BAPRAS

British Association of Plastic
Reconstructive and Aesthetic Surgeons

Winter Scientific Meeting

4–6 December 2012 | The Royal College of Surgeons of England
7 December 2012: Combined meeting with the American Society of Plastic Surgeons

Contents

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PRESIDENT'S FOREWORD

Dear Members and Guests,

It is a great pleasure to welcome you all to our annual BAPRAS Winter Meeting. This year I am particularly pleased to extend a welcome to colleagues from the American Society of Plastic Surgeons. In addition to participating in the meeting they will be part of our combined Scientific Day on Friday.

The meeting programme promises a blend of education and debate over a variety of topics and I am sure will be the springboard for scientific discussion. This year's McIndoe lecture is being given by Professor Maria Siemionow who has done so much to advance facial transplantation. We are pleased to invite Professor Moustapha Hamdi and Professor Steven Hovius who, along with an impressive group of home-grown experts, will be leading sessions on advancements in perforator flaps, refinements in breast reconstruction and surgery of the upper limb.

The combined day on Friday with the American Society will have sessions on stem cells and their place in plastic surgery and a session on aesthetic surgery devoted to advances in face lifting. We are pleased to have Drs Rohrich, Evans and Neumeister along with key note lecturers from the UK.

We are continuing our close association with the Healing Foundation. Professor Giorgio Terenghi will provide insight into the scientific background to stem cell research and we have a separate session updating us on research currently being undertaken by the Healing Foundation.

The number and quality of presentations submitted this year has been greater than previous years and has made the work of the selection committee particularly challenging. The high quality of the free paper sessions is impressive. We are of course continuing our tradition (now in it's second year!) of a session for papers submitted for consideration for the President's Prize.

I would like to thank all those who have submitted papers, agreed to chair sessions, speak on topics of interest to the Association and also those who have devoted a great deal of time in helping organise the meeting.

I am particularly delighted to welcome to the meeting Professor Harold Ellis who will be known to many of you. He has a wealth of knowledge of surgery and anatomy over the last half century and beyond. He will be giving an invited lecture on surgery over the last half century and is also our guest speaker at the Association Dinner in the the Old Hall at Lincoln's Inn.

The meeting of course is for us the members and I hope you will enjoy it and I look forward to all your contributions, not only in the scientific sessions but in the debates including that on regulation in plastic surgery. This is a topic which will be a major issue for plastic surgery next year.

Plastic surgery continues to thrive and thanks to you all for making it so. The meeting is about a shared enjoyment of science and also socialising. So enjoy!

Richard Milner
President

OUTLINE PROGRAMME

TUESDAY 4 DECEMBER 2012

09:00 Registration and refreshments

09:55 Welcome by the President

10:00 Free papers: Breast

11:50 Refreshments and exhibitions

12:05 Regulation and revalidation in plastic surgery
(Guest lectures)

13:30 Lunch and exhibitions

13:30 Perineal Special Interest Group Meeting
(Lecture Theatre 2)

14:30 Free papers: Parallel sessions
- Burns, ear reconstruction and skin malignancy
(Lecture theatre 1)
- Skin and wounds, flaps, urogenital and vascular
(Lecture theatre 2)

16:30 Refreshments and exhibitions

16:50 AGM

17:30 Skin Special Interest Group Meeting

WEDNESDAY 5 DECEMBER 2012

08:15 Registration and refreshments

09:00 Free papers: Parallel sessions
- Lower limb, chest, trunk and pelvis
(Lecture theatre 1)
- Craniofacial and cleft
(Lecture theatre 2)

11:00 Refreshments and exhibitions

11:30 How will science influence plastic surgery practice in the future?
(Guest lectures from the Healing Foundation)

12:10 Free papers: The President's Prize

13:10 Lunch and exhibitions

13:10 Facial Palsy Special Interest Group Meeting

14:10 Refinements in breast reconstruction
(Guest lectures)

15:30 Refreshments and exhibitions

16:00 Refinements in breast reconstruction
(continued)

17:00 Feedback on BAPRAS Members' Survey

17:30 Close

Unless otherwise stated, all sessions are in Lecture Theatre 1

OUTLINE PROGRAMME

THURSDAY 6 DECEMBER 2012

08:00 Registration and refreshments

08:30 Perforator flaps
(Guest lectures)

10:35 Refreshments and exhibitions

11:05 Free papers: Aesthetic

12:05 Hand surgery
(Guest lectures)

12:40 Lunch and exhibitions

12:40 PLASTA Meeting

14:00 Hand surgery
(continued)

14:40 Free papers: Upper limb and history

15:50 Sixty-Four Years of the NHS: An old surgeon looks back
Professor H Ellis

16:30 Refreshments and exhibitions

16:50 McIndoe Lecture: Facial transplantation
Professor M Siemionow

19:30 Association Dinner
The Old Hall, Lincoln's Inn

FRIDAY 7 DECEMBER 2012

Combined day with the American Society of Plastic Surgeons

08:00 Registration and refreshments

08:25 Welcome
Dr G Evans and Mr R H Milner

08:30 Stem cells: Their place in surgery

10:30 Refreshments and exhibitions

10:50 Stem cells: Breast

12:30 Lunch and exhibitions

12:30 Industry symposium: Sponsored by Integra
(Webb Johnson Hall)

12:30 Breast Special Interest Group Meeting

12:30 Military plastic surgery

14:00 Face-lifting

15:30 Refreshments and exhibitions

15:45 Face-lifting
(continued)

17:00 Close

GUEST SPEAKERS

Professor Enrique Amaya

Enrique is The Healing Foundation Professor of Tissue Regeneration at the University of Manchester. He obtained his first degree at the University of North Carolina at Chapel Hill, when he initially became interested in embryos and evolution.

In 1992, Enrique completed his PhD studies at the University of California at San Francisco. The topic of his PhD work was the investigation of the signals which pattern and induce the first tissues in the vertebrate embryo.

During his postdoctoral studies at the University of California at Berkeley, Enrique and Kris Kroll developed a technique for generating transgenic frogs, a technique which is now commonly used in the Xenopus community to answer a wide variety of questions in biology.

In 1996, Enrique moved to the UK to become a group leader at the Wellcome Trust/Cancer Research UK Gurdon Institute at Cambridge University, where his lab continued to investigate the molecular signals that organise the vertebrate embryo.

In 2005, Enrique accepted the position of Healing Foundation Chair of Tissue Regeneration at the University of Manchester.

- How will science influence plastic surgery practice in the future?
  Wednesday 5 December

Mr Jon Billings

Jon Billings is Assistant Director for Revalidation at the GMC. He is responsible for working with the four UK health departments and other partners to steer revalidation towards successful implementation in late 2012.

He was originally a diagnostic radiographer in the NHS before progressing into clinical service management including surgery, medicine and older peoples' services.

He went on to become head of health strategy at the Audit Commission before joining the Healthcare Commission, initially as head of regional operations for London and the South East, then head of independent healthcare regulation.

Before joining the GMC Jon was one of the founding directors of the Health Information and Quality Authority, a new national healthcare regulator in Ireland. Whilst in Ireland he led the development of new national healthcare standards and carried out national reviews of hospital hygiene and symptomatic breast disease services, as well as a number of high profile investigations.

- Regulation and revalidation in plastic surgery
  Tuesday 4 December.

Professor Harold Ellis CBE

Professor Harold Ellis qualified as a doctor from the University of Oxford in July 1948, the same month the National Health Service began. Following national service as a Captain in the Royal Army Medical Corps, he continued his training as a surgical registrar in Oxford, Sheffield and London, before taking up a post as Senior Lecturer at the University of London. From 1962 he took up the foundation chair of surgery at the Westminster Hospital, a post which he held from his retirement from practice in 1989, since when he has been a teacher of Anatomy at Cambridge and now Guy's Hospital.

Professor Ellis sat on the Council of the Royal College of Surgeons from 1974 to 1987 (service as Vice President in 1986). He was awarded a CBE in 1987.

- Sixty-Four Years of the NHS: An old surgeon looks back
  Thursday 6 December
- Guest Speaker: BAPRAS Association Dinner
  Thursday 6 December (evening)

Dr Gregory R D Evans

Dr Evans received his medical degree and completed his general surgery residency at the University Of Southern California School Of Medicine. He completed his plastic surgery residency at the Johns Hopkins Hospital in Baltimore, Maryland. Following a craniofacial/microsurgery fellowship, Dr Evans spent seven years with the MD Anderson Cancer Center in Houston, Texas.

Dr Gregory Evans is Professor of Surgery and Biomedical Engineering and Chief of the Aesthetic and Plastic Surgery Institute, at the University of California, Irvine, in Orange, California. Dr Evans is certified by the American Board of Surgery and the American Board of Plastic Surgery.

GUEST SPEAKERS

Dr Evans areas of clinical interest include cancer reconstruction procedures, including free tissue transfer for head, neck and breast. He also specializes in the full spectrum of plastic surgery, with a focus on cosmetic surgery for the face, eyes, abdomen, breasts and body. He has lectured extensively throughout the world and authored numerous book chapters and articles. His research projects have included recreation of new tissue equivalents for damaged nerves that will help restore function to cancer, burn and trauma patients.

Dr Evans is currently President of The American Society of Plastic Surgeons, and is a Director of the American Board of Plastic Surgery. He is a past president of the American Society of Maxillofacial Surgeons and the American Society for Peripheral Nerve.

- Stem Cells: Breast
  Friday 7 December

Professor Moustapha Hamdi

Moustapha Hamdi was born in Syria. He was graduated from the medical school of Damascus University. He did his training in general and plastic surgery in Brussels, Glasgow and Atlanta. He had worked as a professor in Gent University for 10 years. Currently, he is the head of department of plastic and reconstructive surgery in the Free University of Brussels. He is also a consultant at the Edith Cavell Medical Institute.

Professor Hamdi is an international speaker and organiser of many meetings and courses in breast surgery. His major expertise is breast reconstruction mainly with perforator flaps, however, he has also contributed to many chapters of aesthetic breast surgery. He is not only chairman of the section of microsurgery within the Royal Belgian Society for Plastic Surgery (RBSPS) and a member of the Belgian Board of Plastic Surgery but he is an expert member of the High Council of Ministry of Health in Belgium. He is also active within the scientific committee of the European Society of Plastic Surgeons (EURAPS); in addition, he is an honorary member in the Australian, Colombian and Syrian societies and an Overseas Member of the British (BAPRAS), International (ISAPS), American (ASPS and ASRM) and the World Society of Microsurgery (WSRM) societies.

- Refinements in Breast Reconstruction
  Wednesday 5 December
- Perforator Flaps
  Thursday 6 December
- Stem Cells: Breast
  Friday 7 December
- Face-Lifting
  Friday 7 December

Professor Andrew Hart

Andrew Hart is the Stephen Forrest Professor of Plastic Surgery Research at the University of Glasgow, and a Consultant Hand, Plastic & Reconstructive Surgeon with the Canniesburn Plastic Surgery Unit, and Scottish National Brachial Plexus Service. His NHS clinical interest lies with complex microsurgical reconstruction and peripheral nerve surgery, particularly functional reanimation of the upper limb, and application of the perforator flap paradigm with regard to which he has been involved with microvascular anatomical studies and work on primary thinning. His basic science research focus lies with the neurobiology of peripheral nerve injury and regeneration, particularly with regard to neuroprotection, the timing of nerve repair, and the tissue engineering of nerve repair constructs.

He holds several honorary positions, has published widely and been an invited speaker to several international societies.

- Perforator Flaps
  Thursday 6 December

Professor Steven Hovius

Professor Hovius is Head of the Department of Plastic and Reconstructive Surgery and Hand Surgery at the Erasmus MC University Medical Centre, Rotterdam, the Netherlands. After becoming a Board certified plastic and reconstructive surgeon in 1987, he undertook his PhD thesis on allogenic transplantation of the radial side of the hand in 1991.

Professor Hovius has co-authored a large number of articles in international and national publications, and 30 chapters in books, as well as editing two books. He has lectured widely at international meetings as well as organising the FESSH 2002 and CHASG 2009 congresses. His interests include hand and microsurgery, congenital hand differences, peripheral nerve pathology and tendon transfers and wound healing.

- Hand Surgery
  Thursday 6 December

GUEST SPEAKERS

Mr Barry Jones

Mr Jones qualified in medicine from the University of London. He trained initially in general surgery gaining the FRCS degree from Royal College of Surgeons of England. His higher surgical training in plastic surgery was based in London but included several travelling scholarships to the United States and Europe and a fellowship in craniofacial and aesthetic surgery in Paris with Dr Tessier and Dr Marchac. He was awarded the post graduate degree of Master of Surgery by the University of London.

Mr Jones is Emeritus Consultant Plastic and Craniofacial Surgeon at the Hospital for Sick Children, Great Ormond Street, London; Honorary Senior lecturer at the Institute for Child Health, the University of London; Consultant Plastic Surgeon at the King Edward VII Hospital, London and Hunterian Professor at the Royal College of Surgeons of England. Mr Jones has served as the Honorary Secretary and President of the BAAPS and continues as a council member. He is an active member of BAPRAS, ASPS, EAPS, ISAPS, ICAPS and IESCS.

In recent years Mr Jones has been honoured as Visiting Professor in Atlanta, Madrid, Philadelphia (The Robert Ivy Professorship), South Africa, Barcelona and Sydney where he was awarded the Julian Reich Memorial medal for Academic Excellence. He has also been granted the Raymond Villain award by the ASAPS. He has published over 120 papers in peer reviewed scientific journals on various subjects, particularly facial aesthetic surgery, breast surgery and craniofacial surgery. Mr Jones is an author of two books.

- Face-Lifting
  Friday 7 December

Dr Dorian Kennedy

After completing a PhD in biophysics at the Royal Free Hospital in London, Dorian began his career in the Civil Service at the Ministry of Agriculture, Fisheries and Food, before moving to the Food Standards Agency. In 2002 he joined the Department of Health to head up its Immunisation Branch which is responsible for the UK's world-leading immunisation programme. During his time there Dorian oversaw major programmes of work, including the introduction of pneumococcal vaccines for babies, the HPV vaccine to protect young women against cervical cancer, as well as driving rates of childhood immunisation to their highest levels for over 20 years and making a major contribution to the Government's response to the Swine Flu pandemic. In 2012 Dorian moved from Immunisation to lead the team working on Professor Sir Bruce Keogh's Review of the Regulation of Cosmetic Interventions.

- Regulation and revalidation in plastic surgery
  Tuesday 4 December

Mr Niall Kirkpatrick

Niall Kirkpatrick is a consultant plastic surgeon and lead clinician in the Craniofacial Unit at Chelsea and Westminster Hospital, and at the Royal Marsden Hospital. He is Honorary Clinical Senior Lecturer at Imperial College, London and Honorary Consultant in the Head and Neck Unit at Charing Cross Hospital and Guy's and St Thomas' Hospital. He is a past President of the Royal Society of Medicine Plastic Surgery Section.

After qualifying in both Medicine and Dentistry from Guy's Hospital, Niall became a fellow of the Royal College of Surgeons and was awarded the degree of Doctor of Medicine (MD) from the University of London. Training in plastic surgery, he obtained fellowships in craniofacial surgery at both Great Ormond Street Hospital for Children and the Chelsea and Westminster Hospital, as well as in head and neck surgery at the Royal Marsden Hospital and aesthetic surgery at the Wellington Hospital. Niall was accredited by the Royal College of Surgeons in 2001. He has published extensively and gives lectures worldwide.

Niall Kirkpatrick is a Trustee and the Medical Director of "Facing The World", an international children's charity providing craniofacial surgery to children worldwide.

- Face-Lifting
  Friday 7 December

Dr Kimberley Mace

Kimberly Mace is a Principal Investigator within the Healing Foundation Centre in the Faculty of Life Sciences at the University of Manchester (2007-present). She has been investigating the molecular and cellular biology of tissue repair and regeneration for over 15 years. Before coming to the University of Manchester she was a Ruth Kirschstein NIH Postdoctoral Fellow at the University of California, San Francisco (2003-2007) where

GUEST SPEAKERS

she became internationally known for her work on Hox gene regulation of injury-induced angiogenesis. Prior to that she was internationally recognised for her doctoral work at the University of California, San Diego (1997-2003) for her discovery of an evolutionarily conserved pathway controlling wound healing in Drosophila. She has recently published a book on progenitor cells and is regularly invited to speak at national and international conferences and workshops.

- How will science influence plastic surgery practice in the future?
  Wednesday 5 December

Mr Douglas Macmillan

Douglas Macmillan qualified at the University of Glasgow in 1988 and trained in Glasgow, Edinburgh and Nottingham. He was appointed as Consultant Oncoplastic Breast Surgeon at the Nottingham Breast Institute in 2001 where he is also the Clinical Lead for Breast Surgery and Breast Cancer. He leads a research group in oncoplastic breast surgery and has published extensively (over 80 original articles and several book chapters). He is co-director of the International Oncoplastic and Reconstructive Breast Surgery Congress (ORBS) and manages the on-line resource for oncoplastic and reconstructive breast surgery.

- Refinements in Breast Reconstruction
  Wednesday 5 December

Mr Stephen McCulley

Stephen McCulley is a consultant plastic and reconstructive surgeon in Nottingham, specialising in all aspects of cosmetic, oncoplastic and microvascular breast surgery. He has been a leading figure in the development of breast-conserving oncoplastic techniques in the UK over the last 10 years. As part of the Nottingham team he has helped develop and refine the use of MRA pre-operative assessment for DIEP flaps and continues to develop processes to improve the efficiency and outcomes in DIEP flap reconstruction. He is co-founder of the ORBS (Oncoplastic Breast Reconstructive Surgery) International meeting in Nottingham.

- Refinements in Breast Reconstruction
  Wednesday 5 December
- Stem Cells: Breast
  Friday 7 December

Dr Tom Millard

Tom Millard carried out his PhD at the University of Bristol where his research focused on signal transduction in human cells. He then carried out postdoctoral research on the cell biology of tissue formation and repair at the Universities of Birmingham and Bristol. Since 2008 he has been a Healing Foundation Research Fellow at the University of Manchester, where his research focuses on the genetic and cellular mechanisms of tissue repair

- How will science influence plastic surgery practice in the future?
  Wednesday 5 December

Dr Michael Neumeister

Dr Michael Neumeister received his medical degree from the University of Toronto. He started in a general surgery residency at Dalhousie University in Halifax, Nova Scotia, and went on to complete his plastic surgery residency at the University of Manitoba in Winnipeg, Manitoba.

Dr Neumeister attended Harvard University's Brigham & Women's Hospital in Boston as a microsurgery fellow. He completed a hand and microsurgery fellowship at the Southern Illinois University School of Medicine's Plastic Surgery Institute. Dr Neumeister is board certified in plastic surgery by the Royal College of Surgeons of Canada (FRCSC).

Dr Neumeister is currently the President of The Plastic Surgery Foundation (The PSF) and a member of the American Society of Plastic Surgeons (ASPS). Dr Neumeister has received awards for presentations given regionally, nationally, and internationally, has authored numerous book chapters and articles, and has multiple research interests.

- Stem Cells: Their place in surgery
  Friday 7 December

Mr Steven Preece

Steven was a history graduate and joined the NHS as a graduate management trainee on the national scheme. He trained in the UK and US. Steven worked as a hospital manager in Liverpool and Manchester before qualifying as a solicitor and becoming a

GUEST SPEAKERS

partner in a large firm of solicitors. He acted for and advised NHS bodies, including the NHS Litigation Authority, as well as medical defence organisations and their members. In April 2004 Steven joined NCAS as an adviser. He became a senior adviser in November 2004 and is now Lead Adviser, heading the team of NCAS advisers for the northern half of England. He is also a CEDR (Centre for Effective Dispute Resolution) accredited mediator.

- Regulation and revalidation in plastic surgery
  Tuesday 4 December

Mr Venkat Ramakrishnan

Venkat Ramakrishnan is a consultant plastic surgeon at the St Andrew's Centre for Plastic Surgery and Burns, Chelmsford

Mr Ramakrishnan's main area of work involves microsurgical reconstruction of the breast and aesthetic surgery of the breast. His secondary interests are microsurgical reconstruction of chest wall, abdomen and lower limb.

He has a major role as a trainer in microsurgery and was the inaugural Tutor in Plastic Surgery at the Royal College of Surgeons of England, London. He was the Director of the St Andrews Centre until recently and has had roles in the BAPRAS council and the project board of the National Mastectomy and Reconstruction Audit. He is a member of the editorial board of the *Journal of Plastic, Reconstructive and Aesthetic Surgery* and the *Archives of Plastic Surgery*. He is a fellow of the Royal College of Surgeons of England and the Royal Australasian College of Surgeons.

Mr Ramakrishnan has numerous publications and presentations at national and international meetings. His main areas of research and audit work are in microsurgical techniques, service delivery and microcirculation in free flaps. He is a visiting Professor at the Anglia Ruskin University and the University of Westminster.

- Refinements in Breast Reconstruction
  Wednesday 5 December
- Perforator Flaps
  Thursday 6 December

Dr Rod J Rohrich

Rod J Rohrich, MD, FACS is an internationally known surgeon, leader and educator in plastic surgery. He is Professor/Chairman of the Department of Plastic Surgery at UT Southwestern Medical Center. Dr Rohrich received his medical degree from Baylor University College of Medicine, and completed his general surgery and plastic surgery residencies at The University of Michigan Medical Center. He completed further training in paediatric plastic surgery at Oxford University, and a hand/microvascular fellowship at Massachusetts General Hospital/Harvard Medical School.

Among his many affiliations, Dr Rohrich is a Past Director of the American Board of Plastic Surgery, and Past President of the ASPS, the largest organisation of Board certified plastic surgeons in the world. He currently serves as Chair of the Plastic Surgery Residency Review Committee. He has been a Visiting Professor to over 150 national/international societies. He is Editor-in-Chief of Plastic and Reconstructive Surgery, and an editor for Selected Readings in Plastic Surgery, a supplement to the teaching curriculum of plastic surgery training programs in the United States and thirty-eight foreign countries.

- Face-lifting
  Friday 7 December

Mr Mark Schaverien

Mark Schaverien is a Specialist Registrar in Plastic Surgery. He has performed pioneering research into the vascular anatomy and perfusion of perforator flaps using novel three-dimensional imaging techniques under the care of Dr Michel Saint-Cyr at the University of Texas Southwestern Medical Center in Dallas. His research has been widely published and presented, and he was awarded a Hunterian Lectureship by the Royal College of Surgeons of England in 2011.

- Perforator Flaps
  Thursday 6 December

GUEST SPEAKERS

Professor Maria Siemionow

Maria Siemionow is Professor of Surgery, the Director of Plastic Surgery Research, and Head of Microsurgery Training in the Department of Plastic Surgery at the Cleveland Clinic.

Her research interest over the past 20 years has been devoted to the development of the field of Composite Tissue Allotransplantation (CTA) and tolerance inducing strategies. She developed the clinical protocol for face transplantation and in December of 2008 was the leading surgeon of the first near-total face transplantation performed in the United States.

She has published over 300 scientific articles and book chapters, and for her innovative work in the field of tolerance induction in CTA, she has received multiple awards including the prestigious Folkert Belzer Award for Distinguished Research, in Nagoya, Japan, in 2001, and the American Association of Plastic Surgeons' James Barrett Brown Award, in 2004 and 2007, for her pioneering work in face transplantation.

She has also been the recipient of the American Association of Plastic Surgeons' 2010 Clinical Researcher of the Year Award, the Plastic Surgery Education Foundation's 2010 Outstanding Achievement in Clinical Research Award, and the 2011 American Society of Maxillofacial Surgeons' Best Clinical Paper Award.

She is the President-Elect of the American Society of Reconstructive Transplantation (ASRT) and holds 8 patents in the field of nerve transplantation and peripheral nerve research.

- The McIndoe Lecture
  Thursday 6 December

Professor Giorgio Terenghi

Giorgio Terenghi is Professor of Tissue Engineering and Head of Nerve Regeneration Research at the University of Manchester, UK. He was awarded a Doctor in Biology degree at the University of Milan, Italy, an MSc in Anatomy at Sheffield University, followed by a PhD in Pathology from the University of London. He is a Fellow of The Royal College of Pathology, and he was awarded an Honorary Degree in Medicine from the University of Umeå in Sweden, where he is Visiting Professor. The main focus of his research is tissue engineering of nerve regeneration, developing an artificial nerve based on a biodegradable synthetic polymer nerve conduit. Addition of cultured Schwann cells or adult stem cells and coating of extracellular matrix molecules within the conduit microenvironment results in improved regeneration and restoration of sensory and motor functions. A successful clinical trial using this novel method has taken place in Sweden, at the University Hospital of Umeå, in collaboration with Professor Mikael Wiberg, providing the opportunity to develop a link between research and clinical translation.

- Stem Cells: Their place in surgery
  Friday 7 December

Dr Jennifer Verhoekx

Jennifer Verhoekx is an MD-PhD student. Her research is based at Erasmus Medical Centre, Rotterdam and University College London, whilst her clinical training is at Leiden University. The main focus of her research is the pathobiology of Dupuytren's disease, investigating new therapies to regulate fibroproliferation to prevent the progression of the disease.

- Hand Surgery
  Thursday 6 December

Mr James Watson QC

James Watson QC (Called 1979, QC 2000) is very experienced in professional and regulatory work in the healthcare fields. He has regularly advised professional regulatory bodies on policy matters and appeared as an advocate both in prosecuting and defending roles and as legal assessor in a wide variety of disciplinary inquiries, fitness to practice, and related hearings.

He has represented doctors at the GMC over the past 30 years and has had considerable experience of its evolution to the present day.

- Regulation and revalidation in plastic surgery
  Tuesday 4 December

TUESDAY 4 DECEMBER 2012

09:00 – 10:10

09:00 **Registration and refreshments**

09:55 **Welcome by the President**

Free papers: Breast
Chairs: Mr J O'Donoghue, Mr R Hayward

10:00 **An algorithm for the management of Tubular Breast Deformity (TBD)**
Mr A Salibi, Mr S Thomas (Birmingham)

Introduction: Tubular breast deformity (TBD) is a challenge in management. Options vary from single-stage procedure (SSP) or two-stage procedure (TSP) with initial expansion followed by definitive implants/mastopexy.

Methodology: This was a retrospective study of 107 patients from February 2004 to June 2009. Groups A and B were allocated according to grades (I/II and III/IV respectively). Subjective evaluation ranged from 1 to 4 (poor to excellent). Revision surgery was evaluated separately.

