



**THE CRANIOFACIAL SOCIETY OF GREAT BRITAIN &  
IRELAND**

**ANNUAL SCIENTIFIC CONFERENCE**

**25<sup>TH</sup>-27<sup>TH</sup> MARCH 2009**

**THE WATERFRONT HALL, BELFAST**

**PROGRAMME AND ABSTRACTS**





**Craniofacial Society of Great Britain & Ireland  
Annual Conference  
Waterfront Hall Belfast  
25<sup>th</sup> – 27<sup>th</sup> March 2009**



**Welcome from the President - Terry Gregg**

I am delighted to welcome everyone to Belfast for the Annual Scientific Conference which is being held in Belfast for the first time in the history of the Society. It is a particular pleasure for me as I am honoured to be the first Paediatric Dentist to be President. I am confident that the meeting will be very successful both socially and scientifically. It is wonderful to receive over 40 scientific papers from delegates and a unanimous positive response from our invited guest speakers.

All of this warrants the best conference venue in Northern Ireland - the now famous Waterfront Hall which is situated in the heart of Belfast and a short walk from the main shopping centre, restaurants and bars. The coffee and lunch balcony is glass sided and affords a beautiful view of the city which has been reborn in the last few years since the cessation of our troubled times. I hope everyone will take home good memories and feel the welcome and friendliness of the Northern Ireland people.

I am very pleased to welcome our guest speakers who are travelling from all parts of the United Kingdom, Holland, Finland and even Malaysia as well as delegates from as far away as New Zealand. Professor Mark Ferguson has been a personal friend since we were dental students in Belfast, a rather long time ago, and I am especially pleased that he has taken time from his busy schedule to join us and deliver his keynote lecture to close the conference on Friday.

Welcome to everyone and I wish you all a good scientific meeting and an enjoyable visit.

## KEYNOTE SPEAKER

The organisers gratefully acknowledge the **Research and Development Office of the Central Services Agency** who have kindly sponsored the speaker programme at CFS2009.



### Professor Mark Ferguson

Lecture title ***“Scar Free Healing: from discovery to potential human pharmaceutical”***.

Professor Mark Ferguson is the Co-founder (with Dr Sharon O’Kane) and CEO of Renovo a Biotechnology Company spun out of the University of Manchester, which is developing novel pharmaceutical therapies to prevent scarring or accelerate healing following wounding ([www.renovo.com](http://www.renovo.com)). Following two rounds of private venture capital funding (totalling £32M) Renovo successfully completed an IPO on the Main list of the London Stock Exchange in April 2006, raising £67.5M. Renovo partnered its lead drug, Juvista for scar reduction, with Shire in a \$825M plus royalties deal retaining all EU rights, where it intends to commercialise itself. Renovo has two drugs in PhIII, including Juvista, with 7 clinically and statistically significant PII efficacy trials, 2 in PII, and over a dozen preclinical candidates. Since the age of 28, Mark Ferguson has been Professor in the School of Biological Sciences at the University of Manchester, where he has held a number of administrative posts including Head of Department and Dean. Throughout this time his research interests have focused on cellular and molecular mechanisms in wound healing, particularly the prevention of scarring and stimulation of chronic wound healing, developmental mechanisms in normal and cleft palate formation and is the discoverer of temperature dependant sex determination in alligators and crocodiles. He is the recipient of numerous international awards, prizes and honours for this research work, including the 2002 European Science Prize, and the author of over 400 research papers, books and patents. He has raised more than £50M of peer reviewed research grant income to support these fundamental investigations.

Professor Ferguson was a member of the UK Committee of Safety of Medicines Biological Subcommittee. He has served on numerous UK Government Committees, including chairing the UK Governments Foresight Panel on Health and Lifesciences, the Genome Valley Steering Group, the Higher Education Funding Council, Pre-Clinical, Medical and Dental Sciences Panel, and is currently a member of the UK Government’s UK Life Science Marketing Strategy Implementation Board.

Mark Ferguson graduated from the Queens University of Belfast with degrees in Dentistry (BDS), Anatomy and Embryology (BSC, PhD) and Medical Sciences (DMedSc), holds Fellowships from the Royal Colleges of Surgeons in Ireland (FFD) and Edinburgh (FDS) and is a Founding Fellow of the UK Academy of Medical Sciences (FMed Sci). He is a Member or Fellow of a number of learned Societies, Past President and Secretary of the European Tissue Repair Society and was made a “Commander of the British Empire” (CBE) by the Queen in 1999 for services to Health and Life Sciences.



## INVITED SPEAKERS

The organisers gratefully acknowledge the **Research and Development Office of the Central Services Agency** who have kindly sponsored the speaker programme at CFS2009.



### **Dr. Christoph Lees**

Lecture title: ***"Prenatal imaging for cleft lip and palate -is 3D really better?"***

Christoph Lees MD MRCOG is a Consultant in Obstetrics and Fetal-Maternal Medicine, and lead in Fetal Medicine at Addenbrooke's Hospital in Cambridge. He trained at Guy's, King's College and St George's Hospitals in London and obtained subspecialty accreditation and the Harris Birthright Centre for Fetal Medicine. He has co-authored books including *Pregnancy Questions and Answers* (Dorling Kindersley 1997, 2001 & 2007), *Making Sense of Obstetric Doppler* (Arnold 2002) and contributed to *Dewhurst's Textbook* (Blackwell, 2007). His research papers include uterine artery Doppler screening for intra-uterine growth restriction & pre-eclampsia, pre-eclampsia prophylaxis and treatment. Together with colleagues at Addenbrooke's, he runs practical and theory courses in ultrasound and fetal medicine in the UK and abroad in locations such as Peru, El Salvador and India.

### **Dr Brian Craig**

Lecture title: ***"All newborns with cleft lip or palate should have a cardiac assessment including echocardiography - reasonable standard or fantasy?"***

Dr Brian Craig is a Consultant Paediatric Cardiologist at the Royal Belfast Hospital for Sick Children. His specialty training was in Belfast and as a Clinical Fellow at the Hospital for Sick Children in Toronto. His main interests are Catheter Intervention in Congenital Heart Disease and Drug Therapies in Paediatric Cardiology. He is a member of the Association of European Paediatric Cardiology Intervention Group and a regular contributor to the British National Formulary (Children). He is a past council member of the Irish Cardiac Society and the British Congenital Cardiac Association and is currently President of the Irish Congenital Cardiac Association.



## **Dr Shane McKee**

Lecture title: “***Genetic syndromes and facial clefting***”

Dr Shane McKee is a consultant in Clinical Genetics in the Northern Ireland Regional Genetics Service at Belfast City Hospital. He has an ongoing interest in genetic syndromes associated with dysmorphic features and facial malformations, including clefting. In particular, he is interested in the molecular mechanisms involved, and the application of our knowledge of evolution and embryology to these areas, as well as the application of novel IT-based strategies to the diagnosis of genetic disorders.

## **Dr. J.S.J. Veerkamp**

Lecture title “***Repeated aversiveness, a matter of pain, conditioning and coping?***”

Dr. Jaap Veerkamp is a specialist in Paediatric dentistry and works at the Academisch Centrum Tandheelkunde Amsterdam, ACTA. He is mainly attracted to dental treatment of highly anxious and mentally disabled child dental patients. He owns a large paediatric secondary dental care clinic and is head of the ACTA paediatric postgraduate student program. As a paediatric dentist he is a member of the VUMC Cleft Lip Palate team, the second largest in the Netherlands. Veerkamp gives (at least yearly) courses for Dutch dentists in managing fearful children and is an international lecturer on the subject. His research focuses on this field including anxiety reduction and behavioural management strategies. He is (co-author of more than 140 publications on the subject in several Dutch and international Journals. Defended his PhD thesis on the use of nitrous oxide in fearful child dental patients in 1994 and wrote research proposals for PhD students on dental anxiety in children and pain in children. He assists students (undergraduate, postgraduate and PhD-) to do research.

## **Dr. Kalaiarasu Peariasamy BDS, MSc, MPAedDent, FDSRCS**

Lecture Title: “***Optimizing Oral Health and Cleft Care in Malaysia***”

Dr. Kalaiarasu Peariasamy is Senior Consultant and Head of Paediatric Dental Surgery at Sabah Women and Children's Hospital, Malaysia. He graduated with Bachelor of Dental Surgery from the University of Malaya and Masters in Paediatric Dentistry from the University of London, England. He holds the Fellowship in Dental Surgery from the Royal College of Surgeons of England, and the Intercollegiate Membership in Paediatric Dentistry from the Royal Colleges of England and Glasgow. His main interest is in paediatric oral diseases and their clinical management, and has presented at many international paediatric dentistry conferences. Dr Peariasamy has contributed to the setting up of an integrated cleft team in a regional part of Borneo, and has participated in cleft outreach projects in collaboration with non-governmental organizations in the remote parts of Sabah, Malaysia.



## Mr Tim Flood

Lecture title: ***"Changing the Facial Image - the role of osseointegrated implants"***

Mr Tim Flood is a consultant in oral and maxillofacial surgery at the odstock centre for plastic and maxillofacial surgery and consultant maxillofacial surgeon to the spires cleft service. In 1992 he developed a service (Regional DEC approved) for osseointegrated (Branemark) implants for facial and jaw prostheses for those patients with disfigurement due to surgical defects. This remains one of his major interests together with secondary surgery for cleft lip and palate patients.

## Dr Sara Howard

Lecture title: ***"Now you hear it, now you don't: intelligibility and compensatory strategies in cleft palate, glossectomy and ventriloquism"***

Dr Sara Howard is Senior Lecturer in Clinical Phonetics and Linguistics in the Department of Human Communication Sciences at the University of Sheffield. As well as degrees in phonetics and linguistics, she has a professional qualification as a speech-language therapist. Her most recent book, co-edited with Martin Ball, Mick Perkins and Nicole Müller, is *The Handbook of Clinical Linguistics* (Blackwell, 2008). She has published and presented widely in the area of clinical phonetics and phonology. Her research focuses on typical and atypical speech development, with a particular emphasis on connected speech production. She is currently President of the International Clinical Phonetics and Linguistics Association, and Associate Editor of *Clinical Linguistics & Phonetics*. Dr Howard will give a joint presentation with Miss Zoe Jordan



# PROGRAMME

## Thursday 26<sup>th</sup> March 2009 – Waterfront Hall

**8.40 – 8.45      President's Welcome Address**

**Chair - Mr Terry Gregg**

**8.45 - 9.30      GUEST LECTURE - Dr Christophe Lees**  
"Prenatal imaging for cleft lip and palate -is 3D really better?"

