials used to produce these devices.

Paul Mallett was the next speaker with his lecture, An overview of pressure/vacuum, thermoformed appliance manufacture, materials and application. His talk consisted of an overview of current thermoformed appliances and highlighted a cross section of appliances that are made using this technique. This included clasp based and non-clasp based retainers, mouth guards, obstructive sleep apnoea devices, special trays, splints, indirect bracket bonding trays, custom packaging for finished appliances as well as tooth whitening trays.

The last speaker of the morning was Andrea Johnson, an orthodontic technician at the Royal Derby Hospital and OTA secretary/vice chair with her lecture Weird and wonderful appliance design. Andrea began by talking about the difficulties clinicians are presented with and the way they are expected to resolve these problems – each patient is a unique individual so must be the solution to their problems. She said that this is where the relationship between the clinic and laboratory comes into play and went on to say that if clinicians and technicians work together and pool their knowledge and skills they will be more likely to accomplish better results for the patient. The presentation then explored some of the removable, fixed and functional appliance designs that have been created due to this collaboration.

After lunch, Andrea Johnson was chairing and introduced the first speaker for the afternoon – James Green from Great Ormond Street Hospital for Children with his presentation Progressive reactivation of the twin block appliance using conventional expansion screws. He began with an overview of the popular functional appliance and discussed the recommended bite registration for the appliance and said that an edge-to-edge relationship may not always be achievable and said that gradual advancement was recommended in these cases. James continued with an overview of existing twin block advancement methods before introducing a new technique using conventional expansion screws integrated within the blocks to facilitate the progressive reactivation.

The second afternoon speaker was Christian Born, who runs Cultus Dentes in Germany, a laboratory dedicated to aligner technology and soldered appliances. His lecture was called Easy align - align easy – the modern, low-cost, computer-aided aligner
system for your laboratory and focused on the technique he uses to construct aligners. He spoke about the way he sectioned the models, how much movement was required as well as the materials he used and the length of time it takes to align the teeth.

The final speaker for day one was Jorge Faber, Professor of Evidence Based Dentistry and Orthodontics at the University of Brasilia, Brazil and editor-in-chief of the Journal of the World Federation of Orthodontists. The lecture - Rapid prototyping technology for orthodontics - reported the clinical applications of rapid prototyping, which uses data from computer-aided design applications to produce physical models and devices using a material addition process. Jorge described how this technology can be used for the fabrication of surgical guides matched with virtual orthodontic setups and fabricate functional appliances and aligners.

In addition to the afternoon programme, Daniel Shaw from Doncaster and Bassetlaw Hospital ran a PAR Scoring refresher course for delegates either to be refreshed in using the PAR scoring system or be introduced to it. Following a presentation about the PAR index and how it is utilised within orthodontic practice, delegates had the opportunity to "practise" on demonstration models. Daniel also covered the basics of the scoring and how the results are calculated.

The first session on Tuesday, chaired by Daniel Shaw, comprised of two lectures about molar distalisation. The first speaker, Łukasz Grodzinski, runs an orthodontic laboratory called "Maxillab" in Poland and is vice chair of PTTO (Polskie Towarzystwo Techniki Ortodontycznej; the Polish equivalent of OTA). His presentation, An overview of recent methods of molar distalisation, explained the biomechanics of orthodontic tooth movement and difficulties that are caused by mesially placed upper first molars. He outlined a range of alternatives and methods for maxillary molar distalisation and gave an overview of the devices used for molar distalisation.

The second lecture on this topic, Pendulum appliance for non-compliance molar distalisation, was given by Ursula Wirtz from Germany. She began by discussing the history of the pendulum appliance, which was first described by Hilgers in 1962, and later modified by others. She gave clinical examples of modified pendulum appliances such as the Pendulum K group, Bipendulums and Quadpendulums to demonstrate the indications for both unilateral and bilateral distalisation in children, adolescents and adults.