Results: Two-thirds were unilateral (*n*=65) versus bilateral (*n*=42). Eleven patients were excluded.

Group A: 63 patients (66%). 59 (94%) required SSP with an average satisfaction of 2.7 (1.2–4). 54 (91%) were implants-only. The remaining 4 (6%), underwent (TSP) with an average satisfaction of 2.1 [1.7-2.7].

Group B: 33 patients (34%), 17(51%) had (SSP) with a 2.6 [1.3-4]. The remaining 16 (49%) required TSP with an average satisfaction of 2.5 [1–3.2]. 9 (56%) had tissue expansion, followed by implants.

From the two groups 15 (16%) underwent revision surgery; Group A: (*n*=8); Group B: (*n*=7). 73% (11) unilateral deformities required revision.

Conclusion: More Group B patients required TSP. Outcomes and revision were similar in both groups. Most revisions were for unilateral deformity to match the normal breast. Laterality and grade are two important factors in determining outcome. A management algorithm is proposed.

10:07 **Questions**

10:10 **Current fat grafting practices for cosmetic and reconstructive breast surgery: A national survey of ASPS members**
Dr A Cheng, Miss G Oni, Mr C Lakhiani, Miss K Rojas, Dr R Parmar, Dr M Saint-Cyr (Dallas, USA)

Introduction: Fat grafting is increasing in popularity both for breast reconstruction and augmentation, however variable techniques and results are reported. We surveyed members of the American Society of Plastic Surgeons (ASPS) to elucidate current practice patterns and opinions.

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10:17 – 10:20

Methods: 5942 members of ASPS were surveyed over a four-month period using an online questionnaire. 305 members had invalid addresses resulting in unsuccessful delivery.

Results: Of the 590 responses a total of 527 members completed the survey fully (8.87% response rate). 69.3% of responders performed this technique (*n*=380). Of those that did not safety (43.4%) and efficacy (21.1%) concerns were cited as the most common reason for not performing fat grafting. The majority of surgeons performed fat grafting for reconstructive (96.3%) versus cosmetic indications (26.9%). The preferred donor site was the abdomen (79.9%). 2.2% of surgeons froze fat for delayed use and 3.3% using stem cell enrichment techniques. Overcorrection was routinely performed by 78.2% of surgeons. Repeat sessions were performed at 3-6 months (45.8%).

Conclusions: Fat grafting is a technique increasingly used by plastic surgeons especially for reconstruction but lacks standardisation in clinical practice. Variable techniques in fat harvesting, donor-site preference, processing, and injection suggest further studies are needed to establish safety and efficacy for reliable results.

10:17 Questions

10:20 Breast reconstruction modality outcome study: Comparison of expander/ implants (E/I) and free flaps (FF)

Dr J Fischer, Dr J Nelson, Dr B Sieber, Ms E Cleveland, Dr S Kanchwala, Dr J Serletti (Philadelphia, USA)

Background: Choosing a breast reconstructive modality after mastectomy involves a complex set of decisions and we aim to provide outcomes data comparing two common modalities (E/I and FF).

Methods: A prospectively maintained database identified breast reconstructions between 2005 and 2008. Variables evaluated included: co-morbidities, surgeries, time to reconstruction, complications, clinic visits, revisions, and costs.

Results: During the study 142 received FFs and 60 E/Is. E/I patients required more procedures ($p<0.001$), but shorter overall hospitalisation lengths ($p<0.001$). FF patients elected to undergo NAR more frequently ($p=0.01$) and did so sooner ($p<0.0001$). Directly comparable complication rates were higher in the E/I cohort: seroma ($p=0.03$) and cellulitis ($p=0.07$). Patients undergoing E/I reconstruction had a higher rate of failure (7.3 versus 1.3 %, $p=0.008$). FF patients achieved a stable reconstruction significantly faster ($p=0.0005$) with fewer clinic visits ($p=0.02$) and a trend toward lower cost ($p=0.15$). FF were independently associated with shorter time to stable reconstruction and less failure by regression analysis ($p<0.001$ and $p=0.05$).

Conclusions: FF reconstructions require fewer procedures, have lower rates of complications and failures, fewer clinic visits, while achieving a stable

NOTES

10:27 – 10:40

reconstruction faster. Autologous reconstruction is not suitable for every patient, but it affords patients an optimally fast, stable, and reliable reconstruction.

10:27 Questions

10:30 The Toronto experience with latissimus dorsi flap breast reconstruction in an ambulatory setting: A model for the NHS?
Miss L Harry, Dr P Morgan, Dr K Davidge, Dr M Brown, Dr J Semple (Toronto, Canada)

Traditionally, breast reconstruction using the latissimus dorsi (LD) flap has required an in-patient stay anywhere from 3 to 7.3 days. At Women's College Hospital, Toronto, a recently designated Ambulatory Facility, we devised a protocol enabling breast reconstruction to be provided with an enhanced recovery and fast tracked discharge at 18 hours following surgery.

Ten patients underwent LD flap reconstruction, utilising standardised pre-operative multimodal analgesia. Quality of recovery was assessed using validated Quality of Recovery (QR)-27 questionnaires and Visual Analogue Pain Scores (VAS) at discharge, 2, 4 and 7 days post-operatively. Other indices recorded included Length of Stay (LoS), complications, readmission and return to theatre.

All patients (mean age, 45 years) were discharged home 18 hours post-operatively. Quality of recovery was high, with mean QR-27 score 133 (range, 29-155) and mean VAS 3/10 at discharge. One patient was readmitted with suspected thromboembolism, but discharged the same day, following negative investigation.

The advent of enhanced recovery using multimodal analgesia in our prospective series of LD reconstructions has transformed the patient pathway, allowing early discharge. In this era of increasing financial burden as well as patient exposure to hospital-acquired infections, we propose this as a potential model, in selected patients, for the NHS.

10:37 Questions

10:40 Capsular contracture rates in implant-only and LD and implant reconstruction patients: Is there a difference?
Miss H Staley, Ms S Tadiparthi, Mr N Collis, Mr J O'Donoghue (Newcastle-upon-Tyne)

Introduction: Capsular contracture is a significant complication in implant-based breast reconstructions. LD/implant reconstructions provide enhanced soft-tissue cover in irradiated patients but whether this lowers capsular contracture rates when compared to implant-only reconstructions has yet to be established.

The aim of this study was to compare capsular contracture rates and capsular procedures in LD/implant and implant-only reconstructions.

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10:47 – 10:50

Methods: All implant-based reconstructions between 2003 and 2008 were reviewed retrospectively.

Results: 69 patients (80 breasts) underwent LD/implant and 49 patients (59 breasts) underwent implant-only reconstructions. Mean follow-up time was 64 months (range 47-108 months). Overall, grade of capsular contracture was similar in the implant-only and LD/implant groups. Similarly, there was no significant difference in the number of capsulectomy procedures in the LD/implant (21 procedures) and the implant-only (28 procedures) groups (1.1 versus 1.6 procedures per patient).

Grade of capsular contracture	LD / implant (n=80)	Implant only (n=59)	p value
Grade 1	56 (70%)	36 (61%)	*p*=0.510 Fisher's exact test
Grade 2	4 (5%)	5 (8.5%)	
Grade 3/4	20 (25%)	18 (30.5%)	

Adjuvant radiotherapy was administered in 37.5% of LD/implant and 28.8% of implant-only breasts. Radiotherapy increased the risk of developing grade 3/4 contracture by nearly four-fold in both groups (p=0.003, odds ratio=3.7). In irradiated breasts, the grade of contracture was similar in the LD/implant and implant-only reconstructions:

Grade of capsular contracture	Irradiated LD/implant (*n*=30) *n* (%)	Irradiated Implant-only (*n*=17) *n* (%)	*p* value
Grade 1	14/30 (46.7%)	8/17 (47.1%)	*p*=0.821 Fisher's exact test
Grade 2	2/30 (6.7%)	2/17 (11.8%)	
Grades 3 / 4	14/30 (46.7%)	7/17 (41.2%)	

Conclusion: Radiotherapy significantly increases the likelihood of severe capsular contracture in both types of implant-based reconstructions. However, despite enhancing soft-tissue cover, LD/implant reconstructions do not appear to provide any protection against capsular contracture, even in the setting of radiotherapy.

10:47 Questions

10:50 Liposuction of postmastectomy arm lymphoedema completely removes excess volume: A 17 year study
Mr H Brorson (Malmö, Sweden)

Introduction and Aims: Patients with chronic non-pitting lymphoedema do not respond to conservative treatment or microsurgical reconstructions because chronic inflammation results in excess subcutaneous adipose tissue deposition.

Material and Methods: 120 women with non-pitting breast cancer related lymphoedema (mean age: 64 years; mean duration of arm swelling: 9 years) underwent liposuction. Mean age at breast cancer operation, mean interval

NOTES

10:57 – 11:00

between breast cancer operation and duration of lymphoedema start were 52 years and 3 years respectively. Aspirate and arm volumes were recorded.

Key Results: Aspirate mean volume was 1865ml (range, 650-3850) with an adipose tissue concentration of 94% (range, 58-100). Pre-operative mean excess volume was 1632ml (range, 570-3915). Post-operative mean reduction was 102% (range, 50-189) at 3 months and more than 100% during 17 years follow-up ($p<0.001$), i.e. the lymphoedematous arm was somewhat smaller than the healthy arm. The pre-operative mean ratio between the volumes of the oedematous and healthy arms was 1.5, rapidly declining to 1.0 at 3 months, and less than 1 after one year ($p<0.001$).

Conclusion: These long-term results demonstrate that liposuction is an effective method for treatment of chronic, non-pitting arm lymphoedema in patients who have failed conservative treatment. Microsurgical reconstructions, although attractive as a physiological concept, cannot provide complete reduction because it does not eliminate the subcutaneous adipose tissue collections.

10:57 Questions

11:00 Evidence-based approach to free tissue transfer in the obese patient-analysis of 1,258 abdominally-based reconstructions

Dr J Fischer, Dr B Sieber, Ms E Cleveland, Dr J Nelson, Dr L Wu, Dr S Kovach, Dr S Kanchwala, Dr J Serletti (Philadelphia, USA)

Purpose: We report an outcome analysis of obese patients undergoing abdominally-based autologous breast reconstruction using the World Health Organization (WHO) classification.

Methods: Patients were classified by WHO obesity criteria: non-obese (BMI=20-29.9 kg/m^2), Class I (BMI=30-34.9 kg/m^2), Class II (BMI=35-39.9 kg/m^2), and Class III (BMI>40 kg/m^2). Complications and cost utilisation were compared between groups.

Results: 812 patients undergoing 1,258 abdominally-based free tissue transfers for breast reconstruction were analysed. 66.5% were non-obese, 20.9% were Class I obesity, 6.9% were Class II, and 5.7% were Class III. Morbidly obese patients had significantly higher rates of total flap loss (p=0.006), as well as longer operative times ($p<0.0001$) and greater intraoperative blood loss (p=0.02) which equated to greater cost ($p<0.001$). Obese patients receiving an msTRAM experienced higher rates of hernia compared to DIEP/SIEA (p=0.02) without a difference in flap loss rate (p=0.61). Regression analysis demonstrated obesity was associated with significant wound healing complications (OR=2.2, $p<0.001$).

Conclusion: Obesity is associated with greater technical challenges, higher total flap loss, greater major abdominal donor site morbidity, longer hospitalisation length, and added healthcare resource utilisation. We believe careful pre-operative assessment and counseling, meticulous donor-site closure, and a microsurgical step-down unit can optimise outcome.

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11:07 – 11:12

11:07 **Questions**

Bell session papers

11:10 **Comprehensive analysis of complications and cost following free tissue transfer for breast reconstruction: An experience with 1,303 flaps**

Dr J Fischer, Dr B Sieber, Dr J Nelson, Ms E Cleveland, Dr S Kovach, Dr L Wu, Dr J Serletti, Dr S Kanchwala (Philadelphia, USA)

Purpose: The goal of this study is to provide a longitudinal experience of free tissue breast reconstructions with an emphasis on predictors of major surgical and medical complications.

Methods: We reviewed our prospectively maintained free flap database and identified oncologic breast reconstruction patients from 2005 to 2011. We performed regression analyses to identify predictors of complications.

Results: Complications included: major immediate surgical complications (4.0%, *n*=34), major delayed surgical complications (6.4%, *n*=54), minor surgical complications (47.6%, *n*=404), and medical complications (5.9%, *n*=50). Regression analysis demonstrated that flap choice (p=0.024) was independently associated with major immediate complications, and patient co-morbidities like COPD (p=0.001) and obesity (p<0.0001) were associated with delayed complications. Patients who developed an immediate surgical complication experienced longer hospital stays (p<0.0001), higher OR costs (p<0.001), and greater hospital costs (p<0.001).

Discussion: Early major complications are related to flap selection, whereas late major complications are associated with patient co-morbidities. Overall, major surgical and medical complications are associated with increased hospitalisation length and greater cost in autologous breast reconstruction. We believe careful patient education and operative planning can optimise patient performance while minimising morbidity and conserving healthcare resources.

11:12 **The risk ratio of complications in bilateral vs unilateral DIEP flap breast reconstruction: A comparative analysis of 373 consecutive flaps**

Mr A Figus, Dr R Wade, Mr R Haywood, Miss R Ali, Miss E Sassoon, (Norwich)

Introduction: The demand for bilateral breast reconstruction is currently increasing and bilateral DIEP flap breast reconstruction is recognised as an ideal but challenging option. To date, literature is lacking on risks of complications related to bilateral versus unilateral DIEP flap breast reconstruction.

Methods: Over a 5-year period, demographics, cancer treatments, details of surgery and operative outcomes of all consecutive DIEP flap breast reconstructions were prospectively recorded. Patients were categorised as unilateral or bilateral DIEP flap breast reconstructions for comparative analysis.

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11:14 – 11:14

Results: We performed 251 (67.3%) unilateral breast reconstructions and 61 (32.7%) bilateral reconstructions (122 DIEP flaps). The risk of peri-operative flap complications (OR 2.68 [95% CI 1.24, 5.81], p=0.01) and flap failure (OR 22.2 [95% CI 2.55, 194.0], p=0.001) was significantly higher in patients undergoing bilateral reconstruction. However, revision surgery rate was not significantly different.

Conclusion: These findings suggest that bilateral DIEP flap breast reconstruction is associated with a greater risk of peri-operative flap complications. This higher risk seems to be correlated with flap harvesting problems usually addressed using the contralateral side in unilateral cases. The available risk ratio of flap complications should be considered within the full informed consent process of women candidates to bilateral breast reconstruction.

11:14 DIEP flaps for reconstructive breast surgery: Venous congestion is reduced using pre-operative CE- MR angiography

Mr S McCulley, Dr C N Ludman, Dr M Leow, Mr M Schaverien, Dr A Awwad, Mr G Perks, Miss A Raurell, Mr T Rasheed, (Nottingham)

Introduction: Pre-operative imaging prior to DIEP flap surgery is well established. Historically, imaging has concentrated on the arterial anatomy. We have been using Contrast-Enhanced MR Angiography (CE-MRA) for pre-operative DIEP flap imaging since 2005. Recently, our unit has demonstrated a significant reduction in the incidence of venous congestion when a direct connection between the perforator vein and SIEV was demonstrated on CE-MRA. Our practice now includes this venous information in pre-operative decision making.

Methods: To validate our previous findings we performed a prospective study of patients undergoing surgery using the knowledge of the perforator venous connections derived from CE-MRA.

Results: 100 consecutive free abdominal flaps were harvested from January 2011 to June 2012. 61 DIEP flaps, 38 TRAM flaps, and one SIEA flap were performed. Four DIEP flaps did not have preoperative CE-MRA and were excluded from analysis. 43 DIEP flaps were raised on single perforators, and the remainder on two perforators. Two flaps underwent diffuse venous congestion from an intra-flap cause, one in a single perforator DIEP flap. Separate analysis of single perforator DIEP flaps revealed a significant reduction in venous congestion compared with results prior to the inclusion of venous data in decision making (7 of 42 flaps; p=0.03).

Conclusion: Our results validate our previous findings. They demonstrate that selecting perforators based on adequate arterial calibre and a direct venous connection to the SIEV, as demonstrated by CE-MRA, is associated with a significantly reduced rate of venous congestion in DIEP flap surgery.

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11:16 – 11:18

11:16 Implant augmentation versus autologous fat grafting in free flap breast reconstruction patients

Miss G Oni, Miss A Cheng, Mr C Lakhiani, Mr Z Hammoudeh, Dr K Narasimhah, Dr M Lee, Dr Y Lee, Dr M Saint-Cyr (Dallas, USA)

Introduction: Free flap breast reconstruction has become the gold standard for post-mastectomy breast reconstruction. However, there are instances when the volume of autologous tissue needs augmentation to achieve the desirable volume, shape, symmetry, and contour of the breast.

Methods: A retrospective review was undertaken, of patients who underwent post-mastectomy free flap reconstruction with secondary augmentation either with autologous fat grafting, implants, or both over a three-year period. Two plastic surgeons performed a blinded aesthetic analysis to grade overall breast aesthetic appearance, contour, volume, and projection.

Results: Twenty-five patients (41 breasts) were included with a mean age of 51.7 years (range: 35.8–62.7) and follow-up of 177.1 days (range: 60–789). Seventeen (26 breasts) had fat grafting, four (8 breasts) had implants only, with three patients (5 breasts), having both. There were no significant differences in overall aesthetic appearance (p=0.36), contour (p=0.87), volume (p=0.91), and projection (p=0.203) between the fat grafting only and implant only groups. However, when combined there was a significantly higher aesthetic score in terms of overall appearance (p=0.01). The complication rate was higher in the implant only group (p=0.002).

Conclusions: Both fat grafting or implant augmentation yield similarly pleasing aesthetic appearance, however, when used in combination can provide a superior final result.

11:18 Use of pre-operative imaging for breast reconstruction: A national survey of ASPS members

Mr C Lakhiani, Miss A Cheng, Miss G Oni, Miss K Rojas, Dr R Parmar, Dr M Saint-Cyr (Dallas, USA)

Introduction: There are a variety of imaging modalities available for free flap breast reconstruction pre-operative planning, each associated with its own advantages and disadvantages without clear practice guidelines regarding modality selection. We surveyed members of the American Society of Plastic Surgery (ASPS) on their current clinical practices and opinions.

Methods: 5942 members of ASPS were surveyed over a four-month period using an online questionnaire. 305 members had invalid addresses resulting in unsuccessful delivery.

Results: Of the 590 responses a total of 527 members completed the survey fully (8.87% response rate). Perforator-based breast reconstruction was performed by 29.9% of responders (n=105). Of those, pre-operative imaging was used always (25.9%), sometimes (30.3%), and never (43.8%). Computed tomographic angiography was the most common (77.3%), followed by pencil

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11:20 – 11:25

Doppler (41.2%) and magnetic resonance angiography (17.6%). Indications for selective use were prior abdominal scars/surgery (50.0%), possible hernia (10.1%), obesity (9.1%), and non-abdominal-based flap planning (6.8%). Two-thirds of surgeons agreed that pre-operative imaging was useful for deciding on type of abdominal flap, and mapping/selecting perforators rather than reducing surgery time, cost or complications.

Conclusions: Breast reconstruction is performed by a select group of surgeons who have varying attitudes to the use of pre-operative imaging for free flap surgery.

11:20 Radiological follow up of 100 therapeutic mammoplasty cases

Mr S Rimouche, Mr R McGoldrick, Mr D Macmillan, Professor A Evans, Mr S McCulley (Nottingham)

There is concern with increasing complexity of primary oncoplastic surgery that follow up radiology will be compromised by fat necrosis, breast distortion and calcification. We present a retrospective review of 100 cases where therapeutic mammoplasty follow up radiology was compared to standard wide local excision cohort. We reviewed the incidence of calcification at post-operative site on mammograms and the request for ultrasound imaging and the need for biopsy. 36% of mammogram on the therapeutic mammoplasty group had calcification on the cancer side but this was identical to wide local excision group. There was also a 9% incidence of calcification in the contralateral non-cancer breast. The request for further ultrasound imaging was 29% in the mammoplasty group versus 28% in the wide local excision group. There was a 10% biopsy rate in both groups. We conclude that the use of complex oncoplastic parenchymal re-distribution with therapeutic mammoplasty shows no difference in radiological abnormalities, ultrasound requests clinically or biopsy rate at follow-up.

11:22 Bell Session Questions

11:25 Standardising surgical complication reporting in Deep Inferior Epigastric Perforator (DIEP) flap breast reconstruction using the Clavien-Dindo classification.

Miss J Hunter, Mr K Power, Mr S James, Mr P Harris, Mr A Searle, Mr K Ramsey, Mr T Wang, Mr S Mackey (London)

Introduction: Peri-operative complications, aesthetics, recovery and donor site morbidity are all essential information for patients considering breast reconstruction. Aesthetics are difficult to quantify, but standardised complication rates can be reported across the spectrum of reconstructions. The Clavien-Dindo classification grades complications according to severity and nature of intervention required. It is widely used and validated as being simple and reproducible.

DIEP breast reconstruction has become more reliable and safe in recent years as experience in the technique grows. We aimed to demonstrate this objectively using the Clavien-Dindo classification.

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11:32 – 11:45

Method: We prospectively maintained a database of our complications using Clavien-Dindo for all DIEPs performed in the unit over two years.

Results: 254 DIEPs were performed in 211 patients (unilateral:bilateral, 168:43; immediate:delayed, 103:107). Mean age 49.5±7.52, BMI 26.9±4.16, previous radiotherapy 39%, smokers 37%. Flap failure rate= 0.4%. Overall complication rate= 12% (Clavien-Dindo I= 3%, II= 2.8%, IIIa= 2.4%, IIIb=4.3%, IVa= 0%, IVb= 0%, V= 0%). Average length of stay= 5.77days.

Conclusion: We demonstrate favourable complication rates for our series of DIEPs. Clavien-Dindo provides objective, easy to stratify outcome measures, allowing direct comparison across breast reconstruction methods and units. This information could be used to inform patients and serve as a means of benchmarking and driving improvement in line with the National Mastectomy and Breast Reconstruction Audit.

11:32 Questions

11:35 Lateral chest wall perforator flaps in immediate breast conserving surgery: A series of 50 cases
Mr S McCulley, Mr D MacMillan (Nottingham)

Lateral breast tumours requiring volume replacement can be managed with the range of lateral chest wall perforator flaps. These include the Li-CAP, T-DAP and the more recently described L-TAP flaps. We present our series of the first fifty lateral chest wall perforator flaps performed in our centre for primary breast cancer treatment. Of the cases 50% were Li-CAP flaps, 30% either pure L-TAP, or combined L-TAP/Li- CAPS and 20% T –DAPs.

There were no flap failures. The L-CAP and L-TAP were utilised as immediate reconstructions and the T-DAP was used as a 2-stage volume replacement. T-DAP flaps were transposed on the vascular pedicles. The Li-CAPs and L-TAP flaps were increasingly performed as a turnover flap as opposed to the conventional propeller flap. There were no incomplete margins in this series to date, delayed wound healing or delays in radiotherapy. There was high (91%) patient satisfaction with scars and function. An approach to flap choice, perforator selection and outcome will be presented.

11:42 Questions

11:45 Therapeutic mammoplasty provides safe oncological clearance
Mrs J Henderson, Mr R Johnson (Manchester)

Introduction: Therapeutic mammoplasty (TM) combines tumour resection with glandular remodelling commonly as a breast reduction. Concerns persist with regard to the oncological safety of this technique. The aims of this study were to assess whether patients undergoing TM achieved clear margins at primary surgery and whether complications following TM caused a delay in commencing adjuvant treatment.

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TUESDAY 4 DECEMBER 2012

11:52 – 13:30

Methods: All patients undergoing TM between 1st January 2009 and 1st June 2006 were retrospectively identified from operating diaries. Data was collected from case notes and results databases.

Results: 30 patients were identified, 12 presented through screening. Mean total tumour size was 31mm (11-110mm), 5 patients had multifocal disease. 5 patients (17%) required further surgery for positive margins, 3 had completion mastectomy, 2 margin re-excision. Eight patients (27%) had a complication. Mean time to commencing adjuvant treatment was 55 days. Mean time for those with a complication was not significantly longer than for those without.

Conclusions: TM achieves equivalent oncological clearance at primary surgery to standard breast conserving surgery. Patients who required re-excision were more likely to have a palpable tumour and to have a discrepancy between imaging and pathological size. Pre-operative localisation may improve rates of re-excision. Complications do not adversely affect time to commencing adjuvant treatment.

11:52 **Questions**

11:55 **Refreshments and exhibitions**

Regulation and revalidation in plastic surgery

Chair: Mr R H Milner

12:05 **Review of the regulation of cosmetic interventions: Response to the call for evidence and emerging themes**
Dr D Kennedy

12:20 **Regulation: The GMC's view**
Mr J Billings

12:40 **Revalidation and remediation**
Mr S Preece

12:55 **Regulation: A legal view**
Mr J Watson

13:15 **Discussion**

13:30 **Lunch and exhibitions**

13:30 **Perineal Special Interest Group Meeting**
Lecture Theatre 2

NOTES

TUESDAY 4 DECEMBER 2012

Parallel session: Burns, ear reconstruction and skin malignancy
14:30 – 14:40

14:30 **Free papers: Parallel sessions**

Free papers: Skin and wounds, flaps, urogenital and vascular
(Lecture theatre 2)
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Free papers: Burns, ear reconstruction and skin malignancy
(Lecture theatre 1)
Chairs: Mr K Stewart, Dr M Shah

14:30 **The role of SPECT imaging for lymphatic mapping prior to sentinel lymph node biopsy in melanoma**
Mr N Fairbairn, Dr Z Khan, Mr M Butterworth (Livingston)

Introduction: Lymphoscintigraphy is the standard method for lymphatic mapping prior to sentinel lymph node biopsy (SLNB) in melanoma. Single positron emission tomography (SPECT) with integrated computed tomography (CT) can be used to supplement these images. Although some feel these images are superfluous we argue that the precise anatomical detail provided is invaluable.

Method: 34 patients with melanoma who underwent lymphoscintigraphy and SPECT imaging prior to SLNB were included in this study. The number of sentinel nodes identified by each imaging modality was established. An opinion was given on whether the additional information provided altered surgical approach. Information was also collected on the additional time and cost incurred by SPECT imaging.