**9.30 - 10.00      GUEST LECTURE - Dr Brian Craig**  
"All newborns with cleft lip or palate should have have a cardiac assessment including echocardiography - reasonable standard or fantasy?"

**10.00-10.15      Cleft Palate/Head & Neck Cancer NIHR Grant-Jonathan Sandy, Andy Ness**

**10.15 - 10.30      CRANE-Mr Scott Deacon**

**10.30 - 11.15      TEA/COFFEE/ TRADE EXHIBITION**

**Audit session: Chair - Mr Peter Revington**

**11.15      UK 5 Year Olds' Index Outcomes for Patients with UCLP born 1999 – 2002.**  
J I Russell, R Robinson, A J Gowans, N E Atack, S Walker

**11.30      Has the radiographic outcome for alveolar bone grafting improved in the UK?**  
A national audit of 2006 procedures.  
Mr Peter Revington, Mr Hem Shah, Clare McNamara,

**11.45      Quick diagnosis and swift response: Is this the reality in Cleft care?**  
A national study of 2007 births  
Mr Scott Deacon, Mr Peter Revington, Specialist Nursing SIG

**12.00      How was it for you? A multi-centre comparison of Parent-rated experience of Cleft multidisciplinary clinics in the UK.**  
J Shearer, L McDowell, K Blyth, L Dalton, Z Edwards,D Hearst, T Owen, A Zeffert,

**12.15      Auditing against Standards for Speech – Closing the Audit Loop.**  
Lorraine Britton

**12.30 - 1.00      GUEST LECTURE - Dr Shane McKee**  
"Genetic syndromes and facial clefting"

**1.00 - 2.00      LUNCH/ TRADE EXHIBITION**

**Thursday 26<sup>th</sup> March 2009 – Waterfront Hall**

**2.00                    GUEST LECTURE - Dr Yaap Veerkamp**

“Repeated aversiveness, a matter of pain, conditioning and coping?”

**Research session: Chair - Professor Triona Sweeney**

**2.30**    Learning Curve in Microtia Surgery.  
Rautio J, Suutarla S, Klockars T.

**2.45**    Predicting changes in velopharyngeal function after Orthognathic surgery –  
how good are we?  
Beale V, Mildinhall S, Mills L, Timoney N, Huppa C, Haers P

**3.00**    Which has better speech results, Cleft Le Fort 1 advancement by osteotomy or  
distraction osteogenesis? A prospective study.  
Extence H E, Dhariwal D K, Sugar A W

**3.15 – 3.45    TEA/ COFFEE /TRADE EXHIBITION**

**Research session: Chair - Mr Chris Hill**

**3.45**    Face value: an exploration of the long-term impact of Orthognathic surgery  
Cadogan J

**4.00**    Psychosocial issues of Orthognathic surgery: A best practice model.  
Hayes K, Brown S, Blyth K,

**4.15**    Patient reported outcome of secondary surgery in adult cleft patients.  
Brown S, Blyth K

**4.30 - 5.00           GUEST LECTURE - Dr. Kalai Peariasamy**

“Optimizing Oral Health and Cleft Care in Malaysia”

**5.00 - 6.00           ANNUAL GENERAL MEETING CFSGBI**



**Friday 27<sup>th</sup> March 2009 – Waterfront Hall**

**8.50-9.00      Opening remarks: President CFSG Mr Terry Gregg**

**Chair - Ms Christine Hayden**

**9.00 - 9.30      GUEST LECTURE - Mr Tim Flood**  
"Changing the Facial Image - the role of osseointegrated implants"

**9.30 - 10.00      GUEST LECTURE - Dr. Sara Howard**  
**Ms Zoe Jordan**  
"Now you hear it, now you don't: intelligibility and compensatory strategies in cleft palate, glossectomy and ventriloquism"

**Research Poster session: Chair - Mr Alan Leonard**

**10.00 - 10.45      Introductory Presentations**  
**15 X 2 minute presentations - 2 slides each**

**10.45 - 11.30      TEA/ COFFEE AND POSTER VIEWING SESSION**  
(Presenters in attendance at posters)

**Arnold Huddart Prize: Chair - Ms Trisha Bannister (President Elect)**

**11.30      Identification of immediate changes in facial form following repair of bilateral cleft lip.**  
Bashir M A, Hodgkinson P

**11.45      An index for assessing dental arch relationships in bilateral cleft lip (BCLP) at age 5.**  
Qureshi B A, Williams A, Hay N

**12.00      Speech surgery improves voice related quality of life.**  
Bowen A, Hodgkinson P, Brown S

**12.15      Effect of Buccinator Mucomuscular Flaps on Speech in Cleft Palate Patients.**  
Meki A, Ahmad T., Harding-Bell A., Hall P., Morris P.

**12.30      Early NG Feeding after cleft palate repair.**  
Dhesi R, Hughes J, Sharp M, Wright S, Lane T, Sommerlad B, Kangesu L, Howard R, Sury M

**12.45      Magic Wands and Cosmic Particles: circumstances and motivating factors for parents considering inclusion in a gene bank.**  
Stead L

**1.00      Examination of inter/intra observer agreement using panel grading and computer based analysis of photographs of repaired UCLP.**  
Trehanne L J, Hall P N, Polydoropoulou V, Pigott R W

**1.15 - 2.15      LUNCH**

**Friday 27<sup>th</sup> March 2009 – Waterfront Hall**

**Chair - Mr Terry Gregg**

- 2.15 - 3.15      KEYNOTE LECTURE - Professor Mark Ferguson**  
**“Scar Free Healing: from discovery to potential human pharmaceutical”**

**Research session: Chair - Mr Alastair Smyth**

- 3.15**    A Computer based program to quantify asymmetry after repair of Unilateral Cleft Lip and Palate.  
         Pigott RW, Pigott BB
- 3.30**    The Use of facial anthropometrics in aesthetic assessment.  
         Edler, R, Abd Rahim M, Wertheim M, Reader D, Greenhill, D
- 3.45**    Improving Results of Primary Alveolar Bone Grafts with Tisseel – an Audit of 100 Consecutive grafts.  
         Blackburn A, Slater D, Mattick R, Hodgkinson P
- 4.00**    A Randomised Controlled Trial to Test a Preventive Dental Health Programme for Mothers of Cleft Lip and Palate Patients.  
         Mooney J, Blinkhorn A, Worthington H, Shaw B
- 4.15**    **Presentation of Arnold Huddart Medal**
- Installation of new President**
- 4.30**    **Close of Meeting**

**UK 5 year olds' index outcomes for patients with unilateral cleft lip & palate (UCLP) born 1999-2002**

J I Russell, Consultant Orthodontist  
R Robinson, Consultant Orthodontist  
A J Gowans, Consultant Orthodontist  
N E Attack, Consultant Orthodontist

**Aim:**

To audit UCLP maxillary growth outcomes nationally.

**Method:**

Since 2006, at the annual CFSGBI Orthodontic Special Interest Group meetings, study models for 5-year-old patients with UCLP have been independently assessed using the 5 Year Olds' Index (Attack et al 1997).

**Results:**

For the three years 1999 – 2001 the records of 288 patients with UCLP, from 394 known to have been born, have been assessed (73% inclusion rate). Of these 288 patients:

- 136 (47%) were in groups 1 or 2 (excellent/good)
- 75 (26%) were in group 3 (fair)
- 77 (27%) were in groups 4 or 5 (poor/very poor)

Outcomes for patients born in 2002 will be assessed at the 2009 conference and included in the presentation.

**Conclusion:**

The data indicates improved maxillary growth compared with the data from the CSAG report relating to patients born in 1989-1991.

**Has the radiographic outcome for alveolar bone grafting improved in the UK? A national audit of 2006 procedures**

Mr Peter Revington, Consultant Cleft Surgeon, OMFS  
CRANE Project Team, CRANE Database, RCS England  
Mr Hem Shah, FTTA Orthodontics  
Ms Clare McNamara, FTTA Orthodontics

**Aim:**

Compare the current radiographic outcome in the UK with CSAG outcome for alveolar bone grafting.

**Method:**

Post operative radiographs from procedures performed in 2006 were assessed blindly by three external calibrated examiners on 2 separate sessions. The radiographs were assessed with the Kindelan index. All patients who received an alveolar bone graft were included. The standard used was the success rate as assessed in UCLP cases in the CSAG report (58%).

**Results:**

Radiographs were submitted from surgical centres in the UK. We will report the national and anonymous surgical centre descriptive statistics for radiographic outcome as assessed by the Kindelan Index. Intra and inter-examiner reliability will also be reported.

**Conclusion:**

We will discuss whether radiographic outcome has improved since the assessment by the CSAG report. This will provide a current benchmark for future national audit when assessing alveolar bone grafting in all forms of clefting involving the alveolus.

**Quick diagnosis and swift response: Is this the reality in cleft care? A national study of 2007 births**

Mr Scott Deacon, Clinical Project Lead, CRANE Database  
CRANE Project Team, CEU RCS England  
Mr Peter Revington, Consultant Cleft Surgeon, OMFS  
Specialist Nursing SIG CFSGBI

**Aim:**

To assess the time interval between birth and diagnosis, referral to cleft team and response of the specialist nurses throughout England, Wales and Northern Ireland.

**Method:**

Data collected through the CRANE Database was downloaded, for all consented 2007 births in February 2009 and analysed to assess the following standards both nationally and from individual anonymous cleft surgical centres.