The chairman for the next session was James Green and the next presentation, Functional appliances in open-bite or deep-bite malocclusions, was presented in two parts by two speakers from Italy: Part one was presented by Roberto Giammarini, who runs an orthodontic laboratory in Italy and is vice president of ORTEC (the Italian equivalent of OTA). The lecture featured an overview of the mechanisms and causes of a deep bite together with guidance on the construction and clinical use of an appliance called the Planas Equiplan.

Next up was Rebecca Taylor, a senior lecturer in dental biosciences at the school of healthcare science, Manchester Metropolitan University, whose presentation was on Appliance decontamination. Rebecca addressed the infection control issues that are relevant to orthodontic laboratories and highlighted the importance of communication between dental team members that are needed to maintain effective decontamination. She then discussed the transmission and survival of micro-organisms associated with dentistry, the current guidelines and regulations associated with infection control, the consequences of failing to implement the correct procedures as well as the routes of potential contamination within the laboratory and disincfection techniques and mechanisms for laboratory cleanliness. The final speaker of the morning was Paul Carr, laboratory manager at
St James’s Hospital, Leeds, who spoke about Orthognathic model surgery. He began by outlining the purpose of orthognathic model surgery, namely simulation of jaw surgery for diagnostic evaluation, creating an intra-surgical assessment tool, and a means of producing pre-planned surgical positioning guides for use whilst undertaking the surgery. Paul gave a brief overview of past, current and possible future orthognathic model surgery techniques. The main part of the presentation was on the technique that Paul uses, which is based around the SAM articulator system and incorporates some innovation as well as more traditional methods.

After lunch, the final session was chaired by former OTA president and chairman, Chris Bridle. Chris introduced Jörg Stehr a council member for GK (Gesellschaft für Kieferorthopädische Zahnotechnik, the German equivalent of OTA) and orthodontic laboratory owner from Stuttgart. His lecture, The history of orthodontics and the pioneers of the past, gave delegates an insight into the origins and developments of orthodontic technology, from ancient times to the present day. His main focus was on the founders and pioneers of orthodontic appliances and other innovations.

The penultimate speaker, James Abbott, senior orthodontic technician at the William Harvey Hospital in Ashford, Kent then gave his presentation Making patients say wow!, not ow! James spoke about the way orthodontic appliance materials and processes have evolved – wire is stronger and acrylic is less brittle. However, even the strongest orthodontic appliance is still at the mercy of the non-compliant patient. He said that the key to making an “unbreakable” orthodontic appliance may not be in making a stronger appliance but instead creating an appliance that the patient does not wish to break in the first place. James then went on to examine various techniques that can be used to customise appliances and make them more appealing to patients.

The last speaker was Neil Nairn, who is orthodontic dental instructor and Bachelor of Dental Surgery (BDS1) deputy co-ordinator at the University of Glasgow Dental School, whose lecture was titled Three dimensional (3D) image acquisition: The 3D scanning pipeline. He began by explaining that 3D imaging is a technique that has the ability to record or capture the width, length and depth of an object. He said that 3D scanners can record the shape and sometimes the appearance of shapes acquiring multiple scans of the object and creating a point cloud of geometric samples on the surface of the subject. Neil discussed the use of the technique for 3D virtual acquisition of models using laser scanning and how multiple scans are merged to create a single virtual model. He went on to explain how the image can be transformed into a physical form with the application of reverse engineering and 3D printing. Neil also discussed how 3D monitors and projection systems can be used to display predictions of orthognathic surgery, which aim to improve the understanding and surgical outcomes.

Poster prize
The prize was open to all student and qualified technicians registered for the 8th International Orthodontic Congress. The poster categories were: ‘Materials’, ‘Appliance Fabrication’, ‘Case Report’, and ‘Other’.

The following prizes were awarded to the winners which were very kindly donated by Forestadent:

1st prize £200
2nd prize £150
3rd prize £100

The criteria for judging was based on an assessment of the overall quality of the presentation, including: ‘Technical Content’, ‘Innovation’, ‘Clinical Relevance’ and ‘Personal Involvement’.

Poster prize

Richard Peters of Forestadent with Evangelos Sotiropoulos

Guido Pedrolli

Alison Butler

The winning entry was:
Evangelos Sotiropoulos
‘R-RME: An Innovative Removable Rapid Maxillary Expander’.