Results: Lymphoscintigraphy identified 91 lymph nodes. 70 of these were judged to be sentinel nodes. SPECT scanning identified 100 lymph nodes. All of those sentinel nodes identified by lymphoscintigrpahy were identified by SPECT. There were no additional sentinel nodes identified by SPECT scanning. In all 34 patients, SPECT images provided detailed anatomical information that increased confidence with regards to dissection. In 10 patients (29%), the anatomical information provided led to a change in surgical approach.

Conclusion: SPECT imaging prior to SLNB in melanoma patients provides essential anatomical information that regularly alters surgical approach.

14:37 **Questions**

14:40 **Hot or not? The 10% rule in sentinel lymph node biopsy for malignant melanoma revisited**
Mr A Murphy, Dr A Britten, Professor B Powell (London)

Background: The definition of what constitutes a sentinel lymph node remains controversial. The "10% rule" dictates that all nodes with a radiation count of greater than 10% of the hottest node and all blue nodes should be removed to reduce the risk of a false negative result.

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Methods: We reviewed the records of 663 patients with primary melanoma who underwent sentinel lymph node biopsy over a 5-year period (2007-2011).

Results: 2064 nodes were identified in 898 nodal basins in 663 patients. 138 (21%) patients had at least one positive sentinel node.

101 positive nodal basins were identified in which more than one sentinel node was removed. In 18 of these, a less radioactive node was positive for tumour when the most radioactive node was negative. Of 165 positive nodes 146 (88%) contained blue dye staining. For cases in which the positive sentinel node was not the hottest node, blue dye staining was apparent in all 18 cases (100%).

Conclusion: Removing only the most radioactive sentinel node in each basin would have resulted in 15% of positive nodal basins being missed. Removing just the hottest node and all blue nodes would not have missed a single positive basin. In this series following the 10% rule increased the number of nodes removed without changing the staging in any patients.

14:47 Questions

14:50 Neuropathic pain following wide local excision and sentinel node biopsy for cutaneous melanoma: An undiagnosed problem
Miss C Thomson, Dr J Garioch, Mr M Moncrieff (Norwich)

Standard care for invasive melanoma is surgical and post-operative pain can transform into complex regional pain syndrome (CRPS). The aim was to ascertain the prevalence of neuropathic pain in these patients and evaluate impact on quality of life.

This was a prospective, cross-sectional study where questionnaires were administered to 100 patients attending clinic. The patients selected had had a wide local excision and a negative SLNB. The questionnaire consisted of a neuropathic pain tool (painDETECT) and a melanoma quality of life tool (FACT-M).

Twenty-six patients reported pain with 2% describing CRPS. The age of patients experiencing pain was significantly lower than those who did not have pain ($p=0.011$). Patients with a limb melanoma had significantly higher pain scores than axial sites ($p=0.011$). Pain scores also had a negative correlation with quality of life scores ($p<0.001$). Importantly, pain scores were not related to time since surgery.

These results suggest the cohort experiencing pain is more likely to comprise independent, working age patients and the adverse socio-economic impact of chronic pain could be devastating. This has direct implications for our clinical practice and highlights the need to adequately assess post-operative pain in melanoma clinics to target appropriate referrals to pain specialists.

14:57 Questions

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TUESDAY 4 DECEMBER 2012

Parallel session: Burns, ear reconstruction and skin malignancy

15:00 – 15:10

15:00 **Cutaneous Angiosarcoma: A 23-year retrospective study of clinical characteristics, prognostic factors and treatment outcomes**

Ms M Damanhuri, Dr A Choudhury, Dr D Nonaka, Dr J Wylie, Dr M Leahy, Dr P Shenjere, Mr D Oudit, Mr G Ross, Mr D Mowatt (Manchester)

Introduction: Angiosarcoma is a rare malignancy accounting for approximately 5% of all soft tissue sarcomas with little published data to guide management.

Method: A retrospective review of eighty patients with a confirmed diagnosis of cutaneous angiosarcoma treated at the Christie Hospital between 1988 and 2011 was performed. Data was analysed for patient demographics, tumour characteristics and treatment outcomes.

Results: Five-year overall survival was 29%. Radical excision was the primary treatment although only 25% achieved resection margins of >20mm. Significant adverse prognostic factors were advanced disease ($p<0.05$), radiation-induced angiosarcoma ($p<0.05$) and resection margins of <5mm ($p<0.05$). Tumour size of <5cm at presentation demonstrated a trend toward improved survival. Ninety-five percent of all local and advanced recurrences occurred in the first five years of treatment. Adjuvant radiotherapy did not improve overall survival. The most common site of metastasis was lung (29%), followed by lymph node (23%).

Conclusions: Radical resection with clear margins is recommended. Recurrences peak in the first five years and higher frequency follow-up is required within this period although longer follow up is necessary. Although lymph node metastasis in sarcomas is relatively rare, data from this study highlights the importance of lymph node examinations in angiosarcoma.

15:07 **Questions**

15:10 **Proposing "The Burns Suite" as a novel simulation tool for advancing the delivery of burns education**

Mr H Sadideen, Mr D Wilson, Mr N Moiemen, Dr J Tang, Dr J Maroothynaden, Professor R Kneebone (Birmingham)

Introduction: Educational theory highlights the importance of contextualised simulation (CS) for effective learning. We explored the concept of CS in a burns scenario in a novel, low-cost, high-fidelity immersive simulation environment (distributed simulation; DS). This CS/DS combination was named "The Burns Suite" (TBS).

Methods: A paediatric burn resuscitation scenario was selected following high trainee demand. The scenario was designed utilising expert opinion through cognitive task analysis. TBS was set up using our inflatable enclosure containing "realism" props, briefed nurses and a simulated burned patient. Trainees and consultants were recruited to participate. Five-point Likert-type questionnaires were completed for face and content validity. Semi-structured interviews captured responses for qualitative analysis.

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Results: Twelve participants completed TBS scenario. Mean face and content validity ratings were 4.6 and 4.5 respectively (range 4-5). Qualitative data-analysis revealed that participants felt i) the experience was "real" and they were able to behave as if in a real resuscitation environment, and ii) TBS "addressed what EMSB and ATLS didn't".

Conclusion: Recreating clinical challenge is crucial to optimise simulation training. We propose TBS as a novel, effective simulation tool to significantly advance the delivery of burns education. This low-cost approach has major implications for surgical education particularly during increasing financial austerity.

15:17 Questions

15:20 Hand burns in a national burn centre: A four-year review
Mr D Barnes, Dr F Keogh, Mr E Gardener, Mr A Moazzam (Chelmsford)

Aim: Our aim was to assess whether early or later grafting to burns of the hand influenced the total amount of occupational therapy (OT) and physiotherapy (PT) given.

Methods: A review of the patients admitted with hand burns to the National Burn Centre, Middlemore Hospital, Auckland, New Zealand over a four-year period was undertaken. The total amount of PT and OT given was compared between those burns grafted early (less than one week) or late (later than one week).

Results: Over six hundred burns involving the hand were seen in a four-year period. Two main groups were identified with differing aetiology, the under-five age group (17.9%) and young adults 15-34 years (37.5%). Both Maaori and Pacific islanders had a disproportionate incidence of hand burns in comparison with their population statistics.

Patients with burns less than 10% TBSA involving the hands and grafted early had a median OT time double that of those grafted late (150 minutes versus 75 minutes). Median PT time in burns grafted early was nearly half that of those grafted late (85 versus 150 minutes).

Conclusion: This surprising finding of double the OT time in early grafted patients will be discussed.

15:27 Questions

TUESDAY 4 DECEMBER 2012

Parallel session: Burns, ear reconstruction and skin malignancy

15:30 – 15:40

15:30 Protocol for the application of Biobrane™ biosynthetic wound dressing to superficial paediatric burns at Salisbury regional burns unit, following confirmed cases of toxic shock syndrome

Mr J Jeevaratnam, Mr B Khoda, Dr S Cotterill, Mr E Tiernan, Mr M Khan (Salisbury)

Introduction: To date there have been very few documented paediatric cases of Toxic Shock Syndrome (TSS) associated with the application of Biobrane™ biosynthetic dressing. No standardised protocol has yet been published for the application of the dressing in children.

Following 3 confirmed cases of TSS in children in whom Biobrane™ dressing was applied at Salisbury Burns Unit, we thought it prudent to investigate any possible identifiable or reversible causes for the complication, and to modify our practice in order to avoid further.

Methods: A retrospective case note review was carried out for all paediatric burn admissions during the 12 month period of February 2011 to January 2012. All burns in which Biobrane dressing was applied were included in the cohort.

Results: In the 12 months from February 2011 to January 2012, we applied the dressing in 23 cases (of 284 paediatric burns cases seen, 94 of which were admitted). Of these 23, we had 3 confirmed cases of TSS, who were all appropriately treated, making a full recovery.

Use of Biobrane™, particularly its application, varied widely between the 23 cases, with regard to tissue bed preparation, antibiotic usage, Biobrane™ fixation, outer dressings and post-operative management.

Conclusions: Young children, with breached skin, are at particularly high risk of developing TSS. Though an uncommon complication, it carries a high risk of mortality. In order to ensure risk of complication is minimised, in conjunction with the microbiologists, we propose a standardised protocol for the application of Biobrane dressing.

15:37 Questions

15:40 Lack of cross-sensitisation between α-1, 3-galactosyltransferase knockout porcine and allogeneic skin grafts permits serial grafting and extended temporary coverage of simulated burn wounds

Mr D Leonard, Mr A Albritton, Dr A Leto Barone, Mr J Keegan, Dr R Torabi, Mr C Mallard, Dr J Kurtz, Professor D Sachs, Dr C Cetrulo, Jr (Boston, USA)

Introduction: We have proposed α-1, 3-galactosyltransferase knockout (GalT-KO) porcine split thickness skin grafts (STSG) as an alternative to cadaveric allogeneic skin in severe burn management. This study investigated the clinical outcomes and immune responses to serial GalT-KO and allogeneic STSG.

Methods: Baboons (*n*=8) received STSG over full thickness wounds. Group 1 (*n*=4) received GalT-KO STSG followed by allografts. Group 2 (*n*=4) received allografts

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then GalT-KO grafts. Graft rejection was defined as <10% viable graft remaining. Blood was drawn weekly for serum antibody analysis.

Results: Primary allogeneic and GalT-KO STSG experienced comparable survival of 11-13 days. In contrast to previous studies showing accelerated rejection of secondary identical grafts, secondary grafts in both groups 1 and 2 also survived between 11 and 13 days. Rejection of primary allogeneic and GalT-KO grafts was associated with detection of specific antibodies in recipient serum. There was no evidence for cross-reactivity to antigens of the secondary graft.

Conclusions: GalT-KO and allogeneic skin have equivalent survival and illicit an antigen-specific humoral response upon rejection, with no evidence for cross-sensitisation. This suggests that GalT-KO and cadaveric allogeneic STSG could be serially grafted, providing extended temporary coverage and facilitating re-harvest of available autologus donor sites to achieve definitive wound closure.

15:47 **Questions**

15:50 **One-stop outpatient management of accessory auricles in children with Liga clips**
Miss P Y Wong, Miss T Laing, Miss C Milroy (London)

Failure of fusion of the six auricular hillocks during pinna development can lead to development of accessory auricles (AA), which may contain only skin or skin with cartilage. The classical management of AA is surgical excision. We present our experience in management of AA containing mainly skin with LIGA clips between August 2009 and October 2010.

We collected data retrospectively through telephone calls and review of electronic patient records using a proforma. Of 42 patients, 24 participated, 11 underwent surgical excision, 6 required further assessment and 1 was not contactable.

The LIGA clip was applied to AA in clinic and discharged. The clip and AA can take between 3 days to 3 weeks to drop off. All parents were happy with the outcome and would recommend this treatment, as it is quick and easy with no need for admission or general anaesthetic. One patient required further surgery to remove residual tissue. The main complication reported was a cosmetically acceptable tiny lump.

We recommend management of AA with minimal cartilage core with LIGA clip as it is effective, safe, simple and well tolerated with no need for admission or general anaesthetic and minimal complication rate. For successful outcome, careful patient selection is important

15:57 **Questions**

16:00 **Audiological changes following pinna resection**
Mr K Amin, Mr R Hone, Mr R Kanegaonkar (London)

Introduction and Aims: Anecdotal accounts suggest hearing is affected by pinna resection. Our aim was to use an experimental model to identify whether

a relationship exists between pinna shape and its subsequent effect on the hearing subject.

Materials and Methods: An anatomically accurate and life sized model was used for this study. Serial sections (small wedge–defect open, small wedge–defect closed, large wedge–defect open, large wedge–defect closed [equivalent to a protruding ear] and pinnectomy) were undertaken and the sound intensity changes assessed at the tympanic membrane position using an Auricular plus sound processor™.

Key Results: A statistically significant loss was demonstrated for wedge excised models greatest at 180° azimuth. This loss was significantly reduced when the wedge defects were closed ($p<0.05$). A statistically significant improvement was demonstrated in the protruding/bat ear model compared with the normal ear at 0° azimuth ($p<0.05$).

Conclusion: In this model, hearing gain is adversely affected by pinna wedge resection. However, hearing gain may be superior in those with protruding ears. Considerations should be made for all cosmetic/non-cosmetic operations to the pinna. Those undergoing pinnaplasty should be informed that the functional aspect ie hearing could be affected. This is the first study of its kind using life-size models and audiometry equipment.

16:07 **Questions**

16:10 **Ear Aesthetic Reconstruction Scoring System (EARSS): A new PROM for auricular reconstruction**

Miss J Mennie, Mr K Stewart (Edinburgh)

Introduction: Evidence from patient reported outcome measures (PROMs) is a new requirement of the NHS. Results can secure funding, and also improve service through international audit. To date no PROM for auricular reconstruction exists. As such, our aim was to develop the Ear Aesthetic Scoring System (EARSS) - a PROM specific to auricular reconstruction, and evaluate our Scottish ear reconstruction service.

Methods: EARSS development followed the format set out by the Scientific Advisory Committee of Medical Outcomes Trust, using an international group of patients and observers to ensure an internationally valid measure.

We then conducted a 6-year retrospective study of our service. Patients completed the EARSS, a VAS measure and psychosocial tests. Analysis was performed to identify possible parameters of outcome including: indication, gender, age, psychosocial status and time lapse since surgery.

Results: The EARSS proved a reliable (Cronbach alpha 0.9846, ICC 0.9704), acceptable (0.005% missing data) and valid (Spearman correlation $p<0.0001$) measure. Non-microtia patients scored outcome greater than microtia patients, $p=0.0126$. A poor outcome correlated negatively with adult psychosocial scoring $p=0.0059$, but not paediatric, $p=0.2979$. Time since surgery correlated

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significantly with outcome, Spearman r=-0.5155, *p*=0.0003. Gender and age did not affect outcome.

Conclusion: We have developed a standardised valid PROM suitable for international evaluation of auricular reconstruction. We have found an improvement in our unit's outcomes over time.

16:17 Questions

16:20 Autologous microtia reconstruction combined with ancillary procedures: A comprehensive treatment approach

Miss S Cugno, Mr R Farhadieh, Mr N Bulstrode (London)

Introduction: Autologous microtia reconstruction is generally performed in two stages. The second stage presents a unique opportunity to carry out other complementary procedures. The present study describes our approach to microtia reconstruction, wherein the second stage is combined with final refinements to the ear construct and/or additional procedures to enhance facial form and symmetry.

Methods: Retrospective analysis of patients who underwent two-stage microtia reconstruction by a single surgeon (NWB) was conducted in order to ascertain those that had ancillary procedures at the time of the second stage. Patient and operative details were collected.

Results: Thirty-four patients (male, 15 and median age at second stage, 11 years) that had complementary procedures were identified. These included centralising genioplasty (n = 1), fat transfer (n = 22), ear piercing (n = 7), and contralateral prominauris correction (n = 7). Six patients had correction for unilateral isolated microtia and in the remaining 28 patients, auricular reconstruction for microtia associated with a named syndrome. All patients reported a high rate of satisfaction with the result achieved. No peri- or post-operative complications were noted.

Conclusion: Combining the final stage of autologous microtia reconstruction with other ancillary procedures affords a superior aesthetic outcome and decreased patient morbidity.

16:27 Questions

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TUESDAY 4 DECEMBER 2012

Parallel session: Skin and wounds, flaps, urogenital and vascular
14:30 – 14:40

Free papers: Skin and wounds, flaps, urogenital and vascular (Lecture theatre 2)
Chairs: Mr S Wharton, Mr H Peach

14:30 **Bone morphogenetic proteins retard wound healing by inhibiting proliferation and potentiating apoptosis in a human ex vivo wound healing model**
Mr C Lewis, Dr A Mardaryev, Professor V Botchkarev, Professor D Sharpe, Dr N Botchkareva (Bradford)

Introduction: Bone morphogenetic proteins (BMPs) regulate tissue development and remodelling; their role in human wound healing remains unclear. We aimed to establish the effects of BMPs on human skin repair.

Methods: An ex vivo human wound model was treated with BMP-4/7, BMP antagonist noggin, BMP-4/7 + noggin combined or a control. Following 5 days of treatment, tissue samples were harvested for immunohistochemistry to establish wound histomorphometry, proliferation, apoptosis and skin differentiation.

Results: BMP-4/7 slowed wound closure versus controls (64±0.5% versus 100±0%; $p<0.01$) whilst combining noggin with BMP-4/7 negated this inhibitory effect. BMP-4/7 treatment reduced epithelial proliferation (28±6% versus 51±3%; $p<0.01$) and increased apoptosis (13±1% versus 9±1%; $p<0.01$) in the wound, effects which were negated when wounds were treated with combined BMP-4/7 + noggin. Noggin-only treated wounds displayed no change in proliferation, but a significant reduction in apoptosis versus controls (3±0.5% versus 9±1%; $p<0.01$). Epidermal differentiation markers cytokeratin-10 and -14 were highly expressed in control and noggin-only treated wounds; BMP-4/7 treated wounds expressed cytokeratin-14 with a relative paucity of cytokeratin-10 expression.

Conclusions: BMPs negatively regulate human wound healing through alterations in keratinocyte proliferation, apoptosis and differentiation; modulation of this pathway by BMP antagonists may present a new approach to potentiate wound healing.

14:37 **Questions**

14:40 **Effect of human urine on the tensile strength of sutures used for hypospadias surgery**
Mr R Kerstein, Miss T Sedaghati, Professor A Seifalian, Mr N Kang (London)

Introduction: Hypospadias repair surgery can have a high complication rate. Dehiscence is reported in 5% and fistula formation up to 40%. The suture choice has been shown to affect the complication rate although there is currently no consensus about the best material to use. The sutures should be absorbable while maintaining sufficient strength to support the wounds until self-supporting and able to resist urinary flow.

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Our study examined tensile and breaking strength, and rate of degradation for four types of absorbable suture used for hypospadias repairs in the UK.

Methods: We examined the effect of prolonged storage (up to 27 days) in urine on 6/0 Vicryl, Vicryl Rapide, Monocryl and PDS. At specified time points, each suture was placed in a tension meter and the mechanical load required to break the suture was measured.

Results: Exposure to urine reduced the tensile and breaking strength of all sutures. PDS demonstrated the greatest resilience. Vicryl Rapide was the weakest suture and degraded completely by day 6. Vicryl and Monocryl had similar degradation profiles, but Vicryl retained its tensile strength for longer.

Conclusions: The results of this study suggest that Vicryl has the best characteristics for urethroplasty of the four suture materials tested.

14:47 Questions

14:50 Carbon dioxide laser for treatment of cutaneous calcinosis in patients with connective tissue disease
Mr S Veeramani, Dr A Elfaki, Mrs S Pape (Newcastle-upon-Tyne)

Introduction: Cutaneous calcinosis occurs in patients with systemic sclerosis. It commonly affects the volar aspects of digits but can occur at any site causing pain, functional disability and disfigurement. There is little reliable evidence to demonstrate any one effective treatment modality. We evaluated the use of carbon dioxide laser to treat this condition.

Methods: A retrospective analysis of the medical records treated at a single centre was undertaken. All patients were treated with an Ultrapulse carbon dioxide laser using standardised settings.

Results: A total of 31 areas in 14 patients were treated over a 10-year period. Areas of the body treated include fingers (21), palms of hands (2), elbows (3), toes (3), knee (1) and foot (1). Average follow-up was 40 weeks (range 10-210 weeks). Patients required a mean of 2 treatments to gain symptom relief. Complete resolution of symptoms was seen in 18 treated areas (58%) and partial resolution in 11 areas (36%). Two areas (6%) failed to respond to treatment. Recurrence was observed in 2 patients who are awaiting further laser treatment.

Discussion: Our experience of carbon dioxide laser to treat cutaneous calcinosis suggests it is effective at reducing pain, improving function and cosmesis in these patients.

14:57 Questions

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15:00 **Liposuction normalises lymphoedema induced adipose tissue hypertrophy in elephantitis of the leg: A prospective study with an eight-year follow-up**
Mr H Brorson (Malmö, Sweden)

Introduction and Aims: Patients with chronic non-pitting lymphoedema do not respond to conservative treatment or microsurgical procedures because chronic inflammation leads to excess adipose tissue deposition, which cannot be removed by these methods.

Material and Methods: 41 patients (mean age 52 years, mean duration of leg swelling 15 years) underwent liposuction due to non-pitting, chronic lymphoedema (19 primary, and 22 secondary lymphoedemas following cancer therapy). Age at cancer treatment and interval between cancer treatment and lymphoedema start were 42 years, and 3 years respectively. Aspirate and leg volumes were recorded.

Key Results: Aspirate volume was 4116ml (range, 1200-7330) with an adipose tissue concentration of 94% (range, 61-100). Pre-operative excess volume was 4195ml (range, 1210-8475). Post-operative mean reduction was 84% (range, 43-135) at 3 months and 105% (range, 75-163) at 1 year, and more than 100% during 8 years' follow-up when it was 133% (range, 123-142), i.e. the lymphoedematous leg was somewhat smaller than the healthy one. The pre-operative mean ratio between the volumes of the oedematous and healthy legs was 1.4, rapidly declining to 1.0 at 6 months, and less than 1 after one year ($p<0.001$).

Conclusion: Liposuction is an effective method for treatment of chronic, non-pitting leg lymphoedema in patients who have failed conservative treatment. The removal of the hypertrophied adipose tissue is a prerequisite to complete reduction.

15:07 **Questions**

15:10 **Propranolol treatment for infantile haemangiomas is safe and effective**
Mr S Goldie, Dr H Sargeant, Mr K Stewart, Mr W Anderson (Livingston)

Infantile haemangioma is the most common benign tumour affecting young children. Although not present at birth, they can very rapidly proliferate, causing problems with the child's development. In 2008 Lehaute-Lebreze et al, reported on a series of children treated with propranolol for Hypertrophic Obstructive Cardiomyopathy, with co-incidental infantile haemangiomas. They noted that the haemangiomas reduced in size and colour. We now report on a series of 63 children treated for infantile haemangioma with propranolol, using a standard protocol. All of the children undergo a series of cardiovascular investigations prior to commencing therapy and are monitored as inpatients for the initial 24 hours of treatment. Pre-treatment photographs allow an assessment of any changes in the lesion, however, in the most recent 22 patients the addition of 3D photography has allowed an even more objective evaluation of the growth or regression of the lesions. Our study of this large

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series of patients shows that propranolol treatment is safe and effective for the management of infantile haemangiomas.

15:17 **Questions**

15:20 **Developing reconstructive microsurgery private practice in a developing country: Sweat, success and solace!**
Dr S Choudhary, Dr R Mantri, Dr P Arora, Dr M Vathulya, Dr A Jain (New Delhi, India)

Aim: It is ironic that developing countries have the highest need for microsurgical reconstruction but have the least access to this service. A successful and profitable strategy for setting up a private microsurgical practice is described with outcomes comparable to the best in the world.

Material and Methods: 209 microsurgical procedures (189 free tissue transfers and 20 replants) were undertaken for various indications (malignancy 59%, trauma 37% and others 4%) over 3 years. Age range: 2.5–74 years, male to female ratio: 3:1.

Strategy:
1. Adherence to international standards
2. Developing in house training with skills center and clinical fellowship.
3. Profitable business model and NGO support.
4. Creating public awareness through media.
5. Harnessing support from other specialties.
6. Keeping the repertoire of flaps constant and simple.

Results: Success rate was 99% for free flaps and 95% for replantation over 3 years. Average flap ischemia time was 1 hour 30 minutes.

Complications of free flaps: Flap loss (1%), re-exploration (1.5%), hematoma (1%), minor flap loss (3%), donor site problems (3%). There was no mortality, DVT or PE.

Conclusion: Successful setting up of a profitable private microsurgical practice in a developing country is possible and is highly satisfying. Presented strategy and model is reproducible in most developing countries.

15:27 **Questions**

15:30 **Hyena bites: not a "nice doggy"**
Mr L Fourie, Dr D Saleh, Dr N Keleman, Dr E Erikson (Wakefield)

Introduction: Urban sprawl, deforestation and drought have driven the Spotted Hyena in to closer urban contact in Africa. This has led to competition for food sources and hyenas venturing in to urban areas at night to scavenge for food. As these animals have adapted to thrive in proximity to urban populations, the incidence of attacks on vulnerable humans has increased.

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Presentation: The power of the Spotted Hyena's jaw supercedes that of all other carnivores and has evolved to crush bone. This, coupled with the ability to open the jaw very wide, leaves devastating injuries of the skeleton and soft tissues. The injury pattern sustained differs markedly from those encountered in domestic dog bites.

We present cases encountered and treated in Ethiopia. We discuss the difference in injury patterns in comparison to dog bites. In cooperation with zoologists, we illustrate the difference in jaw morphology between dogs and the Spotted Hyena and, using animal and human skulls, show the nature of the injuries sustained. We present the difficulties in treating and reconstructing these defects and compare the treatment options available in a third world setting with that in the United Kingdom.

15:37 Questions

15:40 Evidence-based approach and internally-validated risk assessment tool to guide flap selection and timing in complex groin wounds

Dr J Fischer, Dr E Shang, Dr B Sieber, Dr J Nelson, Dr L Wu, Dr S Kovach, Dr B Jackson, Dr E Woo, Dr J Serletti, Dr S Kanchwala (Philadelphia, USA)

Introduction: Complex groin wounds can challenge the reconstructive surgeon, but flaps can be used as prophylaxis (Fischer et al, 2011) and salvage. We report an evidence-based experience and internally validated algorithm.