The audit standard used was the agreed standard from the Specialist Nursing SIG Audit Group:

- **Standard 1**  
All babies born with a cleft lip and/or palate are to be diagnosed at birth.
- **Standard 2**  
All babies are to be referred by relevant professionals to the cleft team within 24hrs of diagnosis.
- **Standard 3**  
The Clinical Nurse Specialist should visit within 24 hours of receiving referral.

**Results:**

Descriptive statistics will be reported for the above three standards both on a national basis and by anonymous surgical centres. Variables for non-compliance, such as cleft type will be assessed and reported.

**How was it for you? A multi-centre comparison of parent-rated experience of cleft multidisciplinary clinics in the UK**

J Shearer, Clinical Psychologist  
L McDowell  
K Blyth, Assistant Psychologist  
L Dalton, Clinical Psychologist  
Z Edwards, Clinical Psychologist  
D Hearst, Clinical Psychologist  
T Owen, Specialist Counsellor  
A Zeffert, Clinical Psychologist

**Aims:**

To explore parents' perceptions of attending multidisciplinary cleft clinics and to compare these experiences of cleft clinics nationally.

**Methods:**

Parents of children seen for their routine 5-year-old audit between 2004 and 2008, in accordance with CSAG recommendations, were asked to rate their and their child's experience of attending cleft clinics. Questions were taken from the national Cleft Psychology audit protocol. Results are presented for all UK centres with available data.

**Results:**

Results for 775 families over 8 centres are presented. Parent and child satisfaction with their multidisciplinary clinic experience, including communication with their team, was high. Children's satisfaction, as reported by their parents, was lower than that of their parents. There were significant differences between teams and these will be discussed to highlight possible areas for service development.

**Conclusions:**

Parent and child satisfaction with their clinic experience is an important patient-reported outcome and a useful measure of cleft care. This national comparison provides us with an evidence-based standard for future audits of multidisciplinary clinics.

## **Auditing against standards for speech – closing the audit loop**

Lorraine Britton, Lead SLT, Trent Regional Cleft Service

### **Aim:**

Audit is a mandatory requirement for Regional Cleft Services. The purpose of audit is to ensure quality through an improvement cycle. Meaningful audit requires the establishment of standards against which outcomes and processes can be compared. Over the last two years the Lead SLT group have developed standards for speech in children with cleft palate based on the literature. This collaborative UK study aimed to pilot the standards to report speech outcomes and processes of care

### **Method:**

Nine regional centres collected speech recordings on 300 five year olds (born 2001) and 96 ten year olds (born 1996) with cleft palate involvement. Speech was analysed using the CAPS-A audit tool. Results were reported using the standards as a benchmark.

### **Results:**

Most standards appear to be set at realistic levels with many centres either achieving them or coming close. Nationally, by age 5, 51.5% children had achieved normal speech, there was a VPI rate of 33% and 42% had at least one serious articulation error. 85% of two year olds had received a specialist speech assessment.

### **Conclusion:**

Establishing standards as a benchmark has enabled more meaningful reporting of inter-centre speech outcomes and processes. The need to more tightly define the standards and to provide more guidance for completion was identified. Furthermore, this extensive field-testing has highlighted the need for possible modification to the CAPS-A audit tool.

## **Learning curve in microtia surgery**

Rautio J, Plastic Surgeon, Senior Consultant  
Suutarla S, ENT Senior Consultant  
Klockars T, ENT Clinical Teacher

### **Aim:**

To analyse the learning curve for aesthetic outcome of one surgeon in auricular construction for microtia

### **Method:**

From a series of a total of 124 auricular constructions the 51 consecutive patients with lobular type unilateral microtia were selected and the results evaluated from photographs by a panel of 3 ENT and 3 Plastic surgeons on a grade of 0-10. Patients were operated with the Nagata technique between 1995-2006.

### **Results:**

Inter-rater correlation ICC(2,6) for all six raters was 0.90 and the assessment was considered reliable. As there was great variability in individual results, the patients were split into five groups of ten (11 in the last group) based on chronological order. Mean of points for groups assessed by the panel were: 4.95 for group 1, 6.83 for group 2, 6.25 for group 3, 6.08 for group 4 and 7.41 for group 5. There is highly significant increasing trend in learning ( $P=0.000001$ ). The trend is not constantly upwards and there was still improvement between last two groups.

### **Conclusion:**

The study showed that results improve with increasing experience. When the total annual caseload increased from about ten to twenty the learning curve picked up again after a level phase. Microtia is a rare condition and centralisation of services seems to be important for best results.



**Predicting changes in velopharyngeal function after orthognathic surgery – how good are we?**

Victoria Beale, Cleft Fellow, South Thames Cleft Service  
Sue Mildinhall, Lead Speech and Language Therapist  
Louise Mills, Deputy Lead Speech and Language Therapist  
Norma Timoney, Consultant Cleft Surgeon  
Christoph Huppa, Consultant Cleft Surgeon  
Piet Haers, Consultant Cleft Surgeon

**Aim:**

It is well known that patients undergoing maxillary advancement surgery may experience deterioration in velopharyngeal function post operatively. In the South Thames cleft service all patients attend a velopharyngeal investigation clinic preoperatively to assess this risk. This study aims to assess the ability of the surgeon and speech and language therapist to predict post operative speech changes.

**Method:**

30 consecutive patients who had undergone maxillary advancement surgery and preoperative velopharyngeal investigations were reviewed. All patients had a history of a previously repaired cleft involving the palate. The preoperative speech assessments and videofluoroscopy recordings were assessed by a specialist speech and language therapist and a cleft surgeon. The patients were categorised as either at risk of post operative speech deterioration or not at risk. The prediction for post operative speech deterioration was then compared with the actual post operative speech outcome for all patients.

**Results:**

We will discuss the correlation between predicted and actual changes in speech after maxillary advancement surgery and what impact these outcomes have on our practice.

**Which has the better speech results, cleft Le Fort 1 advancement by osteotomy or by distraction osteogenesis? A prospective study**

Extence, H E., Lead Speech and Language Therapist, South Wales South West MCN for Cleft Lip and Palate

Dhariwal, D K, Consultant Oral and Maxillofacial Surgeon, Oxford

Sugar, A W, Consultant / Senior Lecturer in Cleft and Maxillofacial Surgery, Clinical Director, South Wales Cleft Service

**Aim:**

This study compared the speech results in patients with repaired cleft palate (with or without cleft lip) following Le Fort I maxillary advancement by either osteotomy (OST) or distraction osteogenesis (DO).

**Method:**

24 consecutive patients underwent maxillary advancement by OST and 17 consecutive patients by DO all by the same surgeon (AWS). Pre- and six months post-operative speech recordings were independently analysed for resonance and articulation by externally validated CAPS A trained Speech and Language Therapists. Records written at the time of original assessment were also analysed and compared.

**Results:**

Patients in the DO group showed less deterioration in resonance than, but similar improvements in articulation as, the patients in the OST group. Discrepancies between consensus and local results will be discussed. Fewer patients in the DO group needed or underwent pharyngoplasties following this surgery. Analysis of the influence of the amount of advancement and pre-operative speech on the speech outcome will also be presented and discussed.

**Conclusion:**

Deterioration in velopharyngeal function after maxillary advancement in cleft patients may be less if the advancement is performed by DO.

**Face value: an exploration of the long-term psychological impact of orthognathic surgery**

Julia Cadogan, Lead Consultant Clinical Psychologist, South West Cleft service

**Aim:**

To investigate the impact that an appearance -changing procedure has on body image and social confidence

**Method:**

Semi-structured interviews were conducted and dialogues recorded, transcribed and subsequently analysed using Interpretative Phenomenological Analysis (IPA; Smith, 1999).

**Participants:**

Purposive sampling focusing on a homogenous group was selected such that participants had all undergone orthognathic surgery between 24 and 48 months previously. Participants were recruited from the NHS surgical lists held by the Consultant Maxillofacial surgeon. Ethical approval to conduct the research project was obtained from the local NHS research ethics committee prior to contacting the participants.

**Results:**

The super-ordinate themes which emerged following the analysis using IPA were as follows:

- Reactions of others to the participants' appearances.
- Self-appraisal of appearance and attractiveness.
- Aspects of treatment, including inpatient care.
- Support, coping and resilience.

**Conclusions:**

Orthognathic surgery significantly alters appearance in many instances. This study highlighted the difficulties patients have in psychologically adjusting to these external changes, particularly during the acute phase, the ways in which pre-operative resilience facilitates this process of adaptation and the influence that appearance has on social confidence and self-worth. Clinical service recommendations are discussed.

## **Psychosocial issues of orthognathic surgery: a best practice model**

Katherine Hayes, Psychologist

Sue Brown, Consultant Clinical Psychologist

Kirsty Blyth, Assistant Psychologist

### **Introduction:**

People born with a cleft may choose to be considered for orthognathic surgery in their adult years. The orthodontic preparation, surgical procedure and aftercare are potentially burdensome for the individual. As with other appearance changing surgery, there is a risk of exacerbating dissatisfaction with appearance and psychological wellbeing. In addition, there are potential risks to the quality of speech and of creating oral sensory disturbance.

### **Method:**

A systematic review was performed of international journal articles on psychological aspects of facial appearance surgery and of orthognathic surgery in people born with and without a cleft. UK units performing these procedures were contacted to identify current practice in psychological assessment and intervention.

### **Results:**

The literature shows that complex psychosocial factors such as mood, body dysmorphic disorder, motivation and expectations have an impact on patient satisfaction with surgical outcome. Subjective rating of outcome and objective outcome are not highly correlated. Whilst psychometric measures such as questionnaires can be helpful in identifying some psychological factors, a dynamic assessment and intervention by a psychologist is warranted. Although the needs of these patients are beginning to be identified in UK cleft care, national standards in the care pathway would be beneficial.

## **Patient reported outcome of secondary surgery in adult cleft patients**

Dr Sue Brown, Consultant Clinical Psychologist  
Kirsty Blyth, Psychology Assistant

### **Aims:**

To determine the impact of rhinoplasty and lip revision on the psychosocial well being of a cohort of patients born with cleft lip and/or palate.