Second Place:
Guido Pedrolli
‘Suprastucture of Palatal Orthodontic Implants’.

Third Place:
Alison Butler
‘A Novel Occlusal Wafer for “Surgery First” Orthognathic A Case Report’.

We would like to thank the entrants for the quality of their presentations, the judging panel and of course Forestadent for their sponsorship.

James Green
OTA Treasurer
Monday 28 September 2015
Allied Health Professional Programme: Clinical Practice and Support Staff

Under a sunny sky, London put on her most gracious face and was a stunning backdrop when the international orthodontic family arrived at ExCeL from all corners of the globe to attend the 8th International Orthodontic Congress held from the 27 – 30th September 2015.

Taking its cue from the vibrant opening ceremony, it was big, it was bold and it was bursting at the seams with enthusiasm. Such an occasion invited superlatives, it was truly an event that had something for everyone, great speakers, a massive trade exhibition and yet it lost none of the buzz of the British Orthodontic Conferences we enjoy each year.

In amongst all this the Clinical Practice and Support Staff lectures in the Allied Health Professional programme (AHP) had two days absolutely packed full of top class speakers, both home grown and from overseas. Trevor Hodge put together such a stunning line-up with the help of Janet Gray, Debra Worthington and Fiona Grist, all members of The Orthodontic National Group for Nurses and Orthodontic Therapists (ONG).

Over the two days ONG members Mary Bardet, Anne Gowans, Sally Dye, Marica Grundy, Debra Worthington and Fiona Grist and our President, Zarama Nelson-Moon acted as Session Chairs.

Hopefully this short synopsis will give some idea of the quality, diversity and breadth of the nurses and therapists programme.

First thing on Monday 28 September saw Rishma Shah take to the lectern with her presentation entitled The Patient with Autism Spectrum Disorder - Strategies for Care.

With an increase in the number of people with autism spectrum disorder (ASD), it is highly likely that the orthodontic team has already or will encounter patients with ASD. It is essential that we all have a better understanding in order to provide the highest standard of care. It is important to appreciate that ASD is a spectrum with a wide range of signs and symptoms. Rishma’s unabridged article can be read in ONG News.

Next up, Marco Rosa gave a presentation entitled Canines as Laterals. He stressed that this can also be a psychological problem and the priorities in treatment planning must ensure that aesthetics and long term stability are good. In the past the options were to grind and shape canines to look like laterals, space closure or implants. Today the situation has improved due to predictable space closure methods, more sophisticated laboratory work, better anchorage due to TADs and prefabricated composite veneers.

In his presentation, The Face and the Art of Attraction, John Scholey looked at determinants of facial form and some of the interesting social factors that can modulate the appreciation of facial attractiveness and the potential effects of orthodontic treatment on the facial form. Orthodontics is just one of the factors to change facial form and attractiveness along with genetics, environmental changes, pathology, trauma and iatrogenic changes. John’s article can be read in the ONG News.

Tim Wheeler, in his presentation Clear Aligners around the World has conducted prospective clinical trials for aligner technology. A series of aligners can correct minor tooth movements and more complicated corrections with the use of accessories with many brands on the market. He took the audience through the procedure of how technology has progressed especially in the last 15 years. There have been many lectures discussing the pro and cons of self ligating brackets. In his lecture, Self Ligation and the Damon System, is it worth it? Professor Bearn outlined their advantages and disadvantages. After stating these, he came down on the side of ‘yes’ for him, it was worth it.

What impact does previous Dental Injury have on Provision of Orthodontic Treatment? Stephen Fayle acknowledged the good work of dental therapists within the paediatric team and made positive comparisons with the work that orthodontic therapists do within the orthodontic team. His lecture centred on the management of dento-alveolar trauma and common complications associated with this type of injury. Obvious signs of injury – such as crown fractures, discolouration and buccal sinus must be fully investigated using appropriate radiographs and vitality testing. Non vital teeth must be treated before orthodontic treatment starts.