Methods: We retrospectively compared outcomes of the RFF and SMF for all salvaged wounds. We separately evaluated a cohort of open groin vascular surgery patients (excluding prophylactic) and used regression and bootstrapping to validate.

Results: A total of 1,069 patients were included. An analysis of all salvage (n=146) and prophylactic (n=98) flaps revealed higher wound dehiscence with salvage (p= 0.002). During salvage, major limb related complications were lower when the RFF was used (p=0.03). We analysed all non-prophylactic vascular surgery patients (n= 927). Stepwise logistic regression analysis was performed with salvage (n= 102) as the variable. Significant variables were: redo (OR=4.1), prosthetic (OR=2.8), CAD (OR=1.7), PAD (OR=5.0), and BMI (OR=1.03). Using a bootstrap technique our model showed strong predictive value (Hosmer-Lemeshow=8.0 and C-statistic= 0.82).

Discussion: Complicated wounds are best salvaged with the RFF, but using a prophylactic flap can decrease complications (Fischer et al, 2012) and is more efficacious than salvage. We provide a clinically useful and sensitive model that accurately predicts salvage and could be used to guide selection of prophylactic patients.

15:47 Questions

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TUESDAY 4 DECEMBER 2012

Parallel session: Skin and wounds, flaps, urogenital and vascular
15:50 – 16:00

15:50 **Keystone perforator island flap textbook - How it all began from a research project at the Royal College of Surgeons in 1972**
Associate Professor F C Behan (Melbourne, Australia)

The textbook "Keystone Perforator Island Flap (KPIF) Concept" is a summary of 35 years of surgical experience which was finally refined into the Keystone design loco-regional flap. This concept began in 1995 and is really an arc flap at a loco-regional level, perforator based and designed within the dermatomal grids for humeral and neural support. The textbook by Elsevier was released in 2012 covering extensive reconstructive options from the head and neck region, melanoma, upper and lower limbs even in irradiated tissue.

My research programme commenced at the Royal College of Surgeons of England (RCS) in London (when I was a Bernard Sunley Research Fellow at the RCS) in 1972. I came upon the importance of the fascia based in flap design and the development of axial and random vessels which led to the use of the word Angiotome – a vascularised segment which was first presented in 1973 at the European Meeting of Plastic and Reconstructive Surgeons in Madrid and later published.

A clinical summary will be presented to close extensive defects in the head & neck region including parotid, trunk, upper and lower limb with a predominance in the elderly cases where microvascular applications might be less applicable.

15:57 **Questions**

16:00 **A novel use of the facial artery musculomucosal (FAMM) flap in the reconstruction of the lateral pharyngeal wall and tongue base defects**
Mr K Khan, Miss V Hinkley, Mr O Cassell, Mr P Silva, Mr M Potter (Oxford)

Introduction: First described by Pribaz (1992), the facial artery musculomucosal (FAMM) flap can be used to reconstruct a wide range of intra-oral defects including floor of mouth, tonsillar fossa and lateral tongue. We describe our experience with the FAMM flap in the aforementioned areas and its novel use for the reconstruction of oropharyngeal tumours at the tongue base and lateral pharyngeal wall.

Methods: We retrospectively reviewed all patients who underwent FAMM flap reconstruction examining indication, operative details, and post-operative outcomes. We describe our technique for its novel use in lateral pharynx/tongue base reconstruction through neck dissection access.

Results: There were no flap failures with all patients achieving primary healing with minimal complications. All donor sites closed directly with mouth opening at pre-operative status by 16 days post-operatively. Deeper flaps were adequately visualised and monitored using flexible nasoendoscopy.

Conclusion: In our experience the FAMM flap is an extremely versatile 'like for like' local flap option due to its long arc of rotation that we have used for the first time to successfully reconstruct the tongue base and lateral pharynx.

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As inset can be achieved via neck dissection access, this avoids lip/jaw split as per conventional oropharyngeal surgical management further minimising morbidity.

16:07 **Questions**

16:10 **Microvascular modifications to optimise the transverse upper gracilis (TUG) flap for breast reconstruction**
Miss J Hunter, Mr S Mackey, Mr P Harris (London)

Introduction: The free transverse upper gracilis (TUG) flap is well described for breast reconstruction creating a durable, pliable, aesthetic breast in those with inadequate abdominal tissue. The flap is criticised for modest volume and short pedicle. This demands frequent use of bilateral flaps for unilateral reconstructions, sacrifice of thoracodorsal vessels (TDVs) and/or vein grafts (VGs) to inset. We have overcome these problems by modifying our microvascular techniques.

Methods: We now optimise internal mammary (IM) pedicle length whilst preserving costal cartilage (cc) integrity by transposing them anterior to an excised and replaced cc. When using two flaps we attempt flap-to-flap anastomoses via adductor branches from one pedicle, allowing both flaps to be supplied by IM vessels. In addition, end-to-side, retrograde and perforator IM anastomoses have been used.

Data were collected prospectively on TUGs since evolving this microsurgical approach.

Results: 26 TUGs reconstructed 16 breasts in 18 patients. All flaps were anastomosed to IM vessels without use of VGs or sacrifice of TDVs (mean reconstructed breast 367g; ischaemic time 53 minutes). There were 7 flap-to-flap, 1 end-to-side, 1 retrograde, 1 perforator anastomoses. All flaps survived.

Conclusions: The evolution of our microvascular technique means that disadvantages of the TUG flap have been addressed successfully.

16:17 **Questions**

16:20 **Decision making in bipedicled (double-pedicled) DIEP and SIEA abdominal free flap breast reconstruction: An algorithmic approach**
Mr N G Rabey, Mr T Biegsen, Mr C M Malata (Cambridge)

Introduction: Double-pedicle abdominal free flap breast reconstructions (AFFBRs) are indicated in patients who are slim, nulliparous, post-massive-weight-loss, have midline scars or radically lack abdominal tissue. There is sparse evidence to guide the selection of their vascular pedicle arrangement. Our experience has permitted us to formulate and present an algorithm in this respect.

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Methods: All patients undergoing unilateral bipedicled AFFBR by a single surgeon (from October 2010- April 2012) were identified. Their operative details and outcomes were analysed.

Results: 10 (20%) bipedicled flaps were identified from 50 consecutive AFFBRs. The mean age was 42 years, 1 month (*r*=26y 10m to 50y 2m), operative duration 713 minutes (*r*= 600 to 790) and flap weight 640g (*r*=432 to 927). The 8 immediate and 2 delayed reconstructions were all successful with no re-explorations. The microvascular constructs used were 3 anterograde-retrograde, 3 superior continuity, 3 inferior continuity and 1 combined superior and inferior. The vascular pedicles used were 8 DIEP and DIEPs and 2 DIEP and SIEAs.

Conclusion: The bipedicled technique is a reliable option for AFFBRs when the tissue volume required is larger than can be transferred on a single pedicle. It, however, necessitates clear indications to justify the additional technical complexity, duration and cost. Our algorithm facilitates technique selection and successful execution of these operations.

16:27 **Questions**

16:30 **Refreshments and exhibitions**

16:50 **AGM**

17:30 **Breast Special Interest Group Meeting**

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WEDNESDAY 5 DECEMBER 2012

Parallel session: Lower limb, chest, trunk and pelvis
08:15 – 09:10

08:15 **Registration and refreshments**

09:00 **Free papers: Parallel sessions**

Free papers: Craniofacial and cleft (Lecture theatre 2)
Go to page 44

Free papers: Lower limb, chest, trunk and pelvis (Lecture theatre 1)
Chairs: Mr U Khan, Mr P Roblin

09:00 **The use of gastrocnemius flap reconstruction in the management of infected total knee replacements: Outcomes of 72 patients from a single unit.**
Miss E West, Miss J Isherwood, Miss L Cogswell, Mr P Critchley, Mr H Giele (Oxford)

Introduction: Multidisciplinary management of infected total knee prostheses has enabled implant and limb salvage rates to improve. A key role is played by plastics in severe cases utilising the gastrocnemius flap with SSG to decompress the knee compartment and achieve wound closure. The outcomes of this intervention are poorly reported. We present the results of 72 patients with follow up greater than 2 years.

Materials and Methods: A retrospective review of patients over a 12 year period in a single unit. Primary outcome measure: knee salvage. The indications, surgery, microbiology and secondary outcomes including healing and complications were reviewed.

Results: Medial (85%), lateral (7%) or both (8%) gastrocnemius flaps were used for implant retention (41%), single stage exchange (4%), first stage revision with spacer (31%), second stage revision to implant (8%) or spacer (15%), or explantation (1%). The overall infection free limb survival was 93% (1 peri-operative death, 2 AKA, 1 new infection (8 years) and 1 persistent infection). 19% had surgical complications (haematoma (3%), flap exploration (1%), further debridements (10%), re-grafting (4%)). The microbiology, functional outcomes and complications are discussed.

Conclusion: This large review highlights the key role of the gastrocnemius flap in retention of infected total knee replacements.

09:07 **Questions**

09:10 **The use of free flaps to reconstruct major limb amputations**
Miss A Crick, Mr R Dunn (Salisbury)

Introduction: We present a series of military and civilian patients who have had reconstruction of major limb amputations using free flaps.

Methods: This is a prospective case series from 2006 to date comprising of acute and delayed reconstruction of major limb amputation stumps.

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Results: We have used 21 flaps in 19 patients (11 ALT, 6 parascapular, 2 LD, 2 DIEP). One patient had 2 flaps for bilateral below knee amputations, and one had bilateral DIEP flaps to an above knee amputation.

Conclusions: The use of microsurgery to import tissue to amputation stumps permits length to be maintained, and provides a stable, durable skin envelope with improved contour, despite lack of sensibility. This enables patients with high functional demand to become ambulant with prosthetic limbs.

09:17 **Questions**

09:20 **Outcome of the management of open ankle fractures in an ortho-plastic specialist centre**

Mr S Chummun, Mr T Wright, Mr T Chapman, Mr U Khan (Bristol)

Introduction: We reviewed the functional outcome of 68 patients with open ankle fractures managed in an ortho-plastic specialist centre.

Methods: Patients managed at Frenchay Hospital over the last 6 years were divided into three groups: group P were patients initially seen and managed at Frenchay Hospital, group S were patients stabilised at a different unit and referred for definitive management, while group R were patients managed in a different unit and referred following complications. Injuries were assessed using the AO score and outcome measured using the Enneking score.

Results: 19 patients (group P, 43 years), 26 patients (group S, 41 years) and 23 patients (group R, 41.9 years) made the cohort. 81% patients required free tissue transfer. Mean AO scores of groups P, S and R were 11.5, 12.3 and 9.7 (p= 0.03). Mean number of procedures for P, S and R were 2.6, 3.5 and 4.6 (p= 0.0006). Mean follow-up time was 55.5, 61.0 and 57.0 weeks respectively (p= 0.72). Mean Enneking scores for groups P, S and R were 63.3, 72.8 and 73.5 (p= 0.16).

Conclusion: Patients from groups S and R underwent more procedures. However, a similar outcome was achieved, highlighting the importance of managing such injuries in a specialist centre.

09:27 **Questions**

09:30 **Temporal progression of functional recovery following limb salvage of open lower limb fractures**

Miss R Clancy, Dr A Greenwood, Dr H Taki, Mr J Baden, Mr U Khan (Bristol)

Introduction and Aims: Limited evidence exists on the temporal functional progression of patients following successful limb salvage after suffering open tibial injuries. We aimed to analyse the temporal progression of limb function during and after fracture union.

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Materials and Methods: Patients were retrospectively assessed. Function was assessed using the modified Enneking score (MES). Those patients with more than 3 MES recorded at different times after limb salvage were included.

Key Results: 36 patients were included in the study. A multiple linear regression model was used to analyse the data. In all patients there is a statistically significant improvement in MES with time ($p<0.001$). The progression differs between male and female. Female patients on average had lower minimum and maximum scores within variables. Females also had a higher starting score ($p<0.05$). For male patients the MES did not follow any specific pattern although males initially had a relatively high score, the score decreased and then increased significantly ($p<0.001$).

Conclusions: Our study suggests that surgeons can give patients an evidence based realistic measurement of their prospective outcome. There is an interesting difference between males and females.

09:37 **Questions**

09:40 **Factors related to quality of life and functionality following free tissue transfer reconstruction of the lower limb**

Mr S Veeramani, Mr J Tankel, Mr N Williams (Newcastle-upon-Tyne)

Introduction and Aims: Many factors have been suggested as predictive of free-flap complications in patients undergoing reconstruction of the lower limb. However, the relationship between these factors and long-term health related quality of life (HRQoL) and functionality have not been formally studied.

Method: We identified 66 patients who underwent reconstruction of lower limb defects with free tissue transfer between 2007 and 2011 at the Royal Victoria Infirmary, Newcastle-upon-Tyne. Of these, 40 were still alive and sent Short Form 36 (SF-36) and Toronto Extremity Salvage Score (TESS) questionnaires. Bivariate correlation coefficients explored whether the variables, including post-operative complication, flap ischaemia time, age, BMI and socio-economic status were associated with variations in physical, social, mental health and functionality scores.

Results: A total of 18 patients (45%) responded. Mean follow-up time was 31.7 months. SF-36 scores were not associated with any variables, however, a lower TESS score was associated with a positive smoking history ($p= 0.043$), male sex ($p= 0.033$) and immediate post-operative complications ($p= 0.042$).

Conclusion: Even in the presence of factors associated with free-flap complication, an acceptable long-term HRQoL and function is still achievable in patients that undergo free-flap surgery to their lower limb.

09:47 **Questions**

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WEDNESDAY 5 DECEMBER 2012

Parallel session: Lower limb, chest, trunk and pelvis

09:50 – 10:00

09:50 **Do major trauma centres require plastic surgeons?**
Mr T Wright, Mr S Chummun, Mr T Chapman, Mr U Khan (Bristol)

Introduction: The incidence of open extremity fractures in severely injured patients is not well documented in the United Kingdom. With the advent of Major Trauma Centres (MTCs) and data collection by the Trauma Audit Research Network (TARN), this information is now accessible. We assess plastic surgery intervention requirements in these patients.

Methods: The TARN database was used to search for data on all severely injured patients in England that needed plastic surgery between June 2010 and February 2012. Upper or lower limb amputation, and high-energy open tibial and/or fibular fractures were chosen as markers of plastic surgery requirement. The open fracture group was subdivided into Injury Severity Score (ISS) 9-15 and ISS 16 or greater.

Results: 90% of English trusts submitted data on 38964 trauma patients. 162 (0.42%) patients had lower or upper limb amputations. 2240 of 16868 (13.3%) patients with ISS 9-15 had open fractures, and 747 of 13980 (5.3%) patients with ISS 16+ had open fractures.

Conclusions: Difficulties in obtaining accurate data on complex extremity injury are highlighted and the importance of accurate documentation to improve coding. This supports the need for on-site plastic surgery within MTCs, to provide combined orthoplastic management of severely injured patients.

09:57 **Questions**

10:00 **Endoscopic excision of dermoid cysts in paediatric patients**
Miss S Cugno, Mr R Farhadieh, Mr N Bulstrode (London)

Introduction: While dermoid cysts have traditionally been removed by a direct surgical approach, endoscopically assisted excision has proved a reputable alternative with considerable cosmetic benefit. The present study describes our experience with endoscopic dermoid cyst excision.

Methods: Retrospective analysis of patients who underwent endoscopic dermoid cyst excision by a single surgeon (NWB) was conducted. Operative technique included 2 – 3 strategically placed remote 1 cm scalp incisions.

Results: Fourteen patients (male, 4 and median age, 18.5 months) underwent excision of a dermoid cyst by endoscopic technique (glabellar and angular dermoids, 8 and 6, respectively).

Mean operative time was 47.6 minutes (range, 25 – 74). Conversion to open technique was necessary in one patient in whom the specimen was subsequently confirmed to be a hemangioma. Recurrence was also noted in one patient, for which repeat excision by open technique was effected. Histopathology confirmed the clinical diagnosis of dermoid cyst in all but one

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case. Further, cyst wall rupture was noted in 5 cases, one of which recurred and was re-excised by direct approach.

Conclusion: Endoscopic dermoid cyst excision is a minimally invasive, effective and aesthetically advantageous technique for the surgical management of these lesions in paediatric patients.

10:07 **Questions**

10:10 **A 15-year experience of complex scalp reconstruction using free tissue transfer: Analysis of risk factors for complications**

Dr J Fischer, Dr B Sieber, Dr J Nelson, Dr S Kovach, Dr L Wu, Dr D Low, Dr J Serletti, Dr S Bartlett, Dr J Taylor, Dr S Kanchwala (Philadelphia, USA)

Purpose: Large, complex scalp defects represent a significant reconstructive challenge, thus a variety of free tissue transfer techniques have been employed to optimally provide soft tissue coverage. The aim of this study is to determine factors associated with complications.

Methods: A retrospective cohort study was performed on patients undergoing free tissue transfer for scalp defects from 1997 to 2011. Patients were compared with respect to demographics, defect characteristics, intra-operative factors, flap choice, and post-operative complications.

Results: 43 flaps were performed in 37 patients with a success rate of 97.7%. Multivariate regression demonstrated that defect characteristics (size of defect) and patient-related factors (age and smoking) were associated with wound complications in scalp reconstruction. Outcomes were similar between the LD and ALT groups and the immediate cranioplasty patients with respect to all forms of complications.

Conclusions: We report a 98% success rate using free tissue transfer for complex scalp defects and identify defect size, patient age, and smoking as factors associated with wound complications. Patient co-morbidities were associated with major complications. We report equal efficacy in using the ALT and LD, as well as immediate cranioplasty.

10:17 **Questions**

10:20 **The partial myocutaneous gluteal flap reconstruction of extra levator abdomino-perineal excision defects in irradiated patients**

Mr D Saleh, Dr J Callear, Mr M Basheer, Mr P Mohammed (Wakefield)

Introduction: The irradiated perineum poses a consistent reconstructive challenge. The purpose of this study was to evaluate perineal healing in patients who had extra-levator abdomino-perineal excision (ELAPE) tumour excision and a modified partial myocutaneous gluteal (MPG) flap reconstruction.

Methods: Eleven consecutive irradiated patients with rectal cancer were included. Major complications were deemed as returns to theatre and minor

were those manageable with dressings therapy. Discharge from the dressing clinic signified a completely healed wound.

Results: Mean age was 62.8 years. Eight patients had ELAPE and MPG flap reconstruction and three were salvage reconstructions. Eight patients had laparoscopic ELAPE. No flap failures or major complications were encountered. Overall mean time to healing was 42 days; 39 days in primary reconstruction and 45 days for salvage. Overall mean in-patient stay was 16 days. No donor-site morbidity, latent wound breakdown and/or perineal hernias have been reported during a mean follow-up of 9 months.

Conclusion: This novel technique allows obturation of the larger ELAPE defect to prevent perineal herniation and provides sufficient tissue for reliable closure whilst not detracting from the benefits of laparoscopic tumour excision. The major complications observed in the majority of other techniques used for these defects was not observed in this cohort, including salvage cases.

10:27 Questions

10:30 The gluteal fold flap: a versatile option for perineal reconstruction following anorectal disease

Mr N M Pantelides, Mr R J Davies, Miss N S Fearnhead, Mr C M Malata (Cambridge)

Introduction: The gluteal fold flap (GFF) has been extensively reported for vulvovaginal reconstruction but there are no published series of its use for perineal reconstruction following anorectal excision. In this context, abdominal myocutaneous flaps remain the method of choice but with extensive scarring and the increasing use of laparoscopic colorectal techniques, enabling abdominal wall preservation, their abdominal morbidity is less acceptable. We document our experience using the GFF following radical anorectal excision.

Materials and Methods: Data were collected from consecutive cases performed by a single plastic surgeon. The indication, surgical procedure, complications, follow-up and neoadjuvant/adjuvant therapy were recorded.

Results: Twelve GFFs were performed in eight patients (from 2007-2012). Indications for anorectal excision comprised rectal adenocarcinoma (*n*= 3), anal squamous cell carcinoma (*n*= 3), anal adenocarcinoma (*n*= 1) and Crohn's disease (*n*= 1). The GFF reconstructions undertaken were unilateral (*n*= 3), bilateral (*n*= 4) or combined with an anterolateral thigh flap (*n*= 1). Flap harvest was in prone or supine positions. All flaps survived completely but one patient had a late donor site haematoma and another a wound dehiscence.

Conclusions: The GFF is a versatile, robust option for perineal reconstruction following radical anorectal excision and should be considered for medium and selected large perineal defects.

10:37 Questions

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10:40 **The inferior gluteal artery myocutaneous flap (IGAM): Evolution of a novel technique to reconstruct extended abdominoperineal defects**

Mr P Tansley, Mr D Grinsell (Melbourne, Australia)

Introduction and Aims: APRs cause extensive defects. Neoadjuvant/adjuvant treatment make primary healing essential but existing reconstructive techniques can be inadequate. We have evolved an innervated gluteal flap reconstruction with significant advantages. Data are mean ±SD.

Materials and Methods: Between 2007 and 2012, 40 reconstructions (23 males), age 63+/-11 years were undertaken. Indications comprised resections for 32 colorectal carcinomas, 1 melanoma, 1 necrotising fasciitis, 2 chronic ulcers/pelvic sepsis and reconstructions of 4 post-APR perineal hernias and 6 posterior vaginal walls. Technique evolved through 3 phases comprising musculocutaneous IGAM 1 (*n*= 10), muscle IGAM 2 (*n*= 4) and definitive musculocutaneous with vascularised fascia lata perineal floor replacement IGAM 3 (*n*= 26).

Key Results: Overall complications were low but during the IGAM 1 phase comprised 2 late hernias. During IGAM 2 phase there were 3 seromas and 2 wound healing problems. Longest follow up of definitive IGAM 3 was 2.5 years during which there were 2 intra-abdominal collections, 1 minor wound healing problem and 1 seroma without any herniae or flap losses.

Conclusions: Evolution of this novel, robust flap allows abdominal wall preservation, prone harvest, reliable vascularity, bulky volume, maintenance of perineal floor integrity and importation of non-irradiated skin with tailored inset. Clinical applications have been extended to reconstruct posterior vaginal wall and large sarcoma/sacrectomy defects.

10:47 **Questions**

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WEDNESDAY 5 DECEMBER 2012

Parallel session: Craniofacial and cleft

09:00 – 09:10

Free papers: Craniofacial and cleft (Lecture theatre 2)

Chairs: Mr T Goodacre, Mr D Dunaway

09:00 **Outcomes after our simultaneous repair in early infancy for unilateral cleft lip and palate (UCLP): Fistula occurrence and speech acquisition at school entry age**

Dr H Naganishi, Dr T Satake, Dr J Maegawa, Dr S Ohmura, Honorary Professor K Torikai (Yokohama, Japan)

Introduction: Although simultaneous repair of CLP in infancy was abandoned in the late 20th century, some trailblazers mentioned about the less fistula and the better speech. Since 1997, we also have devised an original procedure to close a whole cleft at once in early infancy, and have been applying for all non-syndromic UCLP cases.

Purpose: To confirm the validity of our simultaneous procedure, fistula occurrence and speech acquisition is reviewed.

Materials and Method: The elements of our velo-palatoplasty are as follows: Modified Furlow veloplasty of which Z is relatively small; two-layer palatal closure without relaxing incision, with oral based vomer flap if necessary.

'2-Stage' repair, which was adopted until 1997, is composed of cheiloplasty and 2-layer alveolar closure with lip mucosal flaps at 4 months, and the velo-palatoplasty at 19 months in. As the comparative object, 57 cases (f/u ratio 97%) are evaluated. 'Simultaneous' repair is, the 2 operations done simultaneously at 4 months. Fifteen cases, consecutive from the first, are evaluated.

Result: No even subclinical fistula is noted in either group. As for VPF, '2-Stage' group obtains 'Adequate' 93%, 'Borderline' 7%, and 'Simultaneous' group achieves 'Adequate' 100%.

Conclusion: The fistula ratios do not differ by the operative age of velo-palatoplasty, because our closure methods eliminate fistula occurrence. VPF is slight better in the 'Simultaneous' group, of which palatal cleft is repaired earlier, though statistical difference is not detected.

09:07 **Questions**

09:10 **15 year follow up of one surgeon's cases of unilateral complete cleft lip and palate**

Mr N Mercer, Mr S Deacon, Mrs A Roberts, Mrs L Albery (Bristol)

The cumulative growth and audit figures for the UCLP cases treated by a single surgeon in the 15 years from March 1992 to April 2007 are presented.

During this time frame time there has been a change in the audit standard from the Gloslon Yardstick to the Five Year Index and from GosSPas to CAPS A.

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The surgical technique has not changed in that time except for the change to Dermabond glue from Steristrips on the lip. The sequence of operations is a lip repair, based on the 'best anatomical fit', together with a vomer flap repair at 3-4 months of age, followed by a Langenbeck palate repair at 6-9 months.

The cumulative growth results show over 40% in group 1 and 2 and 30% in groups 4 and 5. These results are better than the only other large series of Von Langenbeck repairs presented by a British surgeon. The 5 year cohorts show a worsening of growth results over the years.

The speech results (*n*=235) show 83% normal nasality and 63% CSCs and have been stable with time.

The potential reasons for the fluctuations in growth are discussed. Surgery is most likely the prime factor but perhaps there is an underlying dysmorphology in the UK compared with Scandinavian patients.

09:17 **Questions**

09:20 **Evaluation of the buccinator myomucosal flap for palatal lengthening in the management of velopharyngeal dysfunction**

Mr A Jordan, Miss L Wharton, Dr A Harding-Bell, Mr T Ahmad, Mr P Hall (Cambridge)

Introduction: Velopharyngeal dysfunction (VPD) is a common problem following cleft palate repair. A number of procedures have been developed to improve the function of the velopharyngeal sphincter. The buccinator myomucosal flap has been used with increasing frequency in our institution to lengthen the soft palate and improve speech. We present the results of the largest case series of buccinator flaps.

Methods: A retrospective case note evaluation was undertaken of patients identified from a comprehensive surgical database.

Results: 130 buccinator flaps were performed in 100 patients between July 2003 and April 2012. The male to female ratio was 59:41. The median age at surgery was 5.6 years (range 6 months to 58 years). The majority were cleft patients, but 5 were non-cleft VPD. There were 6 minor early complications, and 2 major complications requiring return to theatre. 32 patients underwent bilateral buccinator flaps, and in 31 patients the flap was incorporated into a large oral mucosal Z-plasty. 17 patients required major revisions, and a further 12 minor revisions. All patients underwent speech assessments pre- and post-operatively.