### **Method:**

A semi-structured assessment was conducted with adult patients seeking surgical interventions for cleft related appearance or functional issues. Orthognathic surgery cases were excluded. Standardised measures of mood, anxiety, self esteem, confidence, self-consciousness, and satisfaction with appearance were completed.

The cohort was invited to attend for a follow-up appointment at three to six months post surgery. Those who did not attend were given the opportunity to complete the measures by post.

### **Results:**

17 patients completed pre and post surgery assessments. Analysis demonstrated a statically significant improvement in satisfaction with appearance, feature rating and mood. There were no significant changes in self-esteem or anxiety.

The assessments enabled additional support to be identified for patients who needed further preparation such as for procedural anxiety. Patients reported that the assessments were helpful.

### **Conclusions:**

Secondary surgery can improve the psychosocial well being of adults born with a cleft. Assessment as part of routine preparation and follow-up should be part of the care pathway.

**Poster 1**

**A preliminary acoustic study of sibilant /s/ before and after maxillary advancement surgery in patients with cleft lip and palate**

Valerie Pereira, Specialist Speech and Language Therapist in Cleft Lip and Palate/  
Velopharyngeal Dysfunction

Jyrki Tuomainen, Professor

Peter Ayliffe, Consultant Maxillofacial Surgeon

Michael Mars, Consultant Orthodontist

Norman Hay, Consultant Orthodontist

Debbie Sell, Head of Department and Lead Specialist Speech and Language Therapist in Cleft Lip and Palate/ Velopharyngeal Dysfunction

**Aim:**

Maxillary advancement surgery has a positive impact on articulation of sibilants (e.g. /s/). However, little is known about the compensatory mechanism(s) used by patients to adapt to the surgical changes within the oral cavity. Acoustic analyses permit the exploration of these mechanisms, and yet, such studies in cleft lip and palate are non-existent.

**Method:**

9 consecutive participants with a cleft lip and palate undergoing maxillary advancement surgery, were seen pre-operatively, 3 and 12 months post operatively. Participants read randomised lists of sentences embedded with words beginning with /s/. Speech samples were recorded using a minidisk digital recorder and microphone, and were then analysed using PRAAT software.

**Results:**

Results of acoustic analyses on word initial /s/ will be presented using acoustic parameters that quantify the shape of the /s/ spectrum: centre of gravity (concentration), standard deviation (dispersion), skewness (asymmetry) and kurtosis (peakedness).

**Conclusions:**

This is the first report on speech acoustic outcomes of patients with cleft lip and palate following maxillary advancement surgery. It provides initial insights into the adjustment strategy used by these patients, and increases understanding around the phenomenon of articulatory re-organisation.

**Poster 2**

**Speech and language status of children with cleft lip and /or palate**

Maeve Morrison, Speech Language Therapist  
Tonia McCarry, Masters Speech language therapy student

**Aim:**

To measure the speech, expressive language, receptive language and cognition in children with cleft lip and/or palate.

**Method:**

All children born in the years 2002 to 2005 who had cleft lip and /or palate surgery at Middlemore Hospital were invited to participate in the study. Of 106 who were eligible 23 consented to participate. The sample consisted of 12 boys and 11 girls. Standardised assessments were administered to assess phonology, expressive language, receptive language and cognitive skills. Speech was analysed using descriptive cleft speech assessment.

**Results:**

More boys presented with phonological delay than girls. Phonological development was delayed in the absence cleft palate speech disorder.

**Conclusion:**

Children with cleft lip/and or palate are at risk of speech and expressive language delay that may not be due to the structural differences of the speech mechanism. Children with cleft lip and/or palate are also at risk of having poor attention and concentration. This limited data collection on speech and language development in this study. Screening for speech and language delay should be routine and early intervention for communication impairment should be available.

**Poster 3**

**23-year experience using midline pharyngeal flaps for the management of velopharyngeal incompetence (VPI) in a single hospital**

Miss Kanwalraj K Moar, SpR Oral and Maxillofacial Surgery  
Miss Sarah Bruce, Medical Student, University of Liverpool  
Simon Van Eeden, Consultant Cleft Surgeon, Alderhey Hospital, Liverpool

**Aim:**

To evaluate the efficacy of superiorly based midline pharyngeal flaps (SPF) in the management of VPI in a cohort of unilateral cleft lip and palate (ULCP) patients.

**Design/Participants:**

Retrospective case note review of 250 ULCP patients born between Jan 1985 and April 2008 at a single hospital. 199 were available for review and of these 54 patients underwent speech surgery. Outcome was evaluated comparing pre- and post-operative speech and language therapy assessments.

**Results:**

54/199 patients (27%) had a total of 66 secondary speech surgical procedures. SPF was the first speech surgical procedure in 30/54 (56%) patients. 2 of these underwent further speech surgery (orticochea). 8 patients had SPF as their second speech procedure. Where SPF was the primary procedure hypernasality improved by 1.5 points (0-4 points range) with an improvement in 70% of patients. 77% demonstrated no (0) or mild (1) hypernasality at final assessment. Turbulence improved in 30% of patients.

**Conclusion:**

This case review reveals that SPF was reasonably successful in the management of VPI as determined by improvement in hypernasality in 70% of UCLP patients from a single hospital.



## Poster 4

### **Spontaneous changes in consonant production following surgery for speech in a UK regional cleft centre**

Stephanie Delvin, Specialist SLT  
Sarah Jamieson, Student SLT  
Victoria Beale, Cleft Lip and Palate Fellow  
Peter Hodgkinson, Consultant Cleft Surgeon

#### **Introduction:**

This project retrospectively reviewed patients undergoing speech surgery looking at spontaneous changes in consonant production.

#### **Subjects:**

Ninety-six patients had speech surgery over four years (July 2004 – June 2008). All cleft types and non-cleft VPI were included.

#### **Method:**

Patients were assessed by specialist speech and language therapists (SLTs) using the Great Ormond Street Speech Assessment (GOS.SP.ASS) immediately before surgery and approximately 6 months after. The patients received no SLT intervention between assessments. Consonant production errors were classified into anterior oral, posterior oral, non-oral or passive characteristics and databased. Pre- and post-operative errors were compared to examine changes within each classification. Other variables (e.g. cleft type, language skills, hearing, 22q11) were analysed.

#### **Results:**

All error types showed some spontaneous improvement (between 30-75%). 14% of patients spontaneously corrected all errors. A further 55% of patients made some improvement. Diagnosed language difficulties were a significant factor hindering spontaneous progress.

#### **Discussion:**

All types of consonant production errors make some improvement without SLT intervention. SLT intervention is most likely to be needed for patients with concomitant language problems.

## Poster 5

### **Calibration of the Modified Huddart and Bodenham (MHB) scoring system against the GOSLON/5-Year Index for Unilateral Cleft Lip & Palate (UCLP)**

Lorna Dobbyn, Specialist Registrar in Orthodontics  
Justine Weir, Specialist Registrar in Orthodontics  
Professor Mossey, Honorary Consultant/Professor

#### **Aim:**

The GOSLON/5-year scores have been used in various national and international studies. This study aims to identify the range of MHB scores which correlate with each GOSLON and 5-year category and thereby create a new scoring system that allows comparison with historical data.

#### **Method:**

283 UCLP study models from England and Scotland that had all been previously scored using the 5-year and GOSLON indices by calibrated examiners were scored using MHB twice a month apart by 2 examiners. Repeatability analysis using intraclass correlation and Bland Altman plots were performed. Ordinal regression was used to define the categories of MHB that correspond to the 5-year old and GOSLON categories.

#### **Results:**

1. Excellent level of repeatability for both the 5 and 10-year-old models.
2. The MHB scale was grouped into the 5 categories of the GOSLON and 5-year indices with more precision for the 5 than the 10 year scores.

#### **Conclusion:**

MHB shows

- a) Excellent intra- and inter- examiner agreement;
- b) Correlates well with the 5-year and GOSLON indices;
- c) and is a much more sensitive scoring system.

## Poster 6

### **Secondary autogenous alveolar bone grafting in the East of England cleft network: prospective re-audit**

Huw G Jeremiah, Orthodontics, Fixed Term Training Appointment  
Marie E Cooke, Orthodontics, Consultant  
Rowena J Rimes, Orthodontics, Consultant  
David M Adlam, Oral and Maxillofacial Surgery, Consultant

#### **Aim:**

Re-evaluate the clinical process and success of secondary alveolar bone grafting.

#### **Method:**

Prospective re-audit of case notes and radiograph outcome analysis of alveolar bone grafting (ABG) using modified Bergland scoring at Addenbrooke's Hospital, Cambridge.

#### **Audit Standards:**

100% availability of records; 100% ABG to be carried out at ideal age; 81% Radiographic ABG success.

Data from 32 consecutive children with complete unilateral cleft lip and palate or complete bilateral cleft lip and palate who underwent ABG in 2007 was compared with data from 25 consecutive cases in 2006. ABG success was defined by modified Bergland scores 1 and 2.

#### **Results:**

100% of notes were available: 32/32 in 2007 and 25/25 in 2006. Average age at ABG: 11.1years in 2007 and 10.9years in 2006. Radiograph availability: 94% (31/33) in 2007 and 100% (25/25) in 2006. ABG success of available sample: 86% (32/37) in 2007 and 85% (23/27) in 2006. ABG success of total sample: 80% (32/40) in 2007 and 85% (23/27) in 2006.

#### **Conclusion:**

ABG success compares favourably with standards. Prospective audit is important for clinical transparency. Re-audit in one year to maintain standards.

**Poster 7**

**Aesthetic and occlusal outcomes in cleft orthognathic surgery**

Victoria Beale, Cleft Fellow  
Nasseem Ghazali, OMFS Registrar  
Andre Kichenaradjou, OMFS Registrar  
Piet Haers, Consultant Cleft Surgeon

**Aim:**

To measure the increase in midfacial convexity and occlusal stability in a series of patients who underwent orthognathic surgery for correction of the cleft maxillary deformity.