Rishma Shah, Marco Rosa and Sally Dye
Stella Chaushu is the orthodontic department lead in the biggest hospital in Jerusalem – Hadassah Medical Centre - working with postgraduate students in the study and management of impacted teeth. Commonly at this centre it is the canines that are the impacted dentition, and upon diagnosis there must be an element of observing and monitoring before deciding on the possibility of prevention, the need for extractions or autotransplantation or another surgical approach. Dr Chaushu stressed the importance of a thorough diagnosis and regular monitoring prior to starting any treatment.

David Sarver ended the session with a presentation entitled Orthognathic Surgery in the 21st century. Dr Sarver has an active interest in research and academic writing. He believes that the clinician should attempt to visualise the planning and results of aesthetic treatment with an artist’s eye. He gave his vision of future trends in orthodontic surgery outcomes.

In her presentation entitled Distraction Osteogenesis for Team Players, Claire Bates’ enthusiasm for this technique shone through. After outlining how the process came into being quite by accident and was brought to the attention of clinicians in the West, it is now used with remarkable effect worldwide. Originally this was used for treating the long bones but it has special relevance for treating orthodontic patients as they often use RMS (rapid maxillary expansion) and osteotomies as part of their treatment plans. Using images of several case studies, she was able to demonstrate its usefulness across a breadth of treatments.

Ama Johal and Shakeel Shahdad gave a presentation on the Orthodontic/Restorative Interface. In this they highlighted the benefit to the patient of the multi-disciplinary team approach to treating patients. They showed how the patient was initially seen at a combined clinic. Here an outlined treatment plan was formulated and discussed by all the members of the team, at the same time checking that this was what the patient wanted. It was stressed that they must always have realistic objectives and expectations as this approach avoided disappointment for the patient and their parents and an unsatisfactory outcome for the team.

By combining both specialties in close co-operation, they demonstrated the way they interacted to produce very pleasing aesthetic results.

In her presentation, Depicting the Dead: Facial Depiction for forensic identification and archaeological investigation, Professor Wilkinson began by summarising how important the face is in providing many different clues to the identity of an individual, not only for recognition, but also to give information on the age; gender; ethnicity; religion, and culture. Hence the use of facial photographs on ID cards and passports. Professor Wilkinson went on to show examples of the work she had undertaken on archaeological cases, where colour and texture may be gleaned from portraits or historical texts. These cases included Rameses II, an ancient Egyptian pharaoh; the Bog bodies; St Nicholas; the composer J. S. Bach, and King Richard III of England following the discovery of his skeletal remains in Leicester.

In his presentation State of the art of 2D lingual Orthodontics, Vittorio Cacciafesta discussed the advantages of 2D lingual appliances over 3D lingual appliances such as Incognito.

Dr. Baumgaertel’s presentation TADs: Little Screws with Huge Effects highlighted the components of temporary anchorage devices (TADs); the equipment required to place them; the clinical technique, and the reasons for using them.

The placement of the TAD requires numbing of the gingivae and underlying bone either via an infiltration of local anaesthetic or the use of a potent topical anaesthetic. The total placement time, from application of anaesthetic to end of procedure, is less than 10 minutes. The reason for using TADs is to stabilise the teeth that you don’t want to move: direct anchorage - connecting the teeth with a spring between...
the TAD and the tooth to be moved; indirect anchorage - stopping the teeth moving by tying them to the TAD.

In their presentation Emphasising the role of Orthodontists and the Versatility of Biological Autotransplantation, Nadine Houghton and Monty Duggal defined autotransplantation as the surgical repositioning of a tooth within the same patient. A donor tooth is extracted in an atraumatic manner and is then re-implanted into a new, surgically prepared socket. They defined the technique, gave indications for it, with treatment options for missing teeth, results of dental trauma and patient satisfaction with the end aesthetic result. Autotransplantation is a useful technique to treat missing teeth or teeth of poor prognosis. Its bone-inducing properties make it a useful treatment option in the growing child and it can provide a long-term, biological solution to missing teeth, avoiding the cost of restorative alternatives.