Conclusion: The buccinator myomucosal flap is reliable and versatile, associated with few complications and with good speech outcomes.

09:27 **Questions**

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WEDNESDAY 5 DECEMBER 2012

Parallel session: Craniofacial and cleft

09:30 – 09:40

09:30 Buccinator interpositional flap technique for secondary velopharyngeal insufficiency correction- Surgical and speech outcomes

Mr J Jagadeesan, Miss L Cafferky, Miss P Rorison, Miss R Slator, Mr B Richard (Birmingham)

Aim: Of those patients who had cleft palate repair, approximately 20% will still have velopharyngeal insufficiency (VPI). It is a challenge to correct even in the hands of an experienced cleft surgeon. Pharyngoplasty is the commonly used technique. However in patients with short and scarred palate or a previous pharyngoplasty that has failed to correct VPI, another technique will be necessary. Our study aimed to look at the surgical and speech results in a cohort of patients who underwent palatal lengthening using buccinator interpositional flap technique.

Methods: A retrospective review of 38 patients who underwent VPI correction using buccinator flap between 2004 and 2010 was undertaken. The surgical complications recorded were flap failure and fistula formation. The degree of speech improvement was documented using validated CAPS-A traffic light scoring tool.

Results: Three flaps failed totally (5.3%) and two partially failed (3.6%). Although nine (23.7%) patients had a temporary fistula immediately post-operatively, only two (5%) persisted at six months and required surgical correction. There was an overall improvement in nasality, nasal airflow errors and cleft speech characteristics. The degree of improvement was best in non-syndromic patients.

Conclusion: The buccinator flap is a valuable adjunct in the armamentarium of the cleft surgeon to correct VPI. It is reliable, versatile and has low complication rates.

09:37 Questions

09:40 Total face, double jaw, and tongue transplantation: An evolutionary concept

Dr A Dorafshar, Dr B Bojovic, Dr M Christy, Dr N Illif, Dr D Borsuk, Dr E Brown, Mrs N Kelley, Dr D Kukuruga, Dr R Barth, Professor S Bartlett, Professor E Rodriguez (Baltimore, USA)

Introduction: The central face high-energy avulsive injury has been repetitively encountered and predictably managed at the R Adams Cowley Shock Trauma Center. However, despite significant surgical advances and multiple surgical procedures, the ultimate outcome continues to reveal an inanimate, insensate and sub-optimal aesthetic result.

Methods: To effectively address this challenging deformity, a comprehensive multidisciplinary approach was devised. The strategy involved the foundation of a basic science laboratory; the cultivation of a supportive institutional clinical environment; the innovative application of technologies; cadaveric simulations; a real-time clinical rehearsal; and an informed and willing recipient who had the characteristic deformity.

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Results: Following Institutional Review Board and organ procurement organisation approval, a total face, double jaw and tongue transplantation was performed on a 37-year-old male with a central face high-energy avulsive ballistic injury.

Conclusion: This facial transplant represents the most comprehensive transplant performed to date. Through a systematic approach and clinical adherence to fundamental principles of aesthetic, craniofacial, and microsurgery as well as the innovative application of technologies, restoration of human appearance and function for individuals with a devastating composite disfigurement is now a reality.

09:47 Questions

09:50 Paediatric craniofacial fibrous dysplasia: The Hospital for Sick Children experience and treatment philosophy

Mr A Fattah, Dr J Phillips, Dr C Forrest (Toronto, Canada)

Introduction: Craniofacial fibrous dysplasia is a benign developmental anomaly in which normal bone is replaced by fibro-osseous tissue. The aim of this study was to audit the patient population at a tertiary paediatric centre and report our treatment protocols.

Methods: A retrospective chart review of all patients with craniofacial fibrous dysplasia treated at the Hospital for Sick Children between 1999 and 2010 was performed. The treatment algorithm used by our centre is evaluated.

Results: A total of 37 patient records were reviewed; 27 (16 male, 11 female) patients underwent surgery at our institution, 23 had post-operative follow up of greater than one year (mean 5.8 years). Mean age at presentation was 9.9 years (median 10 years) and mean age of surgery was 13 years. Ten patients underwent surgery on the fronto-orbital region, 7 of the calvarium, 2 the skull base and 8 upon tooth-bearing bones. Fourteen cases underwent debulking surgery as their primary therapy whereas 13 underwent complete resection. All but one case of recurrence occurred following debulking therapy.

Discussion: This is the largest paediatric series to date with significant follow up. When age at surgery is considered, total resection and reconstruction or debulking after skeletal maturity has a lower recurrence rate (1/7 cases) than earlier surgery (8/16). Complete resection at any age and debulking surgery once skeletal maturity has been reached is associated with lower recurrence rates than incomplete resections at an earlier age. Patients with McCune-Albright syndrome may benefit from repeated debulking procedures rather than complex resections and reconstructions.

09:57 Questions

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WEDNESDAY 5 DECEMBER 2012

Parallel session: Craniofacial and cleft

10:00 – 10:10

10:00 Neonatal upper airway management: Mandibular distraction or tracheostomy?

Mr F C Chan, Dr B Andrews, Dr K Fan, Dr J Roostaeian, Ms C Tabit, Professor J Bradley (Los Angeles, USA)

Introduction: Concomitant upper and lower airway anomalies are common in patients with micrognathia and airway obstruction. These patients are often not surgical candidates for mandibular distraction and often require tracheostomy. This study presents our experience in successfully identifying and managing these patients with concomitant anomalies based on our previously reported protocol for neonatal surgical airway management.

Methods: Newborn patients (*n*=155) diagnosed with micrognathia and airway obstruction at the UCLA Medical Center NICU (Neonatal ICU) were studied (1994–2010). Of these patients all underwent, according to our established UCLA Neonatal Upper Airway Obstruction Protocol, pre-operative sleep study, milk scan with occasional 24-hour pH probe and laryngobronchoscopy. A multidisciplinary pediatric team followed this algorithm to determine appropriate treatment, including mandibular distraction and tracheostomy.

Results: A total of 53 patients (34%) required tracheostomy. The diagnoses are tracheal web (20%), vocal cord paralysis (13.3%), laryngo/tracheal malacia (53%), infraglottal stenosis or vascular lesion (6.7%). The causes are central apnoea (34.48%), severe reflux (13.79%) and other airway lesions (34.48%).

Conclusion: A standardised and validated protocol to determine surgical candidacy is clinically relevant as a significant number of patients were not candidates for mandibular distraction and required tracheostomy. Additionally, understanding the treatment of these airway lesions will help in the correction of airway obstruction and eventual tracheostomy reconstruction.

10:07 Questions

10:10 Partial temporalis muscle and fascia lata sling for facial reanimation: A new surgical technique

Mr F Fatah (Birmingham)

Introduction: Temporalis muscle has been used in different formats for facial reanimation. We present a new technique of partial temporalis muscle tendon and a strip of fascia lata to reduce morbidity and maintain physical improvements.

Methods: A mirror imaged L-shaped incision is made starting in the temporal region and extended down to the ear lobe. A subcutaneous pocket is dissected reaching the anterior border of the parotid. Two separate tunnels deep to the cheek fat pad are created towards the nasolabial line above and below the commissure. Separate incisions are made above and below the commissure in the natural folds. The dissections reach the lateral 2/3 of upper and lower lip vermilion. The zygomatic arch is mobilised to expose the temporalis muscle tendon. A 2cm x 2.5cm U-shaped incision is made through the tendon of the

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muscle, lifted out and the arch is replaced. A strip of fascia lata is used as a tendon graft to reach the lips,

Results: 34 patients were treated using this technique. The details of the surgical technique and samples of results will be the main presentation.

Conclusion: This refined method of using temporalis muscle for facial reanimation reduces morbidity and maintains improvement of function and appearance.

10:17 **Questions**

10:20 **A novel technique for facial reanimation: The partial temporalis tendon transfer with a fascia lata sling**

Mr T Pidgeon, Mr R Boca, Mr K Seretis, Mr F Fatah (Birmingham)

Introduction: Facial reanimation remains challenging despite numerous attempts at identifying the ideal surgical technique. This report describes a novel one-stage surgical approach to anterograde temporalis tendon transfer with a fascia lata sling.

Methods: A retrospective review of the patients' notes was performed. The surgical technique developed by the senior author involves the use of a superficial segment of the temporalis tendon extended with fascia lata to achieve elevation of the oral commissure along the desired vector. Patient photographs were objectively evaluated with Facial Assessment by Computer Evaluation (FACE) software.

Results: All 34 patients treated from 2003–2011 achieved instant improvements in appearance and function. 28 patients (82.4%) required no further intervention. Only three patients (8.8%) underwent further, minor procedures for aesthetic and functional adjustments around the oral commissure. Complications occurred in three patients (8.8%); comprising two minor facial haematomas and one thigh wound infection. Mean age at surgery was 51.8 years (range 19.1-73.7 years). Mean duration of follow-up after surgery was for 1.5 years (range 0.0-6.5 years). Surgery did not disturb natural temporalis muscle function.

Conclusion: This modified and refined method of facial reanimation achieves an instant satisfactory outcome, has a low complication rate and no donor site morbidity.

10:27 **Questions**

10:30 **Titanium cranioplasty in paediatric craniofacial surgery- The Birmingham experience**

Mr F Ahmad, Mr S Bhatia, Mr N White, Mr H Nishikawa, Mr S Dover (Birmingham)

Introduction: Calvarial defects can be congenital or acquired. Various materials have been used over the years to cover or fill these defects including autogenous

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bone, acrylic, metals (including titanium) and synthetic materials. We present our experience of the use of titanium cranioplasty plates in children at our craniofacial unit.

Methods: A retrospective review was undertaken to identify patients in whom titanium cranioplasties were performed over a 13 year period. Demographics, indications, outcomes and complications were recorded. The procedure has evolved over the years and can include 3DCT scanning and CADCAM derived models.

Results: Within our paediatric practice, 24 patients underwent titanium cranioplasty over this period. Complete data were available for 20 of these cases. The average age for titanium cranioplasty was 9 years (3-14 years). The majority, 10 (50%), had defects after neurosurgical intervention post trauma. 4 (20%) were after tumour excision and 2 (10%) had persistent congenital defects, which failed to close spontaneously. 4 patients (20%) had persisting defects following calvarial remodelling for craniosynostosis and failure of bone defects to ossify.

Conclusions: This technique avoids the need for a bone graft, is relatively cheap, quick, reliable and effective. The current plate design now has multiple flanges and screw holes, allowing for a flexible approach to plate placement and improved results. The fabrication, technique, results and complications will be presented.

10:37 **Questions**

10:40 **Age-based approach to sagittal synostosis: Application of extended strip craniectomy (ESC) and total cranial vault reshaping (TCVR) techniques**
Dr C Forrest (Toronto, Canada)

Introduction: Little consensus exists as to the procedure of choice in the management of sagittal synostosis. The purpose of this study was to compare outcomes and complications following a TCVR procedure (> 6 months of age) and ESC with post-operative molding helmet therapy (< 6 months of age) using morphometric CT-based/3D camera analysis.

Materials and Methods: 122 patients with sagittal synostosis seen at the Hospital for Sick Children, Toronto between 1999 and 2011 underwent surgical treatment. Morphology was assessed by CT-based morphometric analysis or 3D (3dMD, Atlanta, GA) camera analysis. Complications were tabulated.

Results: 79 patients (64 male;15 female, 5.3 months old) underwent ESC and 44 patients (37 male: 7 female, 26.1 months old) underwent TCVR (mean follow-up of 17 ± 11 months). No mortalities were encountered. Surgical cost, length of stay, surgical time, transfusion rates and major complications were greater in the TCVR group ($p<0.05$). Parental satisfaction as measured by questionnaire was 100%. CT-based outcomes analysis demonstrated excellent improvement in sagittal profile at 1-year post-operatively in both groups.

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Conclusions: Surgical management of sagittal synostosis should be based upon patient age. ESC is effective for infants 6 months of age and under taking advantage of rapid brain growth and thin bone to allow for physiologic remodelling of the infant calvarium. Vault reshaping techniques are applicable in those over 6 months of age.

10:47 **Questions**

10:50 **Posterior calvarial distraction osteogenesis in the management of craniosynostosis- A 5-year review**

Miss K Wallis, Miss C Chuo, Mr G Solanki, Mr D Rodrigues, Mr N White, Mr M Evans, Mr S Dover, Mr H Nishikawa (Birmingham)

Introduction: Posterior calvarial distraction osteogenesis is a method of enlarging cranial volume for the treatment of raised intracranial pressure (ICP) and Chiari malformation due to craniosynostosis. This was first pioneered at the West Midlands Craniofacial Centre. The evolution of this technique, outcomes and complications are presented.

Method: Twenty-four patients underwent posterior distraction between October 2006 and October 2011. Data was collected regarding age, diagnosis, indication for surgery, length of hospital stay, number and type of cranial distractors used, distraction distance achieved, consolidation period, complications, and outcomes.

Key Results: Median age at surgery was 1.5 years (range 0.4-6.9 years). Seventeen patients had a confirmed syndrome. Six patients had previously undergone transcranial surgery. Indications for surgery included raised ICP (*n*=12) and Chiari formation (*n*=6). Three different distractor types were utilised during the study period.

The mean distraction distance achieved was 21mm. Complications occurred in 15/24 patients, these included CSF leak (*n*=4), incomplete osteotomy (*n*=1), mechanical problems with the distractor (*n*=5) and wound complications (*n*=5).

Conclusions: Posterior calvarial distraction osteogenesis permits controlled increases in cranial volume that cannot be achieved by other techniques. It is proving to be a reliable method for decreasing raised ICP in difficult cases of craniosynostosis.

10:57 **Questions**

11:00 **Complications of frontofacial advancement by distraction: A 10-year review of 80 cases**

Mr D Dunaway, Mr J Britto, Mr R Evans, Mr C Abela, Mr O Jeelani (London)

Purpose: To document the complications of frontofacial distraction and the significant risk factors.

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Method: A review of 80 consecutive patients undergoing frontofacial distraction at Great Ormond Street Hospital was undertaken. Information was collected prospectively from a standardised assessment and a retrospective review of case records.

All patients underwent assessment pre-operatively, 1, 6 months and 12 months post-operatively.

Results: There was one post-operative death; one case was abandoned due to haemorrhage. 65 patients suffered one or more complications (81%). There were 13 major complications (16%). Major peri-operative complications were most frequently due to haemorrhage (9%). 13 (11.9%) suffered CSF leaks. 6.3% of patients suffered post-operative infections. Late complications included frontal bone flap necrosis and mucocoele formation.

Discussion: Major complications generally arise from excessive blood loss or are related to the anterior skull base osteotomy needed to mobilise the frontofacial segment. This osteotomy creates a communication between the nasal cavities and the anterior cranial fossa, creating a path for ascending infection or CSF rhinorrhea. Reducing the risk associated with frontofacial advancement therefore is principally centred on reducing blood loss and protecting the communication between the nose and anterior cranial fossa.

Conclusions: The benefits of frontofacial distraction are well documented, but associated with significant risk.

11:07 Questions

11:10 Refreshments and exhibitions

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12:10 – 12:17

11:30 **How will science influence plastic surgery practice in the future?**
Chair: Sir John Temple, Research Council Chairman, the Healing Foundation

Panel Discussion

- Professor E Amaya, Director of The Healing Foundation Centre at the University of Manchester
- Dr K Mace, Healing Foundation Senior Research Fellow, The Healing Foundation Centre at the University of Manchester
- Dr T Millard, Healing Foundation Senior Research Fellow, The Healing Foundation Centre at the University of Manchester

Free papers: The President's Prize
Chair: Mr R H Milner

12:10 **Does depth of an excisional wound affect repigmentation of the resulting scar?**
Miss S Chadwick, Professor M Ferguson, Dr M Shah (Manchester)

Introduction and Aims: Dyspigmentation within scars makes them more noticeable. This is distressing for patients, difficult to treat and knowledge surrounding this problem remains scarce. We investigated effect of wound depth on scar repigmentation using a porcine model.

Materials and Methods: Superficial (SPT), deep (DPT) and full thickness (FT) excisional wounds were created on the flanks of six female Hampshire pigs and allowed to heal. Scars were photographed regularly and repigmentation scored using a visual analogue scale (VAS). Scars were harvested 98 days post-wounding, RNA extracted from areas of normal pigmentation and dyspigmentation and subjected to microarray.

Key Results: There were differences in repigmentation of different depth scars over time ($p<0.001$) and within scars ($p<0.001$). SPT scars repigmented earliest and across the scar homogeneously, in contrast to DPT and FT scars which repigmented at the scar periphery first, followed by the scar centre. SPT and DPT scars successfully fully repigmented whereas FT scars remained centrally pale.

Microarray revealed consistently altered expression of several genes ($p< 0.001$) between black and white unwounded skin and areas of hypo and hyperpigmented scarring.

Conclusions: This study confirms differences in patterns of scar repigmentation dependent on depth of the excisonal wound, and initial microarray studies provide insight into possible targets involved in dyspigmentation.

12:17 **Questions**

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12:20 – 12:30

12:20 Are burn patients suitable candidates for facial transplantation? The use of skin allograft in acute burn management may complicate future transplantation

Mr Q Frew, Dr T Win, Dr C Taylor, Dr G Pettigrew, Mr N El-Muttardi, Professor P Dziewulski (Chelmsford)

Introduction: Facial transplantation is now a recognised reconstructive option for patients with severe facial burns. Pre-existing antibodies against donor human-leucocyte-antigens (HLA) is currently a contraindication to facial transplantation. Burn patients often require cadaveric skin allograft in acute burn management, which are transplanted without HLA matching. It is unknown if this results in development of long-lasting anti-HLA antibodies, which jeopardises the success of future transplantation.

Methods: Sera was collected from burn patients at 2-8 years following skin grafting (allograft n=14; autograft n=2). Presence of antibodies against HLA class I and II antigens was determined. Data regarding demographics, burn %, number of skin donors, and additional allosensitising events (transfusion, pregnancy, previous transplant) was collected.

Results: Average burn % of allografted patients is significantly higher than autografted patients (47.5±13 allografted versus 21.5±6.3 autografted; p=0.017). Allografted patients received multiple blood products (32±26 allografted versus 0 autografted). Mean combined HLA Class I and II antibody level (calculated reaction frequency) was significantly higher in allografted patients (87.7±27.6% allografted versus 0% autografted).

Conclusions: Circulating anti-HLA antibodies persist up to 8 years after skin allografting. This has important implications since allografted patients will have a smaller donor pool, longer waiting time, or may be excluded as candidates for transplantation.

12:27 Questions

12:30 Induction of stable mixed chimerism and vascularised composite allograft tolerance across a major histocompatibility barrier in miniature swine

Mr D Leonard, Dr B Horner, Mr M Randolph, Dr E Farkash,
Dr R Duran-Struuck, Professor D McGrouther, Dr J Kurtz, Professor D Sachs, Dr C Huang, Dr C Cetrulo Jr (Boston, USA)

Introduction: Skin tolerance is a prerequisite for vascularised composite allotransplantation (VCA) without long-term immunosuppression. This study aimed to determine if VCA tolerance could be achieved across a major histocompatibility (MHC) barrier in a preclinical model.

Methods: Haploidentical donor (swine leukocyte antigen (SLAac)) and recipient (SLAad) MGH miniature swine were selected. Recipients underwent non-myeloablative conditioning and hematopoietic stem cell transplantation (HCT) with cytokine mobilised donor cells. VCAs were placed early (immediately post HCT) or late (>100 days later). Chimerism was monitored by flow cytometry.

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Cellular and humoral immune responses were monitored in vitro. VCA biopsies were assessed by white-light and immunofluorescence microscopy.

Key Results: All HCT recipients developed stable, multi-lineage mixed chimerism with donor specific unresponsiveness in vitro. Recipients of both late (*n*=4) and early (*n*=2) VCAs demonstrated tolerance (survival >100 days). Transient perivascular CD3+ infiltration was observed in early VCAs. FoxP3+ cells were identified within these foci. Control animals rejected skin on days 6 and 9.

Conclusions: This study provides proof of principle for vascularised composite allograft tolerance across an MHC barrier in a large animal model. The presence of infiltrating FoxP3+ cells may suggest that a regulatory mechanism contributes to VCA acceptance early post-transplant.

12:37 Questions

12:40 Demystifying the molecular mechanisms regulating embryonic stem cells ESCs neural differentiation - A step towards understanding craniofacial development and nerve tissue regeneration
Mr A Ghanem, Ms S Boast, Professor H Kondoh, Professor C Stern (London)

Introduction and Aim: Demystifying the molecular regulation of embryonic stem cells (ESCs) differentiation would enable not only harnessing them towards regenerative applications but also unveiling the developmental errors causing congenital anomalies. This paper presents the identification of a regulatory mechanism of Sox2, the transcription factor with earliest neural plate expression and key regulator of the "neural" and "stem" cell states.

Materials and Methods: Three different ESCs lines were transfected with plasmids encoding Green Fluorescent Protein (GFP) and a minimal promoter coupled with one of 26 individual Sox2 non-coding evolutionary-conserved putative enhancers. Neural differentiation was achieved using N2B27 medium.

Results: The Sox2 enhancer N2 has the highest activity in early vertebrates ESCs lines compared with other coding regions. Analysis of this enhancer's sequence identified two highly conserved sub-regions. Functional studies confirmed that these two sub-regions account for Sox2 activity in proliferating embryonic stem cells as well as their induced neural differentiation state

Conclusion: The N2 enhancer core regulatory regions encodes instructions required to direct expression of Sox2 both in embryonic stem cells induced to neural differentiation and in the early neural plate of the embryo itself with the potential to direct differentiation into the neural fate both *in vitro* and *in vivo*.

12:47 Questions

NOTES

12:50 – 13:00

12:50 Objective evaluation of the latissimus dorsi flap for breast reconstruction using three-dimensional imaging

Miss H Henseler, Miss J Smith, Professor A Bowman, Dr B Khambay, Mr X Ju, Professor A Ayoub, Mr A Ray (Hannover, Germany)

Background: The latissimus dorsi flap is a common method for breast reconstruction following complete mastectomy. The study aimed to assess the quality of this reconstruction using a three-dimensional (3D) imaging method. The null hypothesis was that there was no difference in volume between the reconstructed breast and the opposite side.

Methods: This study was conducted in forty-four patients who had had immediate unilateral breast reconstruction by the extended latissimus dorsi flap. The breast was captured using the 3D imaging system. Ten landmarks were digitised on the 3D images. The volume of each breast was measured by the application of Breast Analysis Tool software. The symmetry of the breast was measured using Procrustes analysis.

Results: The null hypothesis was rejected. The reconstructed breast showed a significantly smaller volume when compared to the opposite side, $p<0.0001$, a mean difference of 176.8cc and 95% CI (103.5, 250.0). There was a mismatch between the landmark configuration of the breast and its relabelled and matched reflection.

Conclusions: The asymmetry analysis through reflection and Procrustes matching was a useful method for the objective analysis of the female breast. Objective 3D imaging could provide a reliable tool for surgical planning, evaluation of the outcome and audit purposes.

12:57 Questions

13:00 Post bariatric surgery body contouring: Is it worth it?

Miss N Al-Hadithy, Dr A Hosakere, Mr K Stewart (Edinburgh)

The past 20 years has seen a doubling in the worldwide prevalence of morbid obesity. NICE has recommended bariatric surgery as first line treatment for patients with a BMI of over 50kg/m^2. Massive weight loss in a short time can result in excess skin all over the body and may cause psychological distress for the patient. The goal of reconstructive plastic surgery is to help regain the form, function, and contour appearance of affected body parts. Body contouring post bariatric surgery is one of the biggest growth areas in plastic surgery at present. This formative study quantified psychosocial outcomes against weight, BMI, anthropometric measurements and 3D stereophotograms for better understanding of the problem

Aims: To evaluate psychosocial change in patients who have had reconstructive surgery to regain form and function following massive weight loss.

Methods: Associations between QOL, mood, and weight loss, anthropometric measurements, ptosis and type of procedure were assessed with HADs, EDQ,

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13:07 – 17:30

DAS 24, SF36 and BAROS. 3D stereophotograms were taken to objectively measure ptosis in 100 patients.

Results: We would argue that post bariatric body contouring is worth it. We have found that there is a statistically significant functional and psychosocial improvement following plastic surgery procedures in bariatric patients. This has been shown to lead to a significant improvement in quality of life.

13:07 **Questions**

13:10 **Lunch and exhibitions**

13:10 **Facial Palsy Special Interest Group Meeting**

Refinements in breast reconstruction

Chair: Mr P Harris

14:10 **Refinements in implant reconstruction**
Mr D Macmillan

14:40 **Therapeutic mammoplasty and conservative breast surgery**
Mr S McCulley

15:00 **Free flap breast reconstruction: Avoiding pitfalls and improving aesthetic outcomes**
Mr V Ramakrishnan

15:30 **Refreshments and exhibitions**

16:00 **Breast reconstruction: Where are we now?**
Professor M Hamdi

16:40 **Questions and Panel Discussion**

17:00 **Feedback on BAPRAS Members' Survey**

17:30 **Close**

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THURSDAY 6 DECEMBER 2012

08:00 – 11:05

08:00 **Registration and refreshments**

Perforator flaps

Chair: Mr N Niranjan

08:30 **Anatomical basis of perforator flaps**
Mr M Schaverien

08:50 **Clinical applications for perforator flaps**
Professor A Hart

09:20 **Perforator flaps in chest wall and breast reconstruction**
Mr V Ramakrishnan

09:50 **Perforator flaps in breast reconstruction**
Professor M Hamdi

10:20 **Discussion**

10:35 **Refreshments and exhibitions**

Free papers: Aesthetic

Chair: Professor J Frame

11:05 **Circumferential body lift for post massive weight loss body contouring in the NHS: Our experience**
Mr J Jagadeesan, Mr S Azad (Birmingham)

Introduction: The higher incidence of morbid obesity and the NICE recommendations on bariatric surgery has increased the demand for post-massive-weight-loss body contouring in the NHS. In the West Midlands, these patients are managed in a multi-disciplinary team with strict criteria for bariatric and post bariatric surgical correction. Our study aimed to look at the surgical results in a cohort of patients who underwent post bariatric correction using circumferential body lift (CBL) alone or in combination with other procedures.

Methods: A retrospective review of 14 patients who had lost around 61kgs over 2.5 years by both surgical and non-surgical methods was undertaken. The factors analysed included operating time, duration of stay, blood transfusion and complications.