**Method:**

Achieving adequate midfacial projection and a stable occlusion are the main orthognathic challenges in cleft patients. In this series of 12 patients the maxilla was positioned in its ideal position without compromising on the amount of necessary advancement. In all cases the advancement was combined with posterior rotation of the maxilla either by posterior impaction, anterior extrusion or a combination of both. The skeletal maxillary movements were measured using lateral cephalograms taken preoperatively, immediately postoperatively and 1 year later. Specific skeletal and dental landmarks were selected to measure vertical and sagittal stability. The soft tissue and underlying skeletal convexity were also measured before surgery and one year later.

**Results:**

The midfacial projection and convexity improved in all patients. The occlusion was remarkably stable independent of the amount of advancement.

**Conclusion:**

Maxillary advancements up to 10 mm tend to result in good facial convexity and stable occlusion.

## Poster 8

Cleft Le Fort 1 Maxillary advancement by osteotomy versus distraction osteogenesis – stability of outcome

Sugar, A W, Consultant / Senior Lecturer in Cleft and Maxillofacial Surgery, Clinical Director\*

Knox, J, Consultant and Lead Orthodontist\*

Extence, H E, Lead Speech and Language Therapist\*

Dhariwal, D K, Consultant Oral and Maxillofacial Surgeon, Oxford

Bocca, A, Senior Maxillofacial Technologist, Swansea

\*South Wales Cleft Service

### Method:

24 consecutive cases received a modified Le Fort 1 maxillary advancement osteotomy with bone graft and miniplate stabilization. A second group of 17 cases were treated with internal distraction osteogenesis to incrementally advance the maxilla to the desired position.

The pre-surgical and surgical protocol followed in both groups was identical.

Standardised lateral cephalograms were taken immediately pre-surgery (T1), within 1 month of osteotomy/distractor removal (T2) and at one year post op' (T3). A digital x,y coordinate grid was used to assess cephalometric landmark changes.

### Results:

There was no significant difference in pre-surgical skeletal relationship between the groups.

The magnitude of vertical and anteroposterior skeletal change in the two groups (T1-T2) was also remarkably similar.

The difference in the post-surgical change (T2-T3) between the two groups was not statistically significant. The osteotomy group demonstrated a mean antero-posterior change of -1.0mm (SD 2.4mm) and the distraction group a mean change of -1.5mm (SD 2.3mm). Vertically, both groups demonstrated very small mean changes (<1mm; SD1.5-2mm).

### Conclusions:

No difference in post-operative stability can be demonstrated in these groups managed by maxillary advancement osteotomy and distraction osteogenesis.

**Poster 9**

**Birth prevalence of cleft lip and palate in the Northern region of New Zealand (1998 – 2007)**

Megan Sanders, Cleft service coordinator  
Maeve Morrison, Speech Language Therapist

**Aim:**

To review the prevalence of cleft lip and/or palate in the Northern Region of New Zealand over a 10-year period from 1998 – 2007. This will include analysis in terms of cleft types, ethnicity and gender within this population.

**Method:**

This is a retrospective population based study of live newborns within the period of 1998 – 2007. This study reviews a total of 381 children with cleft lip and/or palate, including submucous cleft, registered in the regional cleft database.

**Results:**

The overall prevalence of children born with cleft lip and/or palate within the Northern Region of New Zealand from 1998 – 2007 has been reported. The prevalence of cleft types in terms of gender and ethnicity has been documented. This region of New Zealand is renowned for a diversity of ethnicities including Maori, Pacific Island, Asian and European. This study found that certain cleft types are disproportionately represented in some populations.

**Conclusion:**

The prevalence of cleft lip and/or palate in the Northern Region of New Zealand is similar to that reported in other countries of similar population. The unique ethnic makeup of the New Zealand population results a different distribution of cleft type.

**Poster 10**

**Assessment of paediatric input into a multidisciplinary clinic for new babies with cleft lip and / or palate**

Dr M Mansour, Consultant Paediatrician

**Aim:**

To audit the Multidisciplinary New Baby Clinic, and to compare our clinic set-up with other cleft centres in the United Kingdom and Ireland.

**Method:**

Case notes and / or correspondences regarding all of the 79 new patients seen in the clinic since paediatricians joined the multidisciplinary team in March 2007 were reviewed. In December 2008, a telephone questionnaire was held with representatives from all other cleft centres, to establish how their Baby Clinics are organised.

**Results:**

Paediatric involvement and follow-up of infants born with clefts in South Wales rose from 30% to 93% and referrals to other specialists increased. Only 2 other cleft centres have paediatricians in their multidisciplinary clinics. In most other centres, babies are assessed as in-patients pre-operatively and follow-up is not usually given.

**Conclusion:**

In South Wales, since March 2007, a gradual increase in paediatric follow-up in local hospitals, and in identification of possible co-morbidity was noted. This regular input will hopefully continue to aid in early detection of other medical or developmental problems, and coordination of provision for needs that may impact long-term outcome.

## Poster 11

### Feeding interventions in babies born with Pierre Robin Sequence

Sue Butcher, Clinical Nurse Specialist, South Thames Cleft Service

**Aim:**

To audit feeding interventions and weight gain in a series of babies born with Pierre Robin Sequence (PRS).

**Method:**

A standardized audit form was completed in a retrospective audit of 369 consecutive notes from July 04 - June 07 in the South Thames Cleft region. Pierre Robin Sequence was defined as, cleft palate and micrognathia, with any upper airway difficulties.

**Results:**

37 babies were identified with PRS, 8 babies with complex difficulties were excluded = 29 babies in the cohort. Of the 16 babies nursed in prone position (PP) only, 12 required a nasogastric (NG) tube. They commenced oral feeding at a median of 3.5 days and required N/G support until a median of 17 days. Of the 13 babies who were treated with a nasopharyngeal tube (NPT) all required N/G support for a median of 95 days having commenced oral feeding at a median of 6 days.

All the babies were completely orally fed prior to palate repair, which occurred at a median of 279 day when only one baby met the criteria of failure to thrive, defined as crossing two centile points or a weight below the 5<sup>th</sup> centile.

**Conclusion:**

There was no evidence that the use of a NG tube prevented the onset of full oral bottle feeding and feeding interventions have contributed to a reduction in the rate of failure to thrive in PRS. The significant differences in the timing of the onset of full oral bottle feeding in the two groups raises questions such as: Do babies who require a NPT have more complex feeding difficulties or does the presence of a NPT affect their feeding skills? How do other centres manage the feeding difficulties associated with PRS? A larger multi centre study may provide some of the answers.



## Poster 12

### Feeding patterns and feeding problems of children born in the west of Scotland

S.H McDonald, Community Dental Officer, Glasgow

R.R Welbury, Director of Post-graduate Education, Professor of Paediatric Dentistry

**Aim:**

To determine feeding patterns and problems encountered during feeding.

**Method:**

Parental questionnaire delivered by structured interview to parents of cleft children born in the West of Scotland within the last 5 years. Ethical approval was granted.

**Results:**

90 parents completed the interview. 61% reported a problem with the duration of a feed: 31% fed for <30 minutes; 22% between 30-60 minutes; and 45.6% > 60 minutes.

46.7% reported established feeding within 1 month, but 28.8% took longer than 1 month and 20% never established a pattern.

42.2% felt their child's milk intake was inadequate.

90% of infants experienced problems during feeding: coughing (42%); excessive air intake (52%); excessive milk leakage (41%); fluid down nose (70%); exhaustion (43%); difficulty latching on (17%).

**Conclusion:**

Cleft infants have significant problems related to both pattern of feeding and factors arising from the act of feeding. It is critical that the correct advice and encouragement is available to parents at all times.

**Poster 13**

**Current surgical practice in the management of bilateral cleft lip and palate**

Gregory Thomas, SpR Plastic Surgery  
Michael Cadier, Consultant Cleft Surgeon  
Stephen Robinson, Consultant Orthodontist  
Tim Goodacre, Consultant Cleft Surgeon

**Aim:**

To identify surgical and management approaches to bilateral cleft lip and palate (BCLP) as currently practiced in the United Kingdom.

**Method:**

The first United Kingdom workshop on BCLP was held at St Anne's College, Oxford in October 2008. Structured discussions between delegates established current practice in BCLP surgery.

**Results:**

Present were 17 of the 21 surgeons who undertake primary surgery in England and Wales, each of the nationally designated centres was represented. Additionally, 4 primary cleft surgeons from Scotland and Ireland attended. The pre-surgical management, the techniques and timing of repairs were analysed. Three distinct patterns in the timings and staging of surgery were identified, which influenced the pre-surgical approach and also the nasal surgery. Four recognised techniques of lip repair were used, though with many variations in the details being identified.

**Conclusion:**

This study identifies current surgical practice for BCLP in the UK. At present there is no agreed single best approach to managing BCLP, however this study sets the foundations for future retrospective and prospective inter-centre and national studies.

**Poster 14**

**A survey of the use of throat packs for cleft lip and palate surgery in the U.K. & Ireland**

T.C. Wright, Specialist Registrar Plastic Surgery  
T.D.D. Cobley, Consultant Cleft Surgeon

**Aim:**

Throat packs are commonly used in primary cleft lip and palate surgery. The consequences of failure to remove them are potentially fatal. We have reviewed national trends in pack placement and removal.

**Method:**

A questionnaire was posted to all 27 surgeons in the UK and Irish Cleft Units (11 units). Respondents were asked: who places/removes the pack; the reasons for this; any aide-memoirs to avoid leaving the pack in-situ; type of pack used, and circumstances when packs were left in-situ.

**Results:**

24(92%) consultants responded. 23 stated preferences as to who placed/removed the pack. In palate surgery, the surgeon places and removes the pack in the majority. In lip surgery, the anaesthetist places the pack in the majority, and the surgeon removes it. All except one surgeon used at least one aide-memoir. The commonest was a note on the theatre whiteboard. 79% used Ribbon gauze, the remainder using gauze swabs or bandages. 44% of surgeons described circumstances where a pack had been left in-situ.

**Conclusion:**

Practice in throat pack placement and removal varies widely. We discuss reasons given for preference in practice; situations where packs were left in-situ; and implications for who takes responsibility.