Anne Marie Kuijpers-Jagtman’s presentation was entitled The Challenges of Orthodontic Treatment in Patients with Cleft Lip and Palate. She first defined variations in clefts and the treatment objectives as being a good looking face, clear speech, good hearing and a well functioning dentition. When treating this cohort of patients you need a team approach including Paediatricians, an ENT team, Cleft surgeons, Orthodontists and Speech and language therapists. Keys to success are centralised care, keep it simple, careful surgery with minimal scar tissue, keep to 5 stages with free time in between and good co-operation between specialists.

Alex Clarke’s presentation discussed the Psychology of Changed Faces. She focused on the problems that arose as a result of an altered facial appearance in terms of the behaviour of the person, particularly in relation to their interaction with others i.e. being stared at and the cognitive aspect, i.e. how this impacts on their self esteem and self belief. This is an area where the trained health care professionals, especially the specialist nurse, can provide a lot of guidance, help and support. They can raise the subject with the person by asking the direct question ‘how do you feel about your appearance?’ and positively reassure, as psychological adjustment often lags behind physical healing.

Juliette Reeves then gave an interesting presentation on Childhood obesity: Nutritional influences in inflammatory responses to end a stimulating Monday lecture programme.

On Tuesday, in his presentation Making an Impression: Impression Techniques for the Dental Team, Daljit Gill said of the 2.5 million impressions taken each year, half a million are taken for orthodontic purposes. It is a common procedure which can be undertaken by dental nurses – section 5 of the GDC’s Scope of Practice. In his lecture he looked at clinical techniques, alginate, silicone and future advances. Impressions are taken for records, treatment planning, monitoring growth and treatment progress. He discussed preparation of the patient, selection of trays, mixing of alginate, placing the impression, removal of the trays, checking the impression and recording the occlusion and problems with gagging.

Lars Christensen’s presentation was entitled “Getting Brackets to Stick - and in the Right Place”. His aim is to achieve an easy and precise way to place the brackets. He discussed how to prevent bond failure and reduce the risk of decalcification, in a way that is comfortable for the patient and the clinician and easy and safe to debond. He outlined the advantages to indirect bonding, including accurate placement, less need of adjustment during treatment, reduction in chair time, patient comfort, better working position, increased productivity, more relaxed and less stressful, improved finishing and a distinct advantage when using self-ligating brackets. Disadvantages are that the technique and materials are new and costly, there is laboratory time for the orthodontist and the technique is sensitive and poses a steep learning curve.

Nigel Fox, Toby Gillgrass and Dina Slater gave the session on Introduction to the PAR Index. It is now a statutory requirement under the NHS contract that orthodontists must monitor 20 cases and a further 10% of their other cases annually. PAR measures pre and post treatment, recording the measurement using PAR
rulers and score sheet. The difference between the scores records the improvement achieved by the treatment. A standardised accurate system of measurement is needed to assess the quality and effectiveness of the clinician.

This was followed by a short session on Introduction to the IOTN Index.

Andrew Flett gave a presentation entitled “Clinical Photography: Perception is Everything”. Part of his remit at his hospital base is to train staff in the correct method of taking clinical photographs plus their value as a teaching, learning and communication tool for undergraduates in areas such as treatment progression, patient motivation and showcasing before and after images. He demonstrated that with practice and confidence, good clinical photographs can be taken in a relatively short time.

Jackie Brown’s presentation was entitled 3D Cone Beam Imaging. Mention of 256 shades of grey certainly got the attention of the audience but turned out to be the full range of shades of grey from black to white that both the operator should clearly see and the monitor / screen should show to view radiographic images. The CBCT takes a 3D image, the unit looks similar to an OPT / OPG machine and takes 20 seconds to complete the task. In orthodontics the images can assist in treatment planning by viewing impacted teeth, root angulations, root resorption, supernumerary teeth and in patients with cleft lip and palate as both hard and soft tissues can be viewed. There are strict guidelines on the use of CBCT. The British Orthodontic Society have recently updated their guidelines on the use of radiographs in orthodontics. In their dual presentation entitled Medical Emergencies for the Dental Team, Kate Taylor and Julie Burke gave a comprehensive guide aimed specifically at those working in dental surgeries, as based on the GDC Scope of Practice and the Resus Guidelines which all registrants need to act on in an emergency. Because dental nurses now have additional skills, this means they could need to deal with a medical emergency.