Results: CBL alone or combined with Ruben's suspension mastopexy was commonly performed. The average operating time was 6 hours (range: 4 hours 30 minutes to 9 hours) and duration of stay was 6 days (range: 5–10 days). Blood transfusion was only required in patients who had combined procedures. 42% had minor complications like seroma (17%), cellulitis (8.3%) and wound dehiscence (25%) commonly at the central back. These results are comparable with literature.

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11:12 – 11:25

Conclusion: CBL combined with other procedures in single setting is an effective and safe way to address commonly affected areas of skin excess with no significant morbidity.

11:12 Questions

11:15 Combination cosmetic surgery: An individual surgeon's experience in non-post-massive-weight-loss patients

Ms Z Jessop, Dr J Yu, Mr E Erel, Mr C Malata (Cambridge)

Introduction and Aims: Post-massive-weight-loss (PMWL) body contouring surgery has popularised combination cosmetic procedures with conflicting reports on associated morbidity. Patients request multiple cosmetic operations in a single stage due to time constraints and perceived financial benefits to them. There is little in the literature regarding combined aesthetic procedures in the non-PMWL population.

Material and Methods: A single operator's combination aesthetic procedures over ten years were reviewed with regard to their patterns and accompanying morbidity. Additionally a 6-month prospective recording of operating times for combination versus isolated procedures was performed.

Key Results: 117 patients underwent single-stage combined cosmetic surgeries (age 18-67 years, male:female=1:12). Most (80%) had 2 distinct procedures while a fifth underwent >3 operations simultaneously. Major complications requiring re-admission or re-operation occurred in 5% of patients while 10% had minor healing problems (managed conservatively). The commonest procedural combination was breast surgery (reduction/mastopexy) with abdominoplasty (50/117) whose total theatre time was comparable to the sum of the individual procedures in the prospective cohort (n=6 versus 25; 5 hours 20 minutes versus 6 hours 4 minutes; p=0.11).

Conclusion: The pattern of combination cosmetic procedures requested differs but morbidity compares favourably to that reported for the PMWL population. Combination surgery does not unduly increase operation times.

11:22 Questions

11:25 Conventional versus ultrasound-assisted liposuction in gynaecomastia surgery: A 13-year review

Mr K Y Wong, Mr C M Malata (Cambridge)

Introduction: Numerous surgical techniques exist for gynaecomastia treatment. Although ultrasound-assisted liposuction (UAL) is thought to be more effective, there remains no objective and direct comparison with conventional liposuction. Hence, a comparative study was performed of a single surgeon's experience over 13 years using two definitive parameters namely intra-operative conversion to open excision and post-operative revisional surgery rates.

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11:32 – 11:35

Methods: All gynaecomastia patients treated with UAL or conventional liposuction (1999-2012) were retrospectively studied. UAL was only available in the private sector and was used for all such patients with no other selection or exclusion criteria.

Results: A total of 192 patients (340 breasts) with a mean age of 29 years (range 12-74) were evaluated. UAL was utilised in 26% of breasts (46 patients, 89 breasts). Compared to traditional liposuction, UAL had significantly lower rates of intra-operative conversion to open excision (26% versus 40%; $p<0.05$) and post-operative revision (2% versus 21%; $p<0.001$) using Fisher's exact test. The haematoma rate for each technique was 1%.

Conclusion: UAL is a more effective treatment modality for gynaecomastia than conventional liposuction as determined by intraoperative conversion to open surgery and subsequent need for revision.

11:32 Questions

11:35 Pre-operative breast asymmetry in cosmetic breast augmentation: A prospective study of patient awareness and its implications

Miss M Mughal, Miss N Kelemen, Mr S Withey, Mr S Hamilton (London)

Introduction: Pre-operative breast asymmetry has major implications for the post-operative result in breast augmentation.

We present data describing the objective evaluation of pre-operative asymmetry in breast augmentation and an assessment of subjective patient perception. This prospective study represents the largest series to date.

Methods: 300 consecutive patients undergoing primary bilateral breast augmentation by a single surgeon (SH) were assessed. Standard breast measurements, skeletal deformities and patient awareness of any asymmetry were recorded.

Results: Patient age ranged from 17- 48 (mean= 41). 90.7% of patients' primary goal was simple enlargement. Breast asymmetry was classified into mild, moderate and severe by using a previously published grading system.

Each measurement parameter was allocated a point making a total of 8 points and the asymmetry classified into mild, moderate or severe.

All patients had a degree of asymmetry.

Grade of Asymmetry	%	Number of patients (*n*=300)
Mild	85.0	255
Moderate	4.0	12
Severe	2.0	6
Aware of asymmetry	9.0	27

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11:42 – 11:45

Only 6% (*n*=18) had augmentation intended to correct asymmetry. Clear differences were apparent between objective and subjective assessment of asymmetry.

Conclusion: Patient perception of asymmetry differs substantially from objective measurements. A thorough assessment of pre-operative asymmetry is essential. The high prevalence of asymmetry and poor patient awareness of it must be taken into account to ensure surgeon and patient satisfaction.

11:42 Questions

11:45 Anatomical comprehension and clinical implications of lower facelifting using the Premasseter Spaces - 8 year experience in 445 patients.
Mr P Tansley, Mr J O'Brien, Mr B Mendelson (Melbourne, Australia)

Introduction and Aims: Precise knowledge of facial space anatomy is essential for safe, efficacious sub-SMAS facelifting. To demonstrate the benefit of understanding the premasseter spaces, our 8 year experience was reviewed in 2 phases - 'early' prior to researching the middle premasseter space anatomy and 'later' after surgical modifications consequent on this anatomical understanding.

Materials and Methods: Consecutive primary (P) versus secondary/tertiary (S/T) lower facelifts were compared: 2003-08 (*n*=344 [P *n*=295; S/T *n*=49]) versus 2010–11 (*n*=101 [P *n*=63; S/T *n*=38]). Post-operative complications comprised mild, moderate, severe or permanent nerve injury; haematomas (major [reoperation] / minor [aspiration]) and sialocoeles.

Key Results:

		Primary cases		Secondary/Tertiary cases	
		Early	Later	Early	Later
Nerve injury	Mild <6/52	*n*=11 [3.7%]	*n*=2 [3%]	*n*=4 [8.1%]	*n*=1 [3%]
	Moderate 6/52-4/12	*n*=3 [1%]	*n*=1 [1.5%]	*n*=3 [6.1%]	*n*=2 [7%]
	Severe 4/12-1 year	*n*=1 [0.3%]	*n*=0	*n*=1 [2%]	*n*=0
	Permanent >1 year	*n*=0	*n*=0	*n*=0	*n*=2 [7%]
Haematoma	Major	*n*=3 [1%]	*n*=0	*n*=1 [2%]	*n*=0
	Minor	*n*=20 [6.8%]	*n*=9 [14%]	*n*=0	*n*=5 [13%]
Sialocoele		*n*=12 [4%]	*n*=1 [1.5%]	*n*=3 [6.1%]	*n*=0

Conclusion: A major reduction of facial nerve/parotid injury and major haematoma is obtained in sub-SMAS facelifts and with benefit from utilising the middle premasseter space and understanding its immediate relations.

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THURSDAY 6 DECEMBER 2012

11:52 – 12:40

11:52 **Questions**

11:55 **How long does a facelift last? Objective and subjective measurements over a 5-year period**
Mr B Jones, Mr S Lo (London)

The longevity of facelift surgery is a key question that has not been adequately addressed by previous studies. No study has used standardised photographs, objective measurements or validated subjective scoring systems.

Methods and Results: 50 primary facelifts were assessed pre, post and 5.5 years after surgery. Longevity was assessed using three outcome measures:

1. Objective measurements
Photographic analysis was performed with computer software (Facegram). Analysis showed correction of jowl height with an elevation of 6mm after facelift surgery, which was maintained at 5.5 years (p<0.0001). Cervicomental angle decreased by 13° after facelift, but showed partial relapse of 69% at 5.5 years.

2. Region specific subjective assessment
Subjective assessment of the jowl, nasolabial and marionette areas was performed with Summit Scale II aesthetic scores. This showed significant improvement in all areas following a facelift (p<0.0001). At 5.5 years, no subjective worsening of any area was noted except for the neck.

3. Overall subjective assessment
The Global Aesthetic Improvement Score was used to assess the overall aesthetic improvements over time. Scoring suggested that 76% patients still look younger 5.5 years after a facelift than they did prior to the facelift.

Conclusions: This study indicates that differential regional aging occurs after facelifting, with the jowl, nasolabial and marionette areas remaining well corrected at 5.5 years, but with partial relapse of neck correction. Despite this, long-term global aesthetic assessment still remains positive in the vast majority of patients. This study provides strong evidence that facelift surgery can provide significant long-term aesthetic gains.

12:02 **Questions**

Hand surgery: Guest lectures
Chair: Mr R H Milner

12:05 **The surgical treatment of common congenital hand problems**
Professor S Hovius

12:40 **Lunch and exhibitions**

12:40 **PLASTA Meeting**

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THURSDAY 6 DECEMBER 2012

14:00 – 14:50

14:00 **Congenital hands: longitudinal radial deficiency**
Professor S Hovius

14:20 **Adipose derived stem cells and Dupuytren's Contracture**
Dr J Verhoekx

14:30 **Extensive percutaneous needle aponeurotomy and lipofilling**
Professor S Hovius

Free papers: Upper limb and history

Chair: Mr R H Milner

14:40 **Experience of 176 radial club hands**
Mr P Smith (London)

Between 1988 and 2008 176 Radial Club Hands were treated at Great Ormond Street. From 1983 to 1995 a standard notched centralisation (Lamb) + tendon transfer was utilised.

From 1995 onwards we have used soft tissue distraction in an attempt to allow a non-notched centralisation, commonly referred to as radialisation + tendon transfers. The aims were to preserve ulna growth, "wrist" motion, and increase forearm length. Over a 10 year period between 1995 and 2005, 60 children underwent soft tissue distraction, using a Pennig fixator. After initial distraction which took on average 10 weeks and a subsequent consolidation period of four weeks, wrist surgery was undertaken at a mean age of 30 months. Wrist surgery involved removal of the fixator by dorsal approach, transfer of the dorso-radial muscle mass and non-notched stabilisation (radialisation) maintained with a K-wire. If radialisation was not possible centralisation was undertaken. The effect of distraction lengthening on ulna growth, the curved ulna, ease of centralisation, skin shortening or excess and the preferred surgical approach will be discussed.

The assessment of any technique in children with congenital hand deformities can only be made at skeletal maturity. Long term follow up is necessary prior to claiming the effectiveness of any technique. Poor results are often apparent quickly. To claim a good result requires time and numbers. We regard centralisation and radialisation following soft tissue distraction as the gold standard. Newer techniques need to be justified by long term follow up and equally large numbers.

14:47 **Questions**

14:50 **Retrospective review of central slip injury management outcomes**
Miss S S Jing, Miss L Ygot, Mr M Sood (Broomfield)

Introduction: Functional outcome of central slip injury has been poorly defined. We aim to review the surgical repair and rehabilitation of central slip injuries.

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Methods: Retrospective three-year review of acute central slip injury management was performed including analysis of complexity of injury, surgical repair, rehabilitation protocol and functional movements of affected digits.

Results: 94 patients with mean age of 38.8 years (103 digits, 46.7% dominant) underwent primary surgical repair of acute central slips injuries. 61 (59.2%) cases were complex, associated with capsuloligamentous or bony injuries. Commonest surgical repair and rehabilitation received were Prolene mattress suture and extensor dynamic splint respectively. Mean follow-up was 11.2 weeks. Mean final proximal interphalangeal joint and distal interphalangeal joint flexion were 76.6° and 46.4° respectively. Mean extensor lag at proximal interphalangeal joint was 11.3°. Functional outcome using Strickland formula were 50.0% excellent, 29.4% good, 17.6% fair and 2.9% poor. Factors leading to poor outcome were complex injuries.

Conclusion: Central slip injuries are unique from other extensor tendon injuries. Bony fixation is associated with poor functional outcomes.

14:57 Questions

15:00 Pyogenic flexor tenosynovitis: Factors affecting prognosis
Dr E Karagergou, Miss K Sharma, Mr K Rao, Miss R Harper (Sheffield)

Introduction and Aims: The purpose of this study was to retrospectively review all patients who presented with pyogenic flexor tenosynovitis of the hand and to identify risk factors which may affect the final functional outcome.

Material and Methods: Between 2009 and 2011, 52 patients were admitted for pyogenic flexor tenosynovitis and were retrospectively reviewed. Data obtained included clinical features, co-morbidities, intra-operative findings, number of procedures, microbiology, functional outcome and amputation rate.

Key Results: Patients with positive cultures were associated with a higher number of operations and a worse final active range of motion. Between them, patients with group G streptococcus and streptococcus milleri had the worst final outcome. A later onset of physiotherapy was documented for the cases which had more than one procedure, and this was also correlated with a worse functional outcome. Patients with diabetes mellitus and patients on renal haemodialysis had a high amputation rate.

Conclusion: In patients with pyogenic flexor tenosynovitis, the presence of positive cultures may be associated with a potential worse outcome. Multiple surgical interventions for the control of infection should not delay the early onset of physiotherapy. Patients with diabetes mellitus and renal haemodialysis have a higher amputation rate and, therefore, a more aggressive initial management should always be considered.

15:07 Questions

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15:10 – 15:27

15:10 Treatment of rolando fracture by capsuloligamentotaxis using mini external fixator: A report of sixteen cases
Miss S S Jing, Mr S Houshian (Broomfield)

Introduction and Aims: Treatment of Rolando fractures remains a challenge for hand surgeons.

Material and Methods: We present a case series of sixteen comminuted Rolando type fractures treated by controlled capsuloligamentous distraction (and over distraction by 2mm) using the Penning mini- external fixation system. Additional Kirschnar wire(s) were used to maintain fracture reduction and stability.

Key Results: Average time of injury to surgery time was five days. Mean age of patients was 26 years. The mean follow up was 20 months. Excellent fracture union was achieved in all cases. All except two patients were pain free at the final consultation. The mean grip and pinch strength of the affected thumb was 96% and 93% respectively, of the unaffected thumb with a minimal loss of movements.

Conclusion: This technique is simple and effective. It enables immediate mobilisation of the unaffected joints, preventing stiffness and reduces post-traumatic arthritis. We recommend this distraction technique for the treatment of significantly comminuted Rolando type fractures.

15:17 Questions

15:20 Composite tissue allograft: Abdominal wall transplantation
Mr H Giele, Professor P Friend, Mr A Vaidya (Oxford)

Composite tissue allografts will dramatically increase the scope of plastic surgical reconstruction in volume, aesthetics and functional restoration of normal tissue.

We discuss our technique and experience with abdominal wall composite tissue allograft. Patients with loss of abdominal domain undergoing bowel and organ transplantation require reconstruction of their abdominal wall to accomodate the new organs and prevent raised intra-abdominal compartment pressures. Abdominal wall transplantation is the ideal method of reconstruction. Bilateral conjoined VRAM flaps are utilised from the donor. The novel technique introduced avoids prolonged ischaemic time and allows flexibility in reconstruction in difficult defects.

This model also allows experience and knowledge of composite tissue allograft to be obtained in an ideal situation.

15:27 Questions

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THURSDAY 6 DECEMBER 2012

15:30 – 16:30

15:30 **The Gillies pinciples revisited**
Mr Z Ahmad, Mr A Roshan, Mr K Khan, Dr A Bamji, Mr T Ahmad (Cambridge)

As the father of modern plastic surgery, Harold Delf Gillies holds a fascination for all plastic surgeons. Gillies worked with, and inspired a host of other plastic surgeons including McIndoe (his cousin), Mowlem and Kilner, the 'Big Four'; in turn they inspired others: thus was a specialty born. Fundamentally, plastic surgery is both art and science. In Gillies we find an innovator and a craftsman; no coincidence then for 'art' to appear in the title of his (entirely readable) book, 'The Principles and Art of Plastic Surgery' (1957). In this landmark text, he outlined his 10 Principles for Plastic Surgery. Subsequent decades found plastic surgeons at the cutting edge of advances in the full spectrum of surgical endeavour. Many techniques thereby devised have been adopted by other specialties.

Modern principles cannot be fully understood without historical context: generations later, are we in danger of losing sight of, and perhaps thereby forgetting to benefit from, our origins? Although many of the techniques have changed, we propose to show that today, 'The Principles' are still as relevant, indeed crucial, as they were 50 years ago, illustrated by clinical examples taken from the Gillies Archive (with permission) and related to modern concepts and procedures.

15:37 **Questions**

15:40 **Percy Hennell and his colour photos documenting WW2 plastic surgery**
Mr B Morgan, Mr J Carr (London)

The paper describes the almost unique method used by the photographer Percy Hennell to record, in colour print, the work of several plastic surgery units during World War 2. The BAPRAS archive has over 700 colour photos in near pristine condition. A selection of these will be used to show how satisfactory reconstructions were achieved prior to microsurgery

15:47 **Questions**

15:50 **Sixty-four years of the NHS: An old surgeon looks back**
Professor H Ellis

16:30 **Refreshments and exhibitions**

16:50 **McIndoe Lecture: Facial transplantation**
Dr M Siemionow

19:30 **Association Dinner: The Old Hall, Lincoln's Inn**

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FRIDAY 7 DECEMBER 2012

08:00 – 12:30

Combined day with the American Society of Plastic Surgeons

08:00 **Registration and refreshments**

08:25 **Welcome**
Dr G Evans and Mr R H Milner

Stem cells: Their place in surgery

Chairs: Mr D J Coleman, Dr M Neumeister

08:30 **Current status of stem cell research and potential for clinical application**
Professor G Terenghi

09:15 **Adult stem cells in plastic surgery: Biology and clinical use**
Dr G Evans

09:45 **Regenerative applications for healing: Burns, wounds and difficult problems**
Dr M Neumeister

10:05 **Application of regenerative medicine in hand and nerve surgery**
Dr M Neumeister

10:30 **Refreshments and exhibitions**

Stem Cells: Breast

Chairs: Mr A G B Perks, Dr G Evans

10:50 **Looking ahead- Changes in aesthetic surgery practice in 2020: Procedures, economics and competition (USA perspective)**
Dr R Rohrich

11:10 **Lipofilling in breast reconstruction**
Mr S McCulley

11:30 **Lipofilling in breast reconstruction**
Professor M Hamdi

11:50 **Fat grafting for the breast- is it safe?**
Dr G Evans

12:10 **Fat transfer: Issues and problems**
Panel Discussion.

12:30 **Lunch and exhibitions**
Industry Symposium: Sponsored by Integra (Webb Johnson Hall)
Soft tissue repair and regeneration for limb salvage in our wounded warriors with dermal matraices

12:30 **Breast Special Interest Group Meeting**

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FRIDAY 7 DECEMBER 2012

12:30 – 17:00

12:30 **Military plastic surgery**

13:55 **Presentation: The Ian McGregor Medal**
Awarded to Mr S Lo (March 2010) and Mr R A Pearl (September 2012)

Face-lifting

Chairs: Dr R Rohrich

14:00 **Facial rejuvenation surgery: The good, the bad and the ugly**
Mr B Jones

14:30 **My approach to face-lift surgery: The lift and fill face-lift – the importance of fat compartment augmentation in the modern face-lift**
Dr R Rohrich

15:00 **The MACS face-lift**
Professor M Hamdi

15:30 **Refreshments and exhibitions**

15:45 **Mid-face lifting**
Mr N Kirkpatrick

16:15 **Changing concepts in the necklift in face-lifting**
Dr R Rohrich

16:45 **Complications and problems in face-lifting: How to avoid and how to correct**
Panel Discussion

17:00 **Close**

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1. **Treatment of haemangiomas with propranolol: The Salisbury experience**
Miss S Abeysiri, Miss R Khundkar, Dr J Baird, Mr M Khan (Salisbury)

Introduction: Haemangiomas are the commonest tumour of infants. The majority of these spontaneously involute, thus most do not require any treatment, however some require treatment due to functional problems such as threat to vision or airway, local complications such as ulceration or by causing significant disfigurement. Traditionally, the treatment of these has been challenging. Recent reports have shown propranolol to be highly effective in successfully treating haemangiomas.

Methods: Patients with haemangiomas are treated jointly by plastic surgeons and paediatricians at Salisbury District Hospital. A retrospective review of all patients treated with propranolol was undertaken. All patients treated between January 2010 and June 2012 were included in the review.

Results: A total of 11 children were treated with propranolol. The majority showed a significant improvement. Our results show propranolol was more effective if treatment was started early, i.e. in the proliferative phase. For a small proportion of patients propranolol had not been effective. In this group treatment had been started relatively late.

Conclusion: Our results concur with existing reports that show propranolol to be highly effective for the treatment of haemangiomas. Early treatment was found to be useful in preventing significant functional and aesthetic complications.

2. **21 year follow-up of a DIEP flap: A tale of a 'Nulltiple'**
Mr R Arya, Dr C Healy, Professor J D Frame, Mr V Ramakrishnan (Chelmsford)

Introduction: Since the first description of DIEP free flap in 1994, the use of lower abdominal tissue has revolutionised reconstruction of the breast. We report our first case of breast reconstruction with what is presently known as DIEP flap, performed in 1991 at St Andrew's Centre for Plastic Surgery and Burns in Essex, UK.

Patient: A 40 year old woman underwent bilateral breast augmentation in 1970. Following this she had multiple implant-related complications and eight capsulectomy and exchange operations. These left her with significant volume loss and asymmetry in the right breast. A "right inferior epigastric artery free lower abdominal fat and skin flap" with "no muscle or sheath harvest" was performed by the senior authors to reconstruct her right breast in July 1991.

Pre-, intra- and post-operative photographs recorded in 1991 and the satisfactory long-term outcome in 2012 are presented.

Conclusion: This is the longest documented follow-up of a breast reconstruction using a DIEP flap. It is of interest to note that this case predates the publication of Allen and Treece and its evolution was independent of the work from New

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Orleans. We discuss the theory of "multiple discoveries" and unpublished multiples ("nulltiples") as well as the historical events surrounding the evolution of perforator flaps and this "nulltiple".

3. **Microsurgical reconstruction of complicated extended latissimus dorsi flap donor sites: A report of three cases**

Mr R Arya, Mr V Ramakrishnan (Chelmsford)

Introduction: The latissimus dorsi flap and its extended version are popular choices for reconstruction of the breast after mastectomy. Donor site complications such as seroma and wound dehiscence are relatively common with these flaps, however severe donor site healing problems requiring major surgical intervention are not reported in the literature.

Materials and Methods: We report three breast reconstructions with extended LD flaps in which the patients had severe and longstanding healing problems of the donor site. Simpler, routine measures failed and free tissue transfer was necessary to achieve healing.

Results: Two patients with non-healing donor site wounds were successfully treated by DIEP and ALT free tissue transfers. The third patient, with extensively tethered and contracted LD donor site scar limiting the shoulder movements, underwent excision of the scar and free ALT flap.

Conclusion: In slimmer patients with inadequate tissue on their back, the choice of the extended LD flap for reconstruction of relatively large breast volumes is likely to put too much strain on the vascularity and dynamics of the donor site. In such cases, the option of microvascular reconstruction should be chosen, to reduce the risk of such donor site morbidities.

4. **Case series: The reverse digital artery flap- A versatile option for fingertip reconstruction**

Mr I Basu, Mr D Markeson, Mr E Evgeniou, Mr S Iyer (Wexham)

Introduction: Reconstructing significant, volar, digital defects can be a challenging task. This study describes a versatile technique for raising large reverse digital artery flaps from the radial and ulnar borders of the palm to cover significant digital defects.

Methods: Flaps are based on the radial digital artery of the index finger or the ulnar digital artery of the little finger. Flaps are elevated from proximal to distal, the digital nerve is dissected free and a perivascular cuff of tissue is preserved to aid venous drainage. The artery is ligated proximally and the incision is extended along the mid-lateral aspect of the digit to facilitate release of the pedicle and reflection of the flap into the defect. Donor defects can usually be closed directly. Such flaps can be used homodigitally or heterodigitally to cover extensive defects of all digits.

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Results: We present three cases with accompanying images to demonstrate the versatility of this technique and the post-operative results that can be achieved.

Conclusion: The reverse digital artery flap from the palm is a versatile and effective single stage procedure used to reconstruct extensive digital injuries and is associated with minimal patient morbidity. These flaps should be considered for severe digital trauma.

5. Withdrawn

6. Sir William Arbuthnot Lane and his contributions to plastic surgery
Dr W Breakey, Dr J Mulliken (Boston)

At the turn of the twentieth century, before the advent of surgical sub-specialties, a general surgeon needed many attributes. Adaptation of basic surgical practice and an ability to stay current were paramount. Rapid change was occurring in both medicine and surgery. One controversial figure pushing the surgical boundaries was Sir William Arbuthnot Lane. Lane was a surgeon with an enviable dexterity and a free thinking mind and his ground breaking work left a lasting influence on surgical practice. He not only pioneered repair of cleft lip and palate, his legacy also included the 'no touch' surgical technique, internal fixation of fractures, open massage of the heart and the use of intravenous saline resuscitation. Beyond this technical prowess, he had a restless mind. He was the founder of The New Health Society, an organisation encouraging the natural food movement; he promoted 'radical' causes, like women's rights and free contraception. Sadly, in later life, his thinking drifted out of step with the times and his professional credibility waned. We hope that this reassessment of his achievements, may lead to a rehabilitation of his reputation.

7. Operation of a myoelectric-controlled interface as a potential rehabilitation therapy for facial nerve paralysis- A pilot study
Mr C T Brewster, Mr H Magill, Dr K Nazarpour, Dr M Lai, Mr D Sainsbury, Mr M Ragbir, Mr O Ahmed, Dr A Jackson (Newcastle upon Tyne)

Introduction and Aims: Facial nerve palsy is a potentially disfiguring condition associated with weakness and synkinesis in muscles of facial expression. Biofeedback with electromyogram (EMG) activity of facial muscles could be a potential treatment. We developed a novel biofeedback training method to assess flexibility of facial muscles compared to distal hand muscles.

Materials and Methods: Twelve subjects without facial nerve palsy made repeated movements of a myoelectric cursor, receiving scores that reflected the proportion of time they remained within elliptical or circular targets. Cursor position was determined by smoothed, rectified EMG from three muscle pairs. Facial muscle combinations included a natural synergist pair (orbicularis oculi-zygomaticus major) and an unnatural pair (orbicularis oculi-mentalis). In the hand, abductor pollicis brevis and abductor digiti minimi were paired. In some trials visual feedback was withheld.