**Poster 15**

**Restoring hope in the Philippines: a cleft lip & palate surgical mission**

Laura Wells, Speech Language Therapist, Cleft Lip & Palate team, Middlemore Hospital, Auckland, New Zealand

**Aim:**

To evaluate the inclusion of speech language therapy (SLT) as part of a cleft lip & palate surgical mission to the Philippines, including the benefits and drawbacks to the patients and local staff, and the challenges encountered by the visiting professional.

**Method:**

A team of surgeons, anaesthetists, nurses and one speech language therapist travelled to a hospital in Caloocan city, Manila. Patients with cleft palate were offered speech assessments and some additional speech language therapy. A meeting was conducted for both the visiting professionals and local staff to feed back about the mission.

**Results:**

During the 8 days of the mission, 103 patients were screened by the team. There were 82 SLT interventions, including 37 pre-operative assessments, 27 post-operative assessments with therapy advice, and 18 further therapy interventions. Local staff identified that the mission provided an excellent service to the patients and valuable training opportunities, however was disruptive to the hospital. In the future the local professionals wanted to be more included in the direct treatment provision and for the focus of the mission to be on training.

**Conclusion:**

SLT was a valuable addition to the mission and provided assessment and therapy for the patients, which was otherwise difficult to access. Future missions should focus on training and facilitating development of local services.

**Poster 16**

**Reconstruction of soft palate following a tumour excision and radiotherapy**

Dr. Zafar Ahmad, Plastic Surgery, Senior House Officer  
Mr. Tariq Ahmad, Plastic Surgery Consultant (Cleft Specialist)

**Case Presentation:** Reconstruction of a 50% soft palate defect following tumour excision and radiotherapy

**Summary:**

This poster follows the management of a 44 year old who had undergone excision of a polymorphous adenocarcinoma of the palate treated with pre-operative chemotherapy, radical block dissection of the neck on the right, and a functional block dissection of the neck on the left followed by radiotherapy.

The patient was intelligible but obviously suffered from hypernasal resonance and had the use of an orthodontic obturator. Reconstruction was requested by the patient owing to his concerns about speech and risks to the teeth with lifelong use of his plate. Reconstruction was not straightforward and would be precarious owing to the history of chemo and radiotherapy; the patient did not wish to go for a microsurgical option. Reconstruction was undertaken by the use of several flaps including buccinators cheek mucomuscular island flap, a buccal fat pad flap, a posterior pharyngeal flap and also an inferior turbinate flap. Healing was prolonged but complete; hypernasal resonance and clarity of speech has considerably improved along with cessation of nasal regurgitation. Operative and speech findings are presented along with a short video.

**Poster 17**

**A rare occurrence: recurrence of a branchial fistula**

Dr. Zafar Ahmad, Plastic Surgery, CT1 Addenbrookes

Mr. Tariq Ahmad, Plastic Surgery, Consultant Addenbrookes (Cleft Specialist)

**Aim:**

Case Presentation to show a rare complete branchial fistula

**Summary:**

This is a child originally seen at 3 months of age presented with pre-auricular sinuses and a right sided branchial sinus. All were excised, the branchial sinus was excised up to the base of the palatine tonsillar tissue at 19 months age; the sinus was felt to extend no further than this. At the age of 3, an initially suspected infected lymph node turned out to be a recurrence of the branchial sinus; this was then excised from the lower neck right up to the posterior tonsillar pillar as a complete through and through track. At 6 months postoperatively, the child is fine, and the sinus not re-occurred.

An outline of the embryology, classification and nature of branchial sinuses is outlined and photographs and a short video of the re-excision will be presented.

**Poster 18**

**Parry Romberg Syndrome (PRS)**

Marc Bouhaidar, Staff Grade Oral and Maxillofacial Surgery, Salisbury NHS Foundation  
Tim Flood, Consultant Oral and Facial Surgeon, Salisbury NHS Foundation

**Aim:**

A case report of treatment modalities for PRS

**Method:**

Three patients suffering from PRS presented to the department of oral and maxillofacial surgery in Salisbury complaining of hemifacial atrophy. Their concerns were predominantly functional and cosmetic. All three patients benefited from hard and soft tissue surgery performed in conjunction with plastic surgeons. A de-epithelialised parascapular free flap was used with corrective osteotomies, autogenous bone grafting and synthetic implants.

**Results:**

The three patients were satisfied with the results and did not suffer any relapse.

**Conclusion:**

Patients suffering from PRS might present to rheumatologists, dermatologists, neurologists, plastic and maxillofacial surgeons. Treatments vary depending on individual cases and range from simple symptomatic treatment to full surgical reconstruction. The latter is indicated for cosmetic purposes and when significant functional deficits exist. Reconstruction involves soft tissue, however hard tissue reconstruction should be considered judiciously as it forms the foundation for a successful cosmetic and functional outcome.

**Poster 19**

**Parents' perceptions of 4D ultrasound scans following a diagnosis of a cleft lip and/or palate: are they worth it?**

Julia Cadogan , Lead Consultant Clinical Psychologist  
Rosemarie Winter, Clinical Audit  
Cathy Marsh, Lead Specialist Cleft Nurse

**Aim:**

An evaluation of the value of the 4D ultrasound scans for parents where there had been a diagnosis of a cleft condition.

**Method:**

A semi-structured questionnaire was administered to parents before and after the scan and after the birth. The questionnaire was designed to assess the reasons for proceeding with scan, the ratings of expectations of the scan, advantages and disadvantages, the effect of the scan on bonding, resemblance of the image to the baby after birth and whether or not the parents would recommend the scan to other parents. A total of 20 sets of parents participated in the study, all of whom were cared for by the South West Cleft service.

**Results:**

The results indicated that the majority of parents found the scan to be helpful in preparing for the birth, seeing the cleft and that they appreciated having an opportunity to proceed with the scan. In addition, many parents said they would recommend the 4D scan to other parents. Importantly, where there was palatal involvement, as identified at birth, the parents' expectations had not been met as often as where there was only a cleft of the lip.

**Conclusions**

The value of the 4D scan as experienced by the parents of 20 babies affected by clefting, was endorsed, particularly if only the lip was affected. Overall, parents recommended the scan and reported finding it to be particularly helpful in preparing for the birth.



**Poster 20**

**The caries experience nationally of 5 year-old children born in 2001 with cleft lip/palate**

Victoria Clark  
Jackie Smallridge  
Deborah Franklin  
Mechelle Collard  
Eleanor McGovern  
Anna Kyriazidou  
Jeanette Mooney  
Terry Gregg

**Aim:**

To report the caries experience of 5 year olds born with cleft lip/palate in the UK and Southern Ireland as part of the regional cleft 5 year-old audit process.

**Method:**

Paediatric Dentists in eight cleft units in the UK and Southern Ireland examined 5 year-old children born in 2001 using the BASCD criteria for caries data collection. The caries experience of each child was recorded using dmft (decay missing filled primary teeth). The decay experience for these children was then compared with that of the regional BASCD child dental health survey (2005) Southern Ireland WHO (2002). The care index ft/dmft was also determined.

**Results:**

Results were obtained from 8 regions with in the UK and Southern Ireland. The percentage number of children assessed from the total number of cleft children born in 2001 for the regions ranged from 6.5% to 91.7%. The dmft in the 5 year-old children ranged from 0.82 in Bristol to 5.19 in South Wales. In all units the dmft in the 5 year-old children was greater than the BASCD regional average, apart from Bristol. The Care index ranged from 0 to 50%.

**Conclusion:**

The high caries experience in the cleft population shows the importance of a paediatric dentist within the cleft team.

**Poster 21**

**Outcome of maxillary canine eruption in complete bilateral cleft lip and palate patients**

Mr A. Flett, maxillofacial surgery SHO  
Dr. S Dominguez Gonzalez, Consultant in Orthodontics

**Aim:**

To assess the eruption and outcome of permanent maxillary canines in bilateral cleft lip and palate patients (BCLP) pre and post alveolar bone graft (ABG)

**Method:**

A total of 22 BCLP patients who had ABG during 1997 – 2005 at Alder Hey Children's Hospital. The canine eruption and outcomes were assessed from OPG's taken pre-ABG and at least 1 year post-ABG. Position and root development of unerupted canines pre-ABG and presence or absence of lateral was assessed.

**Results:**

44 canines were assessed. At 1 year 29 were erupted and 15 were unerupted. (8 were erupted after 2 years, 1 was extracted, 4 were surgically exposed and 2 were left, waiting for further development) The root development of the canines at the time of ABG was 1/3 in 14, 2/3 in 18, 3/3 in 10 and 2 could not be analysed. 29 maxillary lateral incisors were present and 15 were absent pre-ABG.

**Conclusion:**

The position and root development maxillary canines at the time of ABG could influence the risk of canine impaction.

**Poster 22**

**A multidisciplinary approach to the management of hypodontia in the cleft population**

Kushal Gadhia  
Anthony Summerwill  
Ian Sharp  
Naresh Patel

**Summary:**

The incidence of hypodontia is higher in cleft patients, and increases with the severity of the cleft. The failure of alveolar union results in alterations in tooth development around the cleft region. The incidence of hypodontia outside the cleft region is also higher in the cleft affected population than in others. Congenital absence of permanent lateral incisors in the maxillary cleft area is the most frequent abnormality. Central Incisors are rarely missing but commonly malformed. The path of eruption of the permanent canine is affected by alveolar involvement of oral clefting, with studies reporting a 20-times higher risk of canine impaction.

The aim of this review paper is to highlight the role of orthodontists, restorative dentists and oral and maxillofacial surgeons in the timely management of hypodontia in the cleft population. The treatment options include exposure and bonding of the impacted teeth to align them in the arch, surgical extraction of the impacted teeth, and replacement of the missing teeth using fixed and removable prostheses. The paper also highlights the use of implants in the management of hypodontia.

**Poster 23**

**Aglossia-Adactylia Syndrome – a true management challenge**

Gulati A  
Warner M  
Flood TR

**Aim:**

To demonstrate the challenges encountered in the management of this condition.