In her presentation “Well, I Never! Communicating with Patients!” Rye Mattick outlined that good communication is key to our relationships with our patients (and our colleagues, friends and family). Its effectiveness will no doubt be tested by revalidation when it is brought in for dental professionals and its failure is at the heart of the great majority of patient complaints. The Dental Protection Society told us in their report this year that Orthodontics counts for 10% of their highest pay outs. At first glance this is a small percentage, but it is one that is rising alarmingly. It is necessary for us to understand their concerns and to be aware of their understanding of our processes and procedures. To be able to do this and ‘never’ fail needs some seriously good communication skills! Rye’s lecture can be read in the ONGNews.

Rod Ferguson, Clinical Director of Total Orthodontics, and Marian Martin, Customer Service and Operations Manager, gave a presentation on the role of the Patient Care Co-ordinator entitled Every Practice should have one! Their presentation focused on three key areas; namely the value of a Patient Care Co-ordinator to the patient and the practice, the operational requirements to make the role a success and how to successfully implement the role.

Rod and Marian covered the new patient journey from the day before the first appointment until after the assessment, including advice on how to build rapport, ask current concern questions, build value into the fees, how to close the appointment and the importance of following up afterwards. The presentation also covered the required attributes of a Patient Care Co-ordinator, an excellent listener, warm and friendly personality, organised and empathetic to name but a few. In his presentation entitled Dento-Legal Minefields, Andrew Collier described the role of the dental team in both clinical, and also legal and ethical, risk management. The importance of effective communication with the patient, and the value of good clinical records, was explored. Andrew’s talk concluded that a good interaction with the patient will give the best chance to meet expectations and produce a positive predisposition. The records are then confirmation of the good treatment and communication that has...
already been achieved.
In her presentation “Handling Complaints and how to avoid them in the first instance”, Alison Murray gave an overview of how to deal with what everyone wants to avoid, a complaint. She began by defining what constitutes a complaint - an expression of dissatisfaction, spoken or written, not always about technical skill or quality, basically when the patient feels their expectations have not been met. Patients must always know how to complain, and professionals to make sure what to do if a complaint is made and that that information is directed to the right person. GDC complaints’ advice is – deal with it professionally, calmly, quickly and effectively.

Caroline Holland in her presentation Twitterama - Social Media within the Dental Profession - discussed the relatively new area of social networking sites including Twitter and Facebook. These can be helpful for many good things, such as spreading information quickly and effectively, providing a forum for debate, education and was always current and evolving. However, they also have a number of pitfalls. For example she stressed that once a message has been posted it is there for ever, it cannot easily be erased and gives the writer no time for second thoughts!

Colin Melrose had a presentation with an intriguing title - Growth Modification: A World Tour. He touched on who invented growth modification and then how it was used by the orthodontist today and illustrated his talk with a short whirlwind tour of practices in various countries with the final stop, Fife in Scotland, the home of William Clark the inventor of the Clark Twin Block.

In her presentation “Child maltreatment: It doesn’t happen to orthodontic patients! Or does it? - Jenny Harris, raised questions that we sometimes would prefer not to think about.

Jean Brennan’s presentation The Big Wide World of Orthodontics - Travelling with your Qualification - compared the differences for and against working in the UK and Australia and can be read in full in ONG News.

Trevor Hodge gave a presentation with Chern Chern Ling on Setting up an Orthodontic Programme in Cambodia. Cambodia is one of the poorest countries in the world and there were no dentists left after Khmer Rouge in 1979. In 2004 an agreement was reached to set up an Orthodontic Programme with the objective of training a group of Cambodians, enabling them to teach future postgraduates; setting up an orthodontic department where a complete range of patients can be treated and providing a dental link with the cleft lip and palate surgery currently undertaken.