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Results: This study demonstrated that control accuracy could be improved over four blocks of 100 tasks. Although lower in facial muscle pairs ($p<0.001$) compared to hand, performance of all muscle pairs improved at similar rates. Withholding visual feedback decreased performance of all muscle pairs comparably.

Conclusion: Improvements in all muscle groups suggest operation of the myoelectric-controlled interface may improve facial muscle control and consequently function in facial nerve palsy.

8. **Is routine histological analysis of mastectomy scars at the time of delayed breast reconstruction of limited clinical value?**
Miss K Canavan, Miss J Hughes, Mr S Wilson (Bristol)

Introduction: Routine histological analysis of mastectomy scars at the time of delayed breast reconstruction has been a topic of recent debate. In the absence of clinical signs, microscopic recurrence of malignancy is rare. The current study reviews histological data from a series of mastectomy scars, to add to the body of evidence on this topic.

Methods: Routine histology results were reviewed of 92 mastectomy scars excised from 85 consecutive patients undergoing free DIEP flap breast reconstruction, between September 2008 and May 2012. The cost of undertaking histological examination of mastectomy scars was also investigated.

Results: Of the 85 patients, 17 had bilateral reconstructions. Of these, 6 had a unilateral, delayed reconstruction with contralateral, prophylactic mastectomy and immediate reconstruction. The remaining 11 underwent bilateral delayed reconstructions. However, none of the 92 scars yielded, or demonstrated microscopic recurrence of malignancy. The cost of scar analysis was approximately £52.

Conclusions: The results presented support the growing body of evidence, suggesting a limited role for the routine histological analysis of mastectomy scars, especially considering all patients undergo additional pre-operative evaluation using CT-angiography. With potentially significant financial implications, the current study questions the need for this oncological surveillance in the absence of clinical signs of recurrence.

9. **Fleur-de-lis abdominoplasty: Our experiences**
Dr B L Choo, Miss C Yip, Mr A Wilmshurst (Dundee)

Introduction: The fleur-de-lis approach to abdominoplasty is indicated for patients who have undergone massive weight loss. It corrects complex body contour deformities more adequately than standard abdominoplasty. We present a short series of our unit's experience with this technique.

Methods: Records of patients who had undergone abdominoplasties in the unit between 2007 and 2011 were retrospectively reviewed, and a sub-group of fleur-de-lis procedures identified.

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Results: Of 25 female patients, aged 24 to 62, 17 had standard abdominoplasty, while eight had a fleur-de-lis approach. Among the eight patients who had fleur-de-lis abdominoplasty, 7 had had massive weight loss (> 6.5 stones). 10 of the 17 patients who had standard abdominoplasty had undergone weight loss of <6 stones. Mean operating time was 1 hour more and the mean hospital stay was 12 hours more for the fleur-de-lis technique. 50% of these patients had wound dehiscence as a post-operative complication. In contrast, only two of 17 patients reported wound dehiscence, secondary to a standard abdominoplasty. Other complications experienced with both techniques included seromas, skin necrosis, infection and persistent abdominal bulge.

Conclusion: We advocate fleur-de-lis abdominoplasty for patients who have undergone massive weight loss; care must be taken to avoid wound dehiscence at T-junctions.

10. Septic arthritis secondary to mucous cyst: A rare complication, but are we seeing more?

Mr J Cubitt, Mr N Bakti, Mr M Tyler (Aylesbury)

The structure of NHS funding is changing and operations that were previously common are being deemed of 'limited clinical value.' As a result of this rationing we have noticed changes in both our elective and our emergency work.

In the last three months we have seen two cases of septic arthritis secondary to untreated mucous cysts. Both patients presented with acutely infected fingers having had DIPJ mucous cysts for 3 and 12 months respectively. Case 1 had a septic arthritis and flexor sheath infection which required 2 surgical debridements, 5 days in hospital and a 6 week course of oral antibiotics. Case 2 had septic arthritis and osteomyelitis. She required 4 surgical debridements, 15 days in hospital, 4 weeks of intravenous antibiotics and 2 weeks of oral antibiotics.

Septic arthritis is a rare complication of untreated mucous cysts. The table below compares the cost of excising a mucous cyst electively with our 2 cases. Based on an average cost from the 2 cases (£7916) we can estimate that for every septic arthritis complication we can treat approximately 27 elective mucous cysts. Our cases highlight the risks of short sighted financial rationing ultimately costing the NHS more in the long term.

	Daycase	Case 1	Case 2
Theatre costs	£280	£560	£1120
Hospital stay costs	£0	£2500	£7500
Antibiotic costs	£0	£121	£850
Missed work	1 week	3 weeks	7 weeks
Total	£280	£3181	£9470

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11. Poly Implant Prostheses and their impact on a district general hospital

Miss I Dash, Mrs C Miller, Dr D Goddard, Mr J McIntosh, Mr R Sutton (Bath)

Introduction: Concerns regarding Poly Implant Prosthesis (PIP) breast implants' quality have resulted in extensive media coverage and public anxiety. We prospectively assessed these effects on our breast unit.

Methods: Our local primary care trusts agreed to fund additional clinics for women concerned with PIP implants. A prospective database was used to collate information.

Results: Sixty-one women were seen, 59 with PIP implants. Average time since operation was 67 months. Thirty-nine (66%) had implants inserted by Harley Medical Group or Transform Medical. Ultrasound scanning was performed for 52 women (88%) and 6 underwent Magnetic Resonance Imaging. Ten patients were found to have a single implant rupture (17%), 2 had bilateral rupture and 6 were found to have axillary silicone lymphadenopathy (10%). One patient had a clinically evident rupture. Currently 5 patients have undergone explantation, 4 with evidence of gel bleed.

Conclusion: In our experience PIP breast implants have a rupture rate in excess of that estimated by the UK Expert Review Panel[1] and is greater than published rates for other implants[2]. At this stage the majority of these ruptures are asymptomatic and clinically not detectable. It is evident that this problem is exerting a significant extra workload on our unit and the NHS.

1. Department of Health: Poly Implant Prostheses Breast Implants: Interim Report of the Expert Group. 6th January 2012
2. FDA update on the safety of silicone gel-filled breast implants. June 2011

12. Validation of the Memorial Sloan-Kettering Cancer Centre nomogram to predict the presence of sentinel lymph node metastases in an Irish melanoma cohort

Dr R Dolan, Dr S Potter, Mr E Beausang (Dublin)

Introduction: The presence of lymph node metastases is a very important prognostic indicator for cutaneous melanoma. We aim to validate a five factor nomogram, created at Memorial Sloan–Kettering Cancer Center, to predict the probability of metastases in the sentinel nodes of patients with cutaneous melanoma.

Patients and Methods: We performed a retrospective analysis of all consecutive patients (*n*=210) who underwent sentinel node biopsy following a diagnosis of cutaneous melanoma from 2008 to 2011. The nomogram was applied to assess the probability of sentinel node involvement in each patient. The discrimination of the nomogram was assessed by calculating the area under the receiver operating characteristics (ROC) curve.

Results: The overall predictive accuracy of the nomogram was 0.877 (95% confidence interval 0.801–0.931). Mean predicted probability of sentinel node

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metastasis in each group of patients correlated to the observed risk, with a strong concordance with the ideal line, (r=0.941; p<0.011).

Conclusions: The nomogram is a useful predictive tool that provides an accurate assessment of the probability of sentinel lymph node metastases in patients with cutaneous melanoma. We have validated its use in an independent cohort of Irish patients.

13. The management of animal bites in the UK

Mr E Evgeniou, Mr D Markeson, Mr S Iyer, Mr A Armstrong (Slough)

Introduction: Animal bites represent a significant health issue in the UK. The evidence in the literature regarding the management of animal bites is in many areas conflicting and unclear.

Methods: We performed a literature review on the management of animal bites and conducted a national UK survey using a questionnaire based on the available evidence within the literature.

Results: The available data in the literature suggests that appropriate wound management is the most important factor for prevention of infection in animal bites. Antibiotic prophylaxis should only been given in high risk wounds and primary closure should be performed in low risk wounds. The results from our survey show that 98% of plastic surgery units routinely use prophylactic antibiotics in all animal bite wounds. 58% close low risk animal bites primarily following initial washout and there are conflicting opinions regarding the management of associated fractures and soft tissue injuries.

Conclusions: The management protocols of many plastic surgery units often diverge from the available evidence within the literature. Based on our literature review, we present a guideline for the management of animal bites. Future studies should investigate the management of fractures and soft tissue injuries associated with animal bites.

14. The modified scar technique for young patients undergoing lengthening temporalis myoplasty

Mr M Hallam, Mr C Nduka (East Grinstead)

The lengthening temporalis myoplasty (LTM) is an effective dynamic facial reanimation procedure. However, for younger patients lacking a well-defined nasolabial fold, the LTM has the disadvantage of requiring a nasolabial incision to retrieve and inset the temporalis tendon.

The placement of an incision in the assumed future position of the nasolabial fold is possible, however until the fold develops the patient will suffer unaesthetic facial scarring or the fold's position may be miscalculated.

To avoid nasolabial scarring an alternative incision was developed, hiding incision lines along the alar crease, down the philtral columns and along the upper vermilion border of the lip. A subcutaneous dissection is performed

raising a flap towards the alar base and oral commissure before deepening the dissection through the SMAS and into Bichat's fat from which the temporalis tendon may be retrieved. The tissue flap can then be sutured maintaining the integrity of the vermilion and philtral column.

We have now performed this modified incision on several patients without defined nasolabial folds. The incision does not impede the operative procedure and produces an inconspicuous, cosmetically acceptable scar. We suggest this incision may also have applications for other surgeries that require access to the mid-face regions.

15. Patients' perceptions of breast implants following the Poly Implant Prothèse (PIP) scandal

Mr A J Hills, Dr P Y Wong, Mr C Bain, Mr M Soldin, Ms F Ali (London)

Introduction: The recent scandal surrounding Poly Implant Prothèse (PIP) implants has led to great anxiety amongst women with these implants in the UK. Revision surgery may cause significant morbidity in many of them. We present the results of a survey of patient perceptions.

Method: All women who received PIP implants under plastic surgery at St George's Hospital from 2000-2006 were invited to attend dedicated review clinics. A voluntary questionnaire was issued to all patients attending PIP clinics prior to consultation.

Results: 81 out of 104 patients attending clinic completed the questionnaire. 94% were NHS patients. 69% felt the NHS responded promptly to the scandal. 27% were more aware of breast symptoms, such as pain, after the news broke. 79% wanted explantation no matter what. However, 87% would consider implants again and 62% would recommend them to family or friends.

Conclusion: Our response as a specialty to this scandal is important if we are to maintain the confidence of our patients. Women with PIP implants should be offered explantation when requested. Proper discussion could save unnecessary distress and morbidity in patients. Interestingly, the majority of women affected by the scandal would still consider further implants or recommend them to others.

16. A prospective study of bite injuries: An analysis of the treatment and costs

Mr S Huq, Mr S George, Mr D Boyce (Morriston)

Introduction: This study aimed to assess the patient demographics, management and financial costs involved in managing these injuries.

Methods: Data was collected prospectively on consecutive patients with bite injuries over a 12-month period. The type of animal, nature of the injury, microbiological analysis, presence of infection, clinical outcomes and financial costs were investigated.

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Results: 103 patients (18 children) were treated during the study period with 67% and 23% of injuries resulting from dog and human bites respectively. 59% of bites were to the hand and 41% to the face. Bites in children almost always involved the face (84%). 82% of patients required surgical debridement. Tendon or nerve injuries occurred in 17% of patients and 7% sustained fractures. Pasturella multicodia was the most prevalent organism being present in 32% of cultures. 6% of patients developed wound infections during the follow up period. The average cost of surgical care per patient was £2022.

Conclusions: Both human and animal bites result in significant morbidity to the patient. Aggressive surgical management is necessary to minimise complications and this can result in substantial financial costs.

17. Reconstruction of the boutonniere deformity: A forgotten technique

Mr M A Hussain, Dr H Jhattu, Dr G McCarten (Canberra, Australia)

Introduction: Reconstruction of the central slip laceration is considered a significant challenge to hand surgeons. If not treated promptly, this could lead to long-term functional deficits with impairment of the patient's quality of life.

Various methods exist to reconstruct this deformity in the literature. Local tendon flap repair technique is unique and easy to perform, particularly in circumstances when tendon substance is missing or retracted, creating a gap, which can't be approximated directly. There is published data suggesting use of such a procedure, originally described 40 years ago with no further review. The aim of this article is to remind the readers of this technique that it is simple, easy to perform and cost-effective.

Methods: A retrospective case study of a patient with a boutonniere deformity undergoes central slip repair using the Snow technique. Schematic illustrations are used for step-by-step guidance.

Results: Outpatient follow-up was performed at regular intervals up to 12 months. Full range of movement was documented when compared to the non-operative hand, and normal power was elicited in all muscle groups.

Conclusion: This approach is more cost effective than the expensive Mitek stitch and also avoids those complications associated with the use of an implant. The method described uses local tissue only and hence distant donor site (tendon graft) issues are circumvented. This has been published in the literature 40 years ago with no further review. It looks to be a forgotten technique but practically it is very effective, with excellent results in the hands of the authors.

18. Augmentation reality as an adjunct to diagnosis of changing morphology in pigmented naevi: The potential use of a smart phone application

Mr M Javed, Mr J Yarrow, Miss S Hemmington Gorse (Swansea)

Introduction: Melanoma represents 63% of total skin cancer cost with early recognition giving the best chance of cure. We describe a free smartphone application (Dr Mole™) which utilises an augmentation reality interface to

assess and monitor naevi. The application identifies morphological features based on asymmetry, borders and colour; calculating an overall risk after manual input of diameter/evolution history.

Method: Ten lesions were assessed using the application. A consultant plastic surgeon's assessment was then undertaken on the same 10 lesions (using smartphone photographs, in identical lighting, only with data on diameter and evolution).

Results: Lesions were scored for overall risk 0-10 (10 suggesting higher risk). The application's assessment scores ranged 0-2 (mean 1.1 SD 0.74) and consultant scores 1-3 (mean 1 SD 1.0). A Pearson correlation coefficient of 0.85 suggested a close correlation between application and consultant assessed risk (with -1.0/+1.0 suggesting absolute correlation).

Conclusion: The application did show close correlation in overall risk assessment. However it does not account for factors including anatomical site, personal/family history of melanoma or sun exposure and showed variable scoring dependent on ambient lighting, hair bearing skin and an inability to analyse larger melanocytic lesions. It highlights the potential of augmented reality in skin assessment but requires further development.

19. The use of chemotherapeutics for the treatment of keloid scars

Dr C Jones, Dr M Samy, Mr H Tehrani (Liverpool)

Introduction: Keloid scars are pathological scars, which develop as a result of exaggerated dermal tissue proliferation following cutaneous injury and often cause physical, psychological and cosmetic problems. Various theories regarding keloidogenesis exist, however the precise pathophysiological events remain unclear. Many different treatment modalities have been implicated in their management, but currently there is no entirely satisfactory method for treating all keloid lesions.

Method: Non-randomised trials evaluating the influence of different chemotherapeutic agents, such as 5-fluorouracil (5-FU); mitomycin C; bleomycin and steroid injection, either alone or in combination with other chemotherapeutic agents or alternative treatment modalities, for the treatment of keloid scars were identified using a predefined PubMed™ search strategy.

Results: Twenty seven trials were identified. Scar improvement ≥ 50% was found in the majority of cases treated with 5-FU, with similar results found for mitomycin C, bleomycin and steroid injection. Combined intralesional 5-FU and steroid injection produced statistically significant improvements when compared to monotherapy.

Monotherapy recurrence rates ranged from 0-47% for 5-FU, 0-15% for bleomycin and 0-50% for steroid injection. However, combined therapy in the form of surgical excision and adjuvant 5-FU or steroid injections demonstrated lower recurrence rates; 19% and 6% respectively.

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Conclusions: Currently, most of the literature supports the use of combination therapy (usually surgery and adjuvant chemotherapy) as the mainstay treatment of keloids, however further investigation is necessary to determine success rates over longer time frames. Furthermore, there is the potential for novel therapies, but further investigation is required to elucidate their true efficacy.

20. Health promotion and burns prevention: A visual aid for local communities

Miss M Kang, Miss C Porter, Miss V Galsworthy, Miss R Agarwal (Leicester)

To aid in the health promotion of people and communities we are presenting a visual aid in the form of a poster to be circulated to our local population, including sure start centres, mother and toddler groups, pre-schools, fire services and GP practices.

This poster aims to highlight the basic first aid of a burns injury, along with hazards and useful preventative measures. This is a colourful, graphic visual aid which uses common symbols/pictures that can be easily interpreted by a wide population.

Despite evidence and information, it has been observed that patients are still not aware of simple first aid measures in burn care. It is our aim that this poster be distributed to each household nationally via the support of the postal service to be used as a preventative tool in the fields of burn care and management.

21. The superior reconstruction for the superior breast

Mr R Kerstein, Mr S Mashhadi (London)

Introduction: Many techniques have been described for reconstructing the soft tissue defects of the chest wall. Local options tend to give the best aesthetic match, however, they have limitations. They create local scars because the donor site abuts the defect. Secondly, due to alteration in tension as these flaps are moved, they can distort the local anatomy, specifically the breast.

We present a novel flap for the superior chest wall and its use in the case of a 24 year-old girl after Mohs excision of a DFSP.

Case Report: The 10.5 x 8cm defect was in the mid-clavicular line, and involved the skin over the superior aspect of the breast. The reconstructive options were limited as inferior based flaps would alter the breast shape, midline scars would be affect her cleavage, superiorly based flaps would have left significant visible scars crossing the clavicle and onto the neck.

We devised a modification on de Coninck's lateral thoracic perforator flap (LTPF), which created a good colour and contour match, whilst hiding the donor scar within the axilla.

Conclusions: We present a modified LTPF which is an ideal option when reconstructing the superior anterior chest wall without distorting the breast shape.

22. Comparison of the outcomes of flap versus graft repair following excision of skin cancer lesion on the lower limb

Miss S Kim, Mr Q Frew, Professor P Dziewulski (Chelmsford)

Introduction and Aims: Excision of skin cancer lesions often results in deficit that cannot be closed directly. These are repaired with local flaps or skin grafts. We aimed to compare the surgical outcomes in terms of a flap versus a graft repair to close the deficit in the notoriously difficult area of the lower limbs.

Methods: Malignant melanoma cases were excluded due to the requirement of further treatments needed. Patients who underwent excision of non-melanoma skin cancer on the lower limb (ankle to the knee) for the last 5 years were identified. Data gathered included patient demographics, co-morbidities, length of stay, histological diagnosis, surface area of the deficit and post-operative complications in both groups.

Key results: 126 patients were identified (age 77.1 ± 10.3 years) with a total of 129 lesions (67 grafts, 62 flaps). The demographics and the prevalence of co-morbidities were statistically similar in both populations. Reported post-operative complications (infection, readmission, failure and delayed wound healing) were reduced significantly in the flap group. 23% of patients reported complications following flap repair compared to 40.6% in a graft group ($p<0.03$).

Conclusion: Flaps are preferable over grafts not just for the lower post-operative complications rate but also the associated costs.

23. The use of lateral redundant tissue for breast augmentation in post bariatric patients

Mr O Koshy, Mr A Mishra, Mr K Graham (Liverpool)

Introduction: The reconstruction of breast in massive weight loss patients presents specific challenges. In addition to significant breast ptosis and loss of breast volume, bariatric patients also have excessive lateral axillary tissue that may require dermolipectomy for correction. We present the use of this redundant tissue as horizontal and oblique ICAP flaps in three patients with massive weight loss.

Methods: Three patients who had undergone massive weight loss requested breast reconstruction to correct breast ptosis, restore breast volume and to excise redundant axillary folds. They were offered mastopexy and autologous augmentation with ICAP flap plus silicone implants only if required. The age of the patients ranged from 32 to 80 years.

The mastopexy was designed to incorporate pedicled deepethialised fasciocutaneous flaps based on the intercostal artery perforators (ICAP). All three patients underwent mastopexy with ICAP flap augmentation as a horizontal and oblique pattern.

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Results: All three patients have stable and aesthetically pleasing results. There were no complications of infection, wound dehiscence, seroma or hematoma. Furthermore, there was no evidence of flap loss or tissue necrosis.

Conclusions: Mastopexy with autologous augmentation using the ICAP flaps is a reliable which is otherwise redundant and disfiguring.

24. Sailing boat technique for nipple reconstruction using autologous coastal cartilage in DIEP breast reconstruction.

Mr O Koshy, Mr A Mishra, Mr K Graham (Liverpool)

Introduction: Numerous techniques have been described for nipple reconstruction One of the common problems after nipple reconstruction remains the loss of nipple projection. Reconstruction techniques include local adipocutaneous flaps with or without cartilage grafts. We describe a technique of using banked coastal cartilage harvested at the time of preparing recipient intra-mammary vessels. The shape of the carved coastal cartilage is made into a 'sailing boat' whereby the 'boat' provides the basal support to prevent the nipple reconstruction to sink into the breast tissue and 'Sail' part of the construct provides projection.

Patients and Methods: This is a retrospective review of a case series of 10 nipple reconstructions undertaken between April 2011 and March 2012. At first stage, coastal cartilage harvested at the time of recipient intra mammary vessel preparation was banked in the infra-mammary fold of DIEP breast reconstruction. During the nipple reconstruction this banked coastal cartilage was carved like a sailing boat around which a modified arrow flap for nipple reconstruction was wrapped.

Results: The follow up varied from 3 months to 1 year. All patients maintained projection with high patient satisfaction.

Conclusion: The technique of placing carved coastal cartilage within a skin flap nipple reconstruction can provide pleasing results with maintenance of projection.

25. Life can't be any easier than this: Introduction of the portable and disposable VAC machines

Dr J Li, Mr M Hussain, Dr L Kuruppu, Dr H Jhattu, Dr C Ying,
Mr S Wharton (Canberra)

Introduction: Negative pressure on wounds has shown to accelerate evacuation of dead cells, debris and fluid, and encourages wound healing. Vacuum Assisted Closure (VAC) therapy is now used globally to assist healing in a wide variety of wounds. However, the machines are expensive, with hospitals often leasing them, and require a specialised expert in managing VAC machines in the community. Nevertheless, a novel disposable VAC machine has been introduced as a cost effective alternative. It is a single use machine, inclusive of a dressing and canister.

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Methods: A retrospective case study regarding a patient presenting with pre-tibial abscess on the right lower leg was undertaken. Following debridement, he was placed with a disposable VAC and discharged on day of surgery. A questionnaire study was performed and their feedback regarding the use of the disposable VAC was analysed.

Results: We divided the patients in 3 groups, who underwent similar procedures and compared costs in the use of traditional VAC machines versus the disposable VAC. The cost of hospital stay was also considered. Disposable VAC was found to be statistically significant in cost improvement.

Conclusion: Patient reviews were favourable towards the use of the disposable VAC. Furthermore, the purchase of disposable VAC was a cost effective alternative, rather than relying on in-patient VAC therapy.

26. Burning HOT: Revisiting guidelines associated with home oxygen therapy

Miss E Litt, Dr R Ziesche, Dr W Happak, Dr D Lumenta (Liverpool)

Burn injuries secondary to home oxygen therapy (HOT) have become increasingly common in recent years, yet several guidelines for HOT and chronic obstructive pulmonary disease (COPD) neglect to stress the dangers of open flames. This retrospective review of burn injury admissions secondary to HOT to our burn centre from 2007 to 2012 aimed to establish the extent of this problem and to discuss the current literature and a selection of national guidelines.

Out of six patients (five female, one male) with a median age of 72 (range 58-79), four were related to smoking, and two due to lighting candles. The mean total burn surface area (TBSA) affected was 17% (range 2-60%). Five patients sustained facial burns, two suffered from inhalation injury (33.3%), and five required surgery (83.3%). Mean total length of stay was 20 days (range 8 to 33), and one patient died.

Although mentioned in the majority, some guidelines fail to address the issue of smoking in light of the associated risk for injury, which in turn might have future implications in litigation related to iatrogenic injuries. Improved HOT guidelines will empower physicians to discourage smoking, and fully consider the risks versus benefits of home oxygen before prescription. With a view on impeding a rising trend of burns secondary to HOT, we suggest revision to national guidelines, where appropriate.

27. The hidden danger of the human "fight bite"

Ms N Lloyd (Kingston upon Thames)

Introduction: Bites are a common presentation in A&E departments with 8500 per year. Of these 5% are human bites. Most are hand injuries, commonly to young males involved in fights. The "fight bite" injury to the hand is traumatic to both individuals involved and blood is commonly drawn on both sides. Plastic surgeons become involved to repair the physical trauma and to manage the resulting bacterial infections. The risk of viral transmission, however, is often overlooked.

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Methods: A retrospective review of five years of "fight bite" injuries referred to a plastic surgery unit in a major trauma center in south London was undertaken. This showed that human bites were common with approximately 1 admission per month. It also showed that surgical management of these injuries and treatment of bacterial infection was good. The risk management of viral transmission was however poor.

Results: 61 patients were admitted over 5 years. 100% of patients received correct antibiotics, 30% were given Hepatitis B immunisation and 5% were discussed with the virology team. 10% had documented follow up plans for blood borne virus management.

Conclusion: A simple structured pathway for appropriate management of "fight bite" patients should include risk reduction of viral transmission. A proposed protocol would help plastic surgeons achieve best patient care.

28. Antibiotic prophylaxis in the plastic surgery department: Closing the audit loop

Mr G Lye, Mr A Ghattaura (Swansea)

Introduction: SIGN 104 stipulate if antibiotics are indicated, a single dose is usually required. Administration should be 30 minutes before surgery. No evidence supports a prolonged course over a single pre-operative dose.

Aims: To establish our department's prophylactic antibiotic prescribing practice compared to the current guidelines.

Methods: An audit of trauma (*n*=58) and elective (*n*=20) admissions to the department over 1 week was performed. Departmental guidelines were established based on SIGN 104 and the current evidence base. A re-audit was performed of trauma (*n*=55) and elective (*n*=28) admissions over 1 week.