**Background:**

Aglossia, complete absence of the tongue, was first reported in 1718. In 1932 the first case of aglossia-adactylia syndrome was reported in a three year old; aglossia with congenital absence of the fingers and/or toes (adactylia). The cases in the literature which have been reported as aglossia-adactylia syndrome since then are not entirely consistent with one another and wide variations in the severity and specific features in each case exist. Moreover, to the best of our knowledge, no reports of a case being followed up from birth to adulthood exist.

**Case:**

We would like to describe our management of a girl born with Aglossia-Adactylia Syndrome from birth up to the age of 24 years. Our patient has received multi-disciplinary input from a very early stage and has been treated surgically by our maxillofacial unit. She presented with severe micrognathia, mandibular anodontia and facial asymmetry which have been improved to a large extent but further challenges remain.

**Conclusion:**

The management of this complex condition has proved extremely difficult and further challenges remain for ongoing treatment, which is open for discussion.

**Poster 24**

**A comparison of secondary alveolar bone grafting (SABG) outcomes between 1993 - 2005 at Alder Hey Children's Hospital**

Mr J Shah, FTTA Senior Registrar in Orthodontics  
Dr S Dominguez Gonzalez, Consultant in Orthodontics  
Dr J.I Russell, Consultant in Orthodontics

**Aim:**

To assess and compare the outcomes of SABG in cleft lip and palate patients at Alder Hey Children's Hospital, Liverpool between 1993-2005.

**Method:**

A total of 102 patients (mean aged 10 11/12 years) who had SABG during 1993-1994 (23 patients, mean age 10 7/12 years), 1999-2000 (46 patients mean age 11 5/12 years) and 2004-2005 (33 patients mean age 10 7/12 years) were identified using the computerised database and cross-checked with operating lists. Clinical records for all patients were reviewed retrospectively. SABG outcomes were assessed from radiographs using a modified Kindelan grade.

**Results:**

105 SABG procedures were carried out, however clinical records for 10 sites were missing or inadequate therefore 95 sites were analysed. 58% of the sites (50% in 1993-1994, 55% in 1999-2000 and 69% in 2004-2005) showed >75% of normal bone fill, 33% of sites (45% in 1993-1994, 30% in 1999-2000 and 28% in 2004-2005) showed <75% of normal bone fill and 9% of sites (5% in 1993-1994, 15% in 1999-2000 and 3% in 2004-2005) showed no complete bony bridge.

**Poster 25**

**Patient migration between cleft clinics within the Trent region – a service evaluation**

Sally Walker, FTTA in Orthodontics  
Caroline McCarthy, Consultant Orthodontist  
Melanie Stern, Consultant Orthodontist

**Aim:**

Cleft funding is allocated regionally, based primarily on the number of births per year. There is no provision for transfer of funds if a patient moves into a new area - potentially resulting in uneven funding. The aim of this service evaluation was therefore to investigate patient migration.

**Method:**

A retrospective review of case notes of all patients who attended cleft clinics, in two areas within the Trent region, during 2006. The following information was obtained: birthplace, presenting problem, location of primary surgery, current address.

**Results:**

During 2006, 95 patients were seen on cleft clinics in Sheffield and 53 were seen on cleft clinics in Doncaster. 24% of patients seen in Sheffield were born outside the catchment area for that clinic, in comparison with 16% of patients seen in Doncaster. A small number of patients in each area had had their primary surgery outside the Trent region, with 3 patients in Sheffield having had their primary surgery outside the UK.

**Conclusion:**

Significant patient migration occurs between areas. Of particular concern are those patients born outside the UK, for whom no funding is received by any region. Funding needs to be linked to individual patients, and should be portable.

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### **An audit of parent's early experience of feeding a child with cleft lip and / or palate.**

A.K. Humphreys, Consultant in Paediatric Dentistry, K E Howard, Staff Grade in Paediatric Dentistry, T A Gregg, Consultant in Paediatric Dentistry.

#### **Aim:**

The aims of the audit were to identify the methods of feeding used, feeding difficulties experienced and to identify sources of feeding advice and satisfaction with the services

#### **Method:**

A retrospective self-administered postal questionnaire was sent to all parents of surviving children born with cleft lip and/or palate born over a two year period.

#### **Results:**

Of a possible 44 questionnaires 33 were returned. Of the 24 who had planned to breastfeed 17 had attempted breast feeding which continued for an average of 17 days (range 1day-126days). 18 parents tried more than 1 type of bottle. The Mead Johnson was the most commonly used bottle(9).

Feeding difficulties necessitated nasogastric tube feeding for 13 neonates. Other difficulties included concern regarding weight gain (15) and milk coming down the nose (26).

Satisfactory feeding advice was provided by a paediatric dentist (26) and the Health Visitor (19). 10 parents would have liked further help with feeding at home.

#### **Conclusion:**

A variety of feeding methods may be tried before successful feeding is established in a child with cleft lip and/or palate. Early feeding difficulties may necessitate nasogastric tube use and concerns regarding weight gain. Some parents may find additional feeding support helpful.

## **Identification of immediate changes in facial form following repair of bilateral cleft lip**

M A Bashir, SpR Plastic Surgery  
Peter Hodgkinson, Consultant Cleft and Plastic Surgeon

### **Aim:**

Babies with complete bilateral cleft lip and palate (BCLP) present a much distorted facial form at the time of lip repair. There is massive anterior protrusion of the prolabium and premaxilla. Surgery changes face shape significantly. We aim to quantify these changes.

### **Method:**

3 babies with BCLP were imaged using the 3dmd stereo-photographic scanner. In each case the same surgeon performed bilateral lip closure with full muscle repair at 3 months of age. Images were recorded immediately preoperatively and at 1 and 6 weeks postoperatively. Images were analysed at each stage using measurements taken from modified anthropological markings.

### **Results:**

Preoperative prolabial/premaxillary position was massively anteriorly protrusive. Surgery caused quantifiable changes equating to very rapid posterior shift of the prolabium/premaxilla, with large changes at a week and further changes on-going over the next 6 weeks

### **Conclusion:**

Rapidity of posterior shift of premaxillary position may have been related to the radical lip surgery. The mechanisms and the long-term effects of this significant early change are unknown. Different repair techniques may induce different rates of change in facial form and this should be studied. 3d imaging is a valuable tool in complex facial surgery.



**A measure for assessing dental arch relationships outcomes in 5-year-olds born with bilateral cleft lip and palate (BCLP)**

Bilal A. Qureshi, Specialist Registrar Orthodontics, Barts and the London Dental Institute  
Alison Williams, Senior Lecturer /Consultant Orthodontist, Barts and the London Dental Institute  
Norman Hay, Consultant Orthodontist, North Thames Cleft Team, Great Ormond Street Hospital

**Aim:**

To develop a measure for assessing dental arch relationships in BCLP at age 5.

**Method:**

15 cleft clinicians were surveyed about occlusal features of good and bad outcomes in BCLP. The validity of applying existing indices to 32 sets of study models of BCLP subjects at age 5 was tested. Subsequently, an index, previously developed for 10-year-old BCLP cases, was modified for 5-year-olds. The reliability of this index was tested by 4 examiners. Acceptability was assessed by a new examiner, who applied the index to 29 sets of models of children treated in Scotland.

**Results:**

A new index, BiGOS(5) was developed. Good intra- (mean weighted kappa = 0.61) and inter-examiner (mean weighted kappa = 0.68) reliability was achieved by 4 examiners for 32 models. An unfamiliar examiner achieved good inter- (mean weighted kappa = 0.74) and moderate intra-examiner (weighted kappa = 0.57) reliability using BiGOS(5). Differences in outcome at age 5 in BCLP were detected between two cleft teams.

**Conclusion:**

An Index which can detect differences in dental arch relationship outcome in BCLP at age 5 has been developed.

## **Speech surgery for VPI improves voice-related quality of life**

Alex Bowen, Final Year Medical Student  
Peter Hodgkinson, Consultant Cleft and Plastic Surgeon  
Sue Brown, Consultant Clinical Psychologist

### **Aim:**

To demonstrate the potential of routine monitoring of psychosocial consequences in velopharyngeal insufficiency (VPI) using patient-reported outcome measures designed to measure voice-related quality of life (V-RQOL) and to ascertain whether V-RQOL improves following speech surgery.

### **Design:**

Validated instruments designed to measure voice-related quality of life in children were used in cleft palate children before and after surgery for VPI.

### **Participants:**

All children who have had surgery for VPI in Newcastle upon Tyne since January 2008.

### **Results:**

The usefulness of the tool was validated in this population. Sample data from consecutive cleft patients pre- and post-operatively demonstrated significantly improved (normal) V-RQOL scores after speech surgery. Paired data demonstrated improvement in almost all cases. Non-improving scores highlight additional patient needs.

### **Conclusion:**

VPI is assessed by perceptual assessment of speech to common standards (e.g. GOSPASS) but this only measures the degree of physical impairment. VPI has a negative impact upon social functioning and this can be measured using tools designed to measure V-RQOL. Surgery for VPI improves V-RQOL and this can also be measured using such instruments. Routine monitoring of impact upon social functioning should be incorporated into the routine assessment of children with VPI and all cleft children at audit.

## Effect of buccinator mucomuscular flaps on speech in cleft palate patients

Arwa Meki

Mr Tariq Ahmad

Dr. Anne Harding-Bell

Mr Per Hall

Mr Paul Morris

### Aim:

To investigate the efficacy of unilateral and bilateral buccinator mucomuscular flaps in secondary surgery for speech in patients with cleft palate.

### Method:

49 patients were assessed pre- and post- operatively on a range of speech parameters using GOSSPASS assessments.

### Results:

Total Patients n=49	Present Preop	Improve d Postop	No Change	Worse Postop	Waiting Assessment/N A
Hypernasality	40	22	4	1	13
Hyponasality	3	1	1	0	1
Nasal Emission	39	21	7	0	11
Nasal Turbulence	13	5	2	1	5
Grimace	12	4	1	0	7

The complex relationship between these speech characteristics and cleft-type consonant production was also considered.