The word ‘inspirational’ is often misused but this was far from the case when talking of the final speaker of the day, Eva Grayzel. Eva was a professional interactive performance artist
when, at the age of 33, she was diagnosed with late stage oral cancer. This was diagnosed after visiting many dental professionals. She underwent a partial tongue reconstruction, a modified radical neck dissection and a maximum dose of radiation therapy. The treatment was devastating and the effects harrowing but she survived, and also retained her speech. Determined to champion early detection she founded Six Step Screening, an oral cancer awareness screening campaign for dental professionals and the general public. In recognition of this she was awarded Honorary Membership of the American Academy of Oral Medicine.

To celebrate her 10th year of remission she then founded the Talk4Hope series of books for children dealing with a family member with cancer, to help them learn and understand about cancer, how to learn skills to deal with their fears and to be able to communicate their feelings with family members. For this, she received the Oral Cancer Award. Hers is an intensely personal story, one that focuses on the importance of oral cancer screening for early detection. She works tirelessly for this and is herself a beacon of hope and a role model for all those who find themselves touched by her story.

To finish her presentation she led the audience in her story, told as a rap, which ended in her receiving a standing ovation. This was a fitting end to a two day programme that motivated and inspired all who were present and will be remembered for years to come.

There was also a short presentation from the Nepalese Orthodontic Society highlighting the ongoing problems they are encountering in the aftermath of the devastating earthquakes that struck them early in the year. In addition to attending lectures, visiting the impressive and bustling trade exhibition, there was an AHP Poster Competition sponsored by Dentaurum.

There were 17 entries for this competition (there was a separate category for technicians) with a very high standard and although there were only three places awarded, everyone was a winner and they all deserve to be recognised and congratulated. The judges were Ovais Malik, Consultant Orthodontist, Lizzie Kalantzis (nee Paice) Post-CCST and Fiona Grist, Vice-Chairman of ONG, with the presentation of prizes made by Mike Wright and the CEO of Dentaurum, Mark Stephen Pace. After much deliberation the results were:

1st Prize
Hoa Bell, Mhairi Walker, Helen Shaw and Lucy Horsfall
An Audit on Failure to attend Orthodontic Review Appointments

2nd Prize
Laura Cokerham and Laura Baird
An Audit of the Quality of Orthodontic Patients’ Leaflets

3rd Prize
Louise Macdonald and John Brady
Management of missing maxillary laterals/orthodontic restorative

To have been there was a privilege, and all nurses and therapists will have their own personal favourite lectures and memories. My name may be at the bottom of this article but it was only made possible by the valuable contributions of Zararna Nelson-Moon, Andrew Collier, Marion Martin, Dr Rashrath Kafle, Trevor Hodge, Anne Gowans, Sally Dye, Debra Worthington, Mary Bardet, Marica Grundy and BOS office who all gave generously of their skills and time as fellow scribes for which I must forever say a big thank you.

Hopefully the 8th IOC in London will be remembered as being rather special. We all thought it was really amazing and hopefully this article may give you an insight into why!

Fiona Grist
Around the Congress

Many thanks to all the exhibitors and sponsors for helping to make the Congress such an outstanding success. The Exhibition looked amazing. The Trade area included the poster display with an impressive 800 posters submitted by participants from all over the world.
WFO and BOS
Invitation only dinners

Tower Walkways Dinner – Saturday 26 September
Painted Hall, Greenwich – Sunday 27 September
Social Events

Thanks go to the American Association of Orthodontists for so kindly sponsoring the student reception in Fox’s Bar. A great time was had by all!

The social events were outstanding and received hundreds of accolades - The International Reception at Madame Tussauds, The Presidents Reception at the Natural History Museum and the Gala Dinner at Old Billingsgate. Take a look at the amazing photographs which truly sum up these superb sold out events.
As the 8th IOC drew to an end, Nigel Hunt, President of BOS, paid tribute to Jonathan Sandler, Chair of the 8th IOC Organising Committee. Professor Hunt presented him with a painting of Tower Bridge which had been specially commissioned by the BOS Board of Trustees and members of the 8th IOC Organising Committee, led by Simon Littlewood. In response, Professor Sandler said that the success of the 8th IOC had been down to the delegates, and he invited his Organising Committee to stand and raise their glasses to the thousands of orthodontists and allied health professionals and their partners who had attended the meeting. A fitting end to a fabulous Congress!