### Conclusion:

Use of buccinator flaps in secondary surgery results in a considerable improvement in several speech characteristics. The techniques and rationale for use of buccinator flaps will be outlined and a preliminary algorithm for the use of these flaps is presented. The speech characteristics most frequently affected by surgery were identified; this study provides an opportunity to consider the possibility of weighting specific characteristics in reporting speech outcomes.

## **Early NG feeding after cleft palate repair**

Rosepal Dhesi, SPR Anaesthetist  
Julie Hughes, Clinical Nurse Specialist  
Mel Sharp, Clinical Nurse Specialist  
Sally Wright, Clinical Nurse Specialist  
Thirusha Lane, Clinical Nurse Specialist  
Brian Sommerlad, Consultant Surgeon  
Loshan Kangesu, Consultant Surgeon  
Richard Howard, Consultant Anaesthetist  
Mike Sury, Consultant Anaesthetist

### **Aim:**

Does nasogastric feeding reduce postoperative distress after cleft palate repair?

### **Method:**

Infants having primary cleft palate repair were randomised to receive either regular NG feeds (Group A) or on-demand oral feeds (Group B). All patients had paracetamol, ibuprofen and nurse-controlled IV morphine. The main outcome variable was morphine consumption in first 24 hours. Secondary outcomes were number of painful episodes (FLACC score  $>4$ ) and effect of feeding on FLACC score.

### **Results:**

34 patients were studied. 5 patients were excluded (NG tube displacement or anaesthesia protocol violation). Data were analysed from 14 patients in Group A and 15 in Group B. Median (range) morphine requirements were 0.14mg/kg (0.04-0.31) and 0.16mg/kg (0.024-0.4) respectively ( $p>0.1$ ). There were, in total, 55 and 80 painful episodes in Groups A and B respectively ( $p>0.1$ ). Median (range) number of painful episodes were 4 (0-7) in group A and 5(0-13) in Group B; feeding reduced scores (by  $> 2$ ) in 96% and 75% respectively ( $p<0.05$ ).

### **Conclusion:**

Nasogastric feeding did not decrease morphine requirements post operatively. It did not prevent painful episodes but did reduce pain scores more than oral feeding.

**Magic wands and cosmic particles: the circumstances and motivating factors for parents considering inclusion in a cleft gene bank**

Lucy Stead, Paediatric Dentistry, SpR in Paediatric Dentistry

**Aim:**

A UK cleft gene bank will add to our understanding of the multifactorial aetiology of cleft lip and / or palate (CLP). This study was designed to understand parents' views on research into CLP, the most appropriate time to approach families for inclusion in a gene bank and to explore factors which motivate parents to participate.

**Method:**

A qualitative approach was used. Sixteen parents of children born with CLP attended five focus groups. Grounded theory principles were used to analyse the data.

**Results:**

Parents appeared positive about participating in a cleft gene bank. Several 'difficult' times existed for parents during which an approach for inclusion would be inappropriate. The person approaching them could be a cleft nurse or other professional involved in their child's care, or a representative of CLAPA. A cooling-off period is required after parents are initially approached. Parents were concerned about the safety of data and samples. They were motivated to take part to gain answers to the question of aetiology, help future generations and ultimately to prevent cleft. Difficult times experienced with their child inspired parents to want to help.

**Conclusion:**

Parents of children with CLP were positive about participating in a cleft gene bank

**Examination of inter/intra observer agreement using panel grading and computer based analysis of photographs of repaired UCLP**

Linda J Treharne, Cleft Fellow  
Per N Hall, Consultant Plastic Surgeon  
Varvara Polydoropoulou, Medical Statistician  
Ronald W Pigott, Honorary Consultant Plastic Surgeon

**Aim:**

Statistical analysis of repeat assessments of symmetry to validate the computer method against clinical assessment

**Method:**

Two observers rated 30 photographs of 10-year-old repaired UCLP children from 1 (poor) to 5 (excellent) on two occasions.

Two observers traced outlines of front and base views of nose and of upper lip twice using the Symnose program which quantifies the mismatch of outlines of nose, nostrils and lip between the two sides.

**Results:**

Weighted Kappa values showed poor to fair agreement depending on whether front view, base of nose, lip or overall rating are considered for both inter and intra observer rating.

Inter/ intra observer reliability was similarly widely variable using the Limits of agreement method, both for comparisons of computer assessment of symmetry and against the results of scoring.

**Conclusion:**

Neither panel nor computer assessment as at present undertaken have good levels of repeatability and it is therefore not possible to say whether assessment of symmetry reflects the quality of results as seen by observers. Possible factors contributing to these results will be suggested.

**A Computer based program to quantify asymmetry after repair of the unilateral cleft lip and palate**

RW Pigott, Honorary Consultant Plastic Surgeon  
BB Pigott, Computer Programmer (retired)

**Aim:**

To provide an objective method of studying the outcome of surgery on the lip and nose over time.

**Method:**

Using the Symnose program, which runs on Apple with power or intel processors, the operator draws round the upper lip and the nose in front and base views of digital images on the monitor, chooses an axis of symmetry about which the program reflects the left over the right half and counts the pixels in the areas which do not overlap, as a Proxy for asymmetry.

**Results:**

The sum of the areas are expressed as a percentage of the total enclosed areas. In addition the angle of deviation of the bridge, columella and the obliquity of the mouth are measured. There is provision to compare two lengths and two areas. An assessment takes about five minutes and the results are amenable to statistical analysis.

### **The use of facial anthropometrics in aesthetic assessment**

Edler, R., Consultant Orthodontist, South Thames Cleft Service, Guy's Hospital, London  
Abd Rahim, M., Specialist Registrar in Orthodontics, King's College Hospital, London  
Wertheim, D., Reader, Faculty of Computing, I.S. and Mathematics, Kingston University, Surrey  
Greenhill, D., Principal Lecturer, Faculty of Computing, I.S. and Mathematics, Kingston University, Surrey

#### **Aim:**

Using digitized 3D images, to determine the most clinically relevant scoring system for representing facial aesthetics.

#### **Method:**

Album assessment of 11 images was made by a panel of 7 clinicians, using a visual analogue scale of attractiveness and the scores ranked. Thirty-five facial ratios, representing mean proportions were obtained from Farkas' growth study and the differences from each image/matched mean calculated, following digitization of the 3D images. The ranked scores were correlated according to the inclusion of surface, as well as "caliper" (shortest distance) measurements and whether the ranked scores, representing difference to the mean were weighted according to the magnitude of the linear measurements involved in the indices.

#### **Results:**

The highest correlations of ranked data were obtained by use of the weighted difference divided by the mean or standard deviation of the Farkas proportion index ( $r=-0.76$ ,  $p=0.006$ ,  $r=-0.65$ ,  $p=0.032$ , respectively).

#### **Conclusion:**

There appears to be potential in the use of the mean as "aesthetic ideal" as a principle in aesthetic assessment and perhaps as an objective means of outcome assessment after surgery. The most appropriate scoring method would seem to include use of both surface as well as caliper measurements and incorporate weightings.



**Improving results of primary alveolar bone grafts with Tisseel – an audit of 100 consecutive grafts**

Adam Blackburn, SpR Plastic Surgery  
Dina Slater, Consultant Orthodontist  
Rye Mattick, Consultant Cleft Orthodontist  
Peter Hodgkinson, Consultant Cleft Surgeon

**Aim:**

To Audit 100 consecutive primary alveolar bone grafts in 80 children performed by a single surgeon over a 6-year period (2002-8) and assess the impact of Tisseel on success rates.

**Method:**

Data was collected retrospectively for the first 18 months of this audit and then prospectively thereafter. All children underwent pre-surgical orthodontics to expand their clefts. Surgically, mucoperiosteal flaps were raised and the clefts were packed with cancellus bone harvested from the iliac crest. Grafts were scored after 6 months using Kindelan and modified Bergland grading scales by 2 cleft orthodontists. From November 2005 onwards, the surgical technique was modified and Tisseel was used to waterproof the mucoperiosteal flaps and stabilise the bone grafts.

**Results:**

The results of 93/100 Alveolar bone grafts were available for analysis. The overall success rate for these grafts was 92%. In the subset analysis, Tisseel was not used in the first 39 grafts, but was used in the subsequent 54 grafts. The success rate without Tisseel was 85%. This improved to 98% with Tisseel ( $p=0.02$ ).

**Conclusion:**

The alveolar bone graft success rate improved significantly with the introduction of Tisseel to our surgical technique.

**A randomised controlled trial to test a preventive dental health programme for mothers of cleft lip and palate infants**

Jeanette Mooney, Paediatric Dentistry, Dental Therapist  
Professor Anthony Blinkhorn, Population Oral Health, Sydney University  
Helen Worthington, Statistician, Professor of Evidence Based Care  
Professor William Shaw, Professor of Orthodontics, University of Manchester

**Aim:**

To introduce a preventive dental care programme for cleft lip and palate (CLP) infants.

**Design:**

A one-year randomised controlled trial to measure the effectiveness of a preventive dental health programme for CLP infants. Infants were identified from the CLP database. Mothers completed a questionnaire covering dental registration, use of fluoride toothpaste, feeder cup and bottle and then randomly allocated to test or control groups.

**Results:**

88 infants were recruited with 87 infants available at follow up, 45 test group 42 control group, median age at baseline 10.5 months.

More infants in the test group (93.3%) than in the control (78.6%) had been seen by their dentist ( $p = 0.063$ ).

More infants in the test group were using an 1100ppm fluoride toothpaste or higher ( $p = 0.001$ ).

Fewer infants in the test group (57.8%) than in the control (81%) were consuming drinks considered detrimental to health between meals ( $p = 0.022$ ).

**Conclusion:**

The introduction of an intensive dental health programme from an early age may be beneficial, and in the longer term may provide improved oral health for CLP children.

## Exhibitors

The organisers gratefully acknowledge the support of the commercial sector who have kindly supported the exhibition programme at CFS2009.

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## Charities

The organisers gratefully acknowledge the support of the charities who have kindly supported the exhibition programme at CFS2009.

**The Healing Foundation**

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