Results: Antibiotics prescriptions reduced from 79% (*n*=41) to 61% (*n*=33) of trauma and from 55% (*n*=11) to 41% (*n*=12) of elective cases. Co-Amoxiclav was predominantly prescribed in each audit. Inappropriate Co-Amoxiclav prescriptions reduced from 51% (*n*=18) to 28% (*n*=9) of trauma and 33% (*n*=3) to 9% (*n*=1) of elective cases. Inappropriate antibiotic doses in the re-audit included 12 post-operative courses in trauma and 1 post-operative course in elective cases.

Conclusion: Infection rates did not alter after the introduction of local evidence-based guidelines. Inappropriate prescriptions cost £76.33 initially and £22.55 in the re-audit, representing an annual saving of £2796.56. A further £1172.60 per annum could be saved. These guidelines are safe and financially beneficial.

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29. The use of blood transfusions in elective plastic surgery: A study of 955 patients and discussion of the implications.

Mr N Marsden, Mr I Thomas, Mr I Whitaker (Swansea)

Introduction and Aims: Bilateral breast reduction (BBR) and abdominoplasty are common elective plastic surgery procedures, with the burden likely to increase following bariatric surgery. The transfusion rate in the literature is around 5%. Many patients are routinely group and saved pre-operatively. Our aim was to quantify the use of blood products in these patients and to compare our practice with other units in the UK.

Method: A retrospective study of all patients undergoing elective abdominoplasty and BBR between February 2004 and November 2010 was performed. A telephone survey was carried out to assess the protocol in 50 other units in the UK.

Results: 955 patients were identified (457 abdominoplasties and 498 BBRs). A total of 38 patients were transfused (3.9%).

Abdominoplasties: 32 needed transfusions (7%), mean number of units was 3.1 (range 1–7). Only 3 required blood on the day of the operation (0.7%). 11 patients were returned to theatre for haematoma drainage (2.4%), 8 of which required transfusions.

BBRs: 6 required transfusion (1.2%), mean number of units was 2.3 (2–4). No patients required transfusion on the day of procedure. 8 patients returned to theatre for haematoma drainage (1.6%), of which only 1 required transfusion.

Of the 50 units surveyed across the UK, 47 (94%) routinely group and save for abdominoplasty and 26 (52%) for BBR.

Conclusion: Our results demonstrate a very low transfusion rate in these patients which suggests that a pre-operative group and save is not required routinely. We make suggestions for selective pre-operative blood sampling and outline possible cost savings.

30. Bites: A surgical emergency?

Dr F Marlborough, Miss E Murray, Mr P Addison (Livingston)

Introduction: Assumption is that bite wounds are infected at presentation and should undergo emergency surgical debridement. In busy units it can prove difficult to operate within 24 hours of injury. Most start treatment with antibiotics in the meantime.

Objectives: To compare the outcomes in patients having early (<24 hours post injury), delayed (24-48 hours post injury) and late (>48 hours post injury) surgical debridement.

Method: An audit was performed on bite injury admissions to the regional plastic surgery unit over 12 months.

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Results: 56 patients were identified. 50 went to theatre (23 early (41.1%), 15 delayed (26.8%) and 12 late (21.4%)). 6 patients (10.7%) were not taken to theatre, because their wounds improved with initial intravenous antibiotics. A "poor outcome", defined as persistent infection after initial surgical debridement, occurred in 4/23 patients (13.0%) in the early group, 0/15 (0%) in the delayed group and 4/12 (33.3%) in the late group. Within this late group most patients presented later because of infection, rather than structural damage due to the bite itself.

Conclusion: In systemically well patients without deep structural damage intravenous antibiotics may allow surgery to be delayed, or even avoided. In all patients we recommend wound washout on the ward.

31. Pearls and pitfalls of the modified Camitz opponensplasty

Mr R Naeem, Mr A Lahiri (Oldbury)

Thumb opposition is an essential movement for accurate grasping and complex hand movements. In long standing carpal tunnel syndrome there is weakness and wasting of the muscles supplied by the median nerve, namely the abductor pollicis brevis, opponens pollicis and partly the flexor pollicis brevis. The result is a loss of palmar abduction and opposition, ultimately leading to functional disability. The Camitz procedure is a simple tendon transfer for patients who have loss of opposition in long standing carpal tunnel syndrome. Historically the Camitz procedure restored abduction only, however, through modification with the use of a pulley, the ideal axis of opposition can be achieved. This poster aims to describe our surgical technique of the modified Camitz procedure in a patient with severe thenar wasting and weakness secondary to median nerve compression. Through high definition intra-operative photographs we will describe the procedure step by step. In addition we will review the indications, contraindications, complications and post-operative rehabilitation.

32. A classification system to guide orbito-zygomatic reconstruction in Treacher-Collins Syndrome

Mr D Nikkhah, Mr B Green, Mr C Ruff, Mr A Ponniah, Mr D Dunaway (London)

Introduction: A range of procedures have been described to correct the orbito-zygomatic deformities in Treacher Collins Syndrome (TCS). Due to the wide phenotypic variation in TCS surgical approaches should be individualised. Calvarial autograft and malar osteotomy have both been described to correct the defects.

We aimed to introduce a classification system based on patients at our institution to help guide treatment.

Methods: The Great Ormond Street Hospital database was retrospectively searched for terms 'Treacher Collins' and 'Mandibulofacial dystosis'. 13 patients were identified with un-operated 3D CT scans and classified accordingly.

Classification: 5 variations were noted:

Type 1: Entire orbito-zygomatic complex present but dysplastic.

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Type 2a/2b: Hypoplastic zygomatic body with vestigial zygomatic temporal process – lateral orbital wall dysplastic 2a or absent 2b
Type 3: Hypoplastic zygomatic body with absence of temporal zygomatic process –lateral orbital wall dysplastic
Type 4: Bilateral complete absence of orbito-zygomatic region
Type 5: Asymmetric

Discussion: Our classification system illustrates the varying severity of the zygomatic hypoplasia and helps individualise treatment in TCS patients. We believe this variation reflects the different extents of neuroectodermal apoptosis during embryological development.

33. Quality of life having survived necrotising fasciitis

Miss J Pikturnaite, Mr M Soldin (London)

Introduction: Quality of life (QoL) review in patients having survived necrotising fasciitis is presented: physical and psychological wellbeing, self-perception of appearance and ability to social integration based on scores of Short Form-36 (SF-36) and Derriford Appearance Scale-24 (DAS-24) are discussed.

Methods: Data were collected on patients' demographics, progression and management of the condition; survivors were sent the SF-36 and DAS-24. Long term QoL and ability of adjustment to visible disfigurement were analysed.

Results: Of the 36 patients identified (mortality rate 36.1%), 19 were included in the study (mean follow up time 38.8 months). 52.6% (*n*=10; female:male=2:8; mean age 55.9 years) returned completed questionnaires.

The average score of the 8 domains assessed by the SF-36 was 65.8%. The highest count was attributed to social functioning (76.3%), lowest to the level of fatigue (54.0%). Ability of adjustment to visible disfigurement (DAS-24) was on average scored at 38/96 points (range 20-64).

Conclusions: Despite the severity and high morbidity of the condition, survivors from necrotising fasciitis were found to have satisfactory physical health and few psychological problems in their daily social functioning. Patients scored their distress owing to physical disfigurement at the level close to that of unaffected population.

34. Lower limb fasciotomy wound closure: Early primary skin grafting reduces patient morbidity and hospital stay

Mr G Price, Mr B Fogarty (Belfast)

Introduction and Aims: Fasciotomies are emergency procedures performed to treat compartment syndrome. The method of fasciotomy wound closure was contentious, being subject to clinical judgment and availability of plastic surgical expertise. This study examined three fasciotomy wound closure techniques, including delayed primary wound closure (DPC), dynamic wound closure (DWC) and finally primary split skin grafting (SSG).

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Materials and Methods: A retrospective chart review of patients with fasciotomy wounds was performed. Using non-parametric analysis, relevant data on patient, injury and closure outcomes was analysed between the treatment groups.

Results: 100 patients with 188 wounds were analysed. The DPC group had the shortest time to achieve wound closure but with a 15% complication rate. The DWC group's healing time was the same as the SSG group but with a complication rate of 55%. No complications were noted in the SSG group. The SSG group had a longer hospital stay (p=0.035) but only had skin grafting performed on day 7. The DWC group had increased requirement for re-operations (p< 0.05) and delay in discharge (p <0.05).

Conclusions: The results demonstrate that dynamic methods of fasciotomy wound closure are associated with a significantly higher morbidity, re-operation rate and prolonged hospital stay and would support early skin grafting to reduce complication rates.

35. Cross cultural comparison of granulomatous masitis- Presentations and management across the UK, UAE and Brunei

Mr M K Quraishi, Dr K Kok, Dr H Badsha, Dr H Kazim (Birmingham)

Introduction and Aims: Granulomatous Mastitis (GM) is a rare benign inflammatory lesion of the breast, which often mimics cancer clinically. Only sparse evidence is available on the cross cultural presentation and management of this condition and we wanted to study how this differed across varying population groups.

Methods: The two largest published case series on GM were compared against our findings in the UAE. Excerpts from the UK and Brunei study were taken with kind permission from the authors.

Results:

Presentation features	UK Patients	UAE Patients	Brunei Patients
Number of patients	18	23	43
Median age at symptoms (years)	36	37.5	34.5
Presenting with features of inflammatory breast abscess	14(78%)	18(78%)	13(30%)
Right breast lesion	7(39%)	11(50%)	17(39%)

Demographics	UK Patients	UAE Patients	Brunei Patients
Caucasian	10(56%)	1(4%)	0(0%)
Asian	5(28%)	8(35%)	43(100%)
Middle Eastern	1(5.5%)	14(61%)	0(0%)
Afro Caribbean	2(11%)	0(0%)	0(0%)

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Investigations	UK Patients	UAE Patients	Brunei Patients
FNA	5(27%)	13(57%)	23(53)
Core biopsy	16(89%)	17(74%)	4(9%)
Excision biopsy	2(11%)	5(22%)	18(42%)
Ultrasound	12(67%)	19(83%)	22(51)

Treatment and Recurrence	UK Patients	UAE Patients	Brunei Patients
Antibiotics usage in	13(72%)	18(78%)	21(43)
Steroid usage in	4(22%)	14(61%)	3(7%)
Surgery in	11(61%)	5(22%)	40(93)
DMARD usage in	0(0%)	5(22%)	0(0%)
Recurrence	3(17%)	8(35%)	10(23%)

Conclusion: GM is consistently present across the various ethnicities but are often treated with different modalities.

36. A point of technique: The poke test in lower limb fasciotomy- A potentially limb saving tip

Mr S Rahman, Mr S Atherton, Professor I Pallister (Swansea)

Introduction and Aims: Delayed or incomplete fasciotomy may result in limb loss of or even death in severe polytrauma. The angiosomal blood supply of the anterior compartment renders it particularly vulnerable if not correctly decompressed. Swelling and local trauma distort anatomy significantly, making it possible to 'miss' the intended compartment without some simple means of double-checking.

Method: After entering the deep fascia, a finger is inserted and advanced towards the mid-line, superficial to the muscle - but deep to the fascia. If the finger is in the anterior compartment, it will touch the tibia easily. If however, the finger is in the lateral compartment - this will be impossible. Furthermore, if the direction of the finger is reversed and advanced, the fibula will be felt. It is imperative to 'poke' the finger in, and never to sweep it along the length of the wound. This would avulse perforators, with potentially disastrous results.

Conclusion: By using this simple poke test, the surgeon can identify swiftly and with certainty which compartment they have entered and decompressed.

Diagram and Legend: The surgeon's finger (a) has been introduced through an incision, confirming the anterior compartment. The finger (b) confirming entry into the peroneal compartment.

37. Breast volume- validation of a commonly used technique

Mr T Reekie, Miss E Wharton, Mr P Sugden (Durham)

Introduction and Aims: Breast size estimation during breast surgery is required to produce a symmetrical result. Anecdotally, breast surgeons gauge this by

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feeling both breasts to judge volume discrepancy, as well as looking from the end of the operating table. As far as the authors are aware, this "feeling" technique has not been validated as an effective method. This study aims to establish the accuracy of "feeling" in establishing breast volume discrepancy in a non-living model.

Materials and Methods: Various known volumes of water were used to fill water balloons (from 550ml to 610ml) which were placed in a closed box with holes cut to allow for examination. Consultant surgeons, registrars, junior doctors and nursing staff were asked to feel two balloons in the box and judge if there was any volume discrepancy between the two balloons. This was repeated three times for each volume.

Key Results: Many of those examined were able to accurately and reliably distinguish between a 10ml volume, although this does not appear to be related to the operative experience of those being examined.

Conclusion: From this, it can be assumed that "feeling" the breasts is a valuable part of ensuring breast symmetry during breast reduction.

38. Pre-operative thrombotic complications of neoadjuvant chemotherapy for breast cancer: Implications for immediate breast reconstruction

Miss K Richards, Dr A Johnston, Mr P Forouhi, Mr C M Malata (Cambridge)

Introduction: Thrombotic complications arising during the treatment of breast cancer can impact the breast reconstruction pathway. We set out to review the details of cases of thromboembolism occurring during neoadjuvant chemotherapy and peri-operatively to study the impact of the event and its management on subsequent breast reconstruction.

Methods: We retrospectively reviewed the medical records of six patients who had experienced a thrombotic event during their treatment of breast cancer between 2008 and 2012, who then proceeded to breast reconstruction. We recorded size and grade of tumour, neoadjuvant chemotherapeutic regimen, details of port insertion, planned reconstruction, thrombotic event and its management and the surgery performed and outcome.

Results: All patients received chemotherapy via central venous access and went on to present with local symptomatic thrombosis. They were managed with anticoagulant regimens at the time of mastectomy and reconstruction, which were unique for each patient. The results revealed delays to surgery, modifications to planned reconstruction and post-operative bleeding complications.

Conclusion: An awareness of the effects of thrombotic events in this patient group is important in terms of developing an understanding of its impact on the performance of reconstruction, on the management of anticoagulation peri-operatively and on monitoring for post-operative complications.

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39. A literature review of the facial foramina encountered in craniofacial surgery

Mr I Saeger, Mr H Naveed (London)

Introduction: Oromaxillofacial surgery relies on the accurate location of the facial foramina to achieve effective regional anaesthesia. In the past 20 years, substantial literature has been published assessing the positional and morphological variation of the mental, infraorbital and supraorbital foramina in different populations.

Aim: We present a literature review analysing the variation in morphology and location of the supraorbital, infraorbital and mental foramen with respect to ethnicity and gender.

Methods: The Pubmed database was used to search for relevant articles published between 1991 and 2012. Our search terms included 'supraorbital notch', 'supraorbital foramen', 'infraorbital foramen' and 'mental foramen'. We selected anatomical studies that measured the position of the facial foramina with respect to established landmarks.

Results: We identified 48 qualifying articles of which 33, 19 and 15 discussed the mental, infra and supraorbital foramen respectively. Significant variation in the position and morphology of the facial foramina was identified. This highlights paucity to precisely predict position of these foramina.

Conclusion: Popular landmarks are used to predict the location of the facial foramina in different ethnicities due to an absence of a gold standard measure. In light of this we have reviewed the literature to determine relevant landmarks and measurements applicable to gender and different ethnicities.

40. An audit of target time to theatre for non-elective plastic surgery admissions

Dr L Safarfashandi, Mr R Young (London)

Objective: The National Confidential Enquiry into Patient Outcome and Death has provided the CEPOD guidelines, giving target times for patients to be on the operating table, based on triage status. An audit was undertaken to assess whether CEPOD targets were achieved.

Methods: All emergency plastic surgery cases within main theatres and the hand management unit (HMU) between 7 March 2011 and 31 August 2011 were reviewed. 13 cases with inappropriate CEPOD classifications were excluded and 13 were re-classified. "Immediate", "Urgent" and "Expedited" categories were given target times of 15 minutes, 24 hours and 72 hours respectively.

Results: 1719 emergency plastic surgery patients were identified, 1016 in main theatres and 703 in HMU. The single "Immediate" case was in theatre within 15 minutes. 93% of the "Urgent" cases were operated on within 24 hours and the remaining 7% within 36 hours. 100% of "Expedited" cases were operated on within 72 hours.

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Discussion: Target times were met in 100%, 93% and 100% of Immediate, Urgent and Expedited cases respectively. The 7% delay may have resulted in increased length of hospital stay, at £597 per night, total maximum cost of £42500 may have been incurred.

Recommendations: implementation of a CEPOD classification education program at the start of each junior doctor rotation, reducing delay seen, aiming for 100% compliance.

41. Technology 'app'-lied to patient reported outcomes

Miss K Sharma, Miss K Steele, Miss P Muthayya, Mr S Alexander, Mr W Lam, Mr J Miller (Sheffield)

Introduction: Patient Reported Outcome Measures (PROMs) are vital healthcare indicators in today's NHS. Paper-based questionnaires are fraught with acceptability issues and require dedicated personnel and resources. We aim to share our experience of developing and implementing a novel iPad application 'PROMappS-Hand' (Patient Reported Outcome Measures application Sheffield)- for routine use in our plastic surgery unit.

Methods: We incorporated the site-specific 'POS-Hand/Arm' PROM with generic (EQ-5D and HowRU) and experience (HowRwe) domains into a user-friendly iPad application, the 'PROMappS-Hand'. Patients completed the electronic survey pre- and post-operatively with direct data transfer to an electronic database. Completeness of data and ease of administration was compared to a previous patient cohort that utilised a comparable paper-based questionnaire.

Results: Implementation of 'PROMappS-Hand' guaranteed a near-complete dataset and enabled immediate visualisation of results. In contrast the paper-based version achieved a 46% completion rate and required additional administrative support. The iPad application streamlines data collection, retrieval and analysis for research and audit purposes.

Conclusions: This study demonstrates the integration of modern technology for sustainable patient-centered evaluation of surgery. The modular structure of the application permits adaptation for other plastic surgery subspecialties. 'PROMappS' has potential to improve future quality of care and patient experience in plastic surgery.

42. Surgical staple as a transcutaneous transducer for ECG electrodes in burnt skin: Safe surgical monitoring in major burns

Mr S Sofos, Mr H Tehrani, Mr K Shokrollahi, Mr M James (Prescot)

Introduction and Aims: We present a reliable solution for electrocardiogram monitoring in severely burned patients. We suggest the insertion of a skin staple with subsequent secure attachment of a crocodile clamp electrode. We have found this solution to be resilient to mechanical factors and blood/liquid challenges, to the pleasure of anaesthetic colleagues.

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Material and Methods: There are two components to our apparatus: a) a standard ECG adaptor used for ECG testing; and b) a standard "crocodile" clip which is used to clip on to the staple, which in turn is placed on the patient. The crocodile clip has a hollow end in which the ECG adaptor inserts.

Key Results: Traditional stick-on electrodes often dislodge or cannot be placed due to a number of factors including:

- Traditional placement within the operative site
- Operative site is large
- Sterility being compromised by placement
- Stick-on pads would be unable to stick due to prep solution, bleeding and other factors

Conclusion: We demonstrate the use of a staple or "clip" where the ECG electrode is attached. This technical improvisation gives clinicians the ability to monitor safely and accurately the patients' physiological parameters.

43. Free and shared educational resources for FRCS(Plast)- A new initiative

Mr J Taylor, Mr N Segaran, Mr N Cavale (London)

Introduction and Aims: The website 'www.frcsplast.com' is a gateway to an invitation-only collection of senior plastic surgeon's notes, which have been placed in a Dropbox™ file. The notes are free and aim to provide all the key information to pass the exit examination.

To date, over 300 trainees have registered, however there has been no formative assessment as to whether they have found it to be a useful tool to aid their revision.

Materials and Methods: A questionnaire was sent out to each of the registered trainees. We assessed the stage of the trainee, whether they had passed their examination and if they found the files to have been useful.

Key Results: 66 surveys were completed, with 81% of those answering being based in the UK. 91% of those who had passed their exit examination found that the resources helped them to pass, and 99% said they would recommend it to a colleague.

Conclusions: Providing a free, invitation-only resource, is an excellent initiative to aid trainees. Those who have access to the files have benefited greatly.

Shared resources can benefit trainees and we suggest that this model should be adopted by other specialties. This resource fosters communication, collaboration and goodwill.

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44. Percutaneous cannulated screw fixation for comminuted head or neck metacarpal fractures- A case series

Miss V Teoh, Mr R Tejero, Mr J Ahmed, Mr M James (London)

Introduction: We describe a novel technique for the percutaneous fixation of unstable metacarpal head or neck fractures.

These fractures are challenging with little or no extra-articular bone available to achieve fixation. Current techniques include percutaneous and intramedullary K wire fixation, or open reduction and plate fixation.

Methods: We present 3 cases using cannulated headless compression screws to achieve fixation and allow immediate mobilisation.

With the metacarpophalangeal joint flexed to 90 degrees, the metacarpal head is exposed via a 10mm incision and extensor tendon split. Following reduction, temporary fixation is achieved with a K-wire passed through the head into the medullary cavity. A headless, cannulated screw is inserted, through the articular surface and buried within subchondral bone. The MPJ haematoma is washed out and the extensor closed with PDS 4/0. Early active motion is commenced immediately.

Results: At six weeks following surgery, all patients regained functional, pain-free, active range of movement. The mean MCPJ flexion was 90 degrees, with no patients exhibiting extensor lag. No complications developed.

Conclusion: The use of percutaneous cannulated screw fixation techniques for closed, metacarpal fractures is limited. Our experience shows this to be a simple and potentially superior technique in the management of metacarpal head and neck fractures.

45. Demonstrating the need for an oncoplastic MDT

Miss R Tillett, Mr A Khattak, Mr S Wilson (Bristol)

Introduction: NICE guidelines state "all appropriate breast reconstruction options should be offered and discussed with patients, irrespective of whether they are all available locally". Surgeons unable to "offer" all reconstructive options may demonstrate bias when counselling patients. Our aims were to evaluate patients referred by breast surgeons to plastic surgery consultants for revisional/salvage surgery, who had undergone latissimus dorsi (LD) reconstruction and assess the need for an oncoplastic MDT.

Methods: Patients referred from breast units for revisional/salvage surgery were collated prospectively over a 5 year period and their notes reviewed retrospectively.

Results: 70 LD reconstruction patients (77 flaps) were referred for revision/salvage surgery. 21 (30%) complained their reconstruction was too small and 21(30%) complained of poor shape. 60/70 (86%) patients, 67 flaps, underwent immediate reconstruction. Of these 24/67 (36%) had post-operative

radiotherapy and 44/67 (67%) flaps were supplemented by implants. Overall, 5/70 (7%) patients required secondary abdominal flaps and 34/70 (48%) required secondary implant insertion or exchange ipsilaterally.

Conclusions: With an estimated 50 reconstructions (20 LDs) performed annually in local hospitals, these patients may represent up to two thirds of patients undergoing LD reconstruction. Patients would benefit from discussion at an oncoplastic MDT prior to primary reconstruction, which may reduce the number of secondary procedures required.

46. How to achieve good information provision in breast reconstruction

Mr R Tomar, Mr D Collins, Mr J Farhadi (London)

Introduction and Aims: 2002 NICE guidelines issued on improving outcomes for breast cancer patients stated that at all stages of the patient pathway, clear, full and prompt information should be provided. The aim of this audit was to compare satisfaction rates for information provided between our Trust and those of the National Mastectomy Audit (NMA).

Material and Methods: 100 breast reconstruction patients completed a questionnaire, written specifically to allow comparison with the NMA.

Key Results: Comparison of individual areas of information provision demonstrated a mean outcome of 69% satisfaction, calculated for our trust as opposed to the 61% for the NMA. Further analysis showed that for the 12 areas of measure, our trust achieved better outcomes in 11, with up to 23% greater satisfaction rates.

Conclusion: These results can be attributed largely to exposure patients receive to the full range of health professionals (including specially trained breast care nurses) during their journey through our unique patient pathway and clinic set up. This unique patient pathway has not only allowed us to demonstrate a greater level of patient information satisfaction but also, in the authors' opinions, contributes significantly to our high rates of immediate breast reconstruction (60%).

47. An interesting, unreported case of Kimura's disease

Mr P Vermaak, Dr B Lyons, Mr O Harley (Plymouth)

Introduction: Kimura's disease is a rare, benign and chronic inflammatory disorder. It is endemic to the far-East with few cases reported in the West. It is characterised by painless subcutaneous swellings and has a predilection for the head and neck area. The aetiology and pathophysiology remains unclear.

Case: A 39-year-old Thai female was referred to our unit for excision of a suspected parasitic mass in her right forearm. She had a 5-year history of a poorly defined mass that intermittently became erythematous and pruritic. MRI of the affected area reported an inflammatory plaque of tissue within the subcutaneous tissues exhibiting high signal on the T1 weighted sequence.

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On exploration, extensive inflammatory and granulomatous changes were observed. A concentrated area of granulation tissue involved a branch of the superficial radial nerve. Histopathological findings were of multiple, discrete lymphoid aggregates containing well-formed germinal centres and background areas of dense fibrous scarring with numerous scattered eosinophills and prominent small blood vessels.

Discussion: This is the first description Kimura's disease affecting a pure sensory nerve, although no sensory deficit was present pre-operatively.

Most cases are reported to affect young Asian men and rarely cause pruritis. Differential diagnoses include dermatofibrosarcoma protruberans, pyogenic granuloma and tumour node metasteses.

Diagnosis is difficult and often requires biopsy. Pre-operative imaging may not differentiate it from other malignant tumors. Histopathological findings include lymphoid follicles with prominent germinal centres, infiltration of eosinophils, fibrosis, increased postcapillary venules and vascular proliferation.

Treatment options include surgical excision, corticosteroids, cytotoxic agents and radiotherapy.

48. Matriderm in full facial burns

Mr B Way, Mr D Koh, Miss K Echlin, Mr J Leon-Villapalos, Miss J Atkins, Mr M Jawad, Miss I Jones (London)

Introduction: Matriderm is widely used in burn wound management and is reported to give good scar pliability and cosmesis. Full facial burns are rare, devastating injuries with huge surgical, nursing and psychosocial challenges. This short series examines the use of Matriderm® in this cohort.

Method: 3 female patients with full facial burns were managed with early excision, Matriderm® and skin grafting in a single unit between 2008 and 2011. Matriderm® was applied on day 8 (±2 days), observing cosmetic units, with sheet split skin grafts.

Results: Take rate was 100% for Matriderm® and 95% (±5%) for SSG. Small haematomas at day 9 in 2 patients were drained and graft take followed. All wounds were fully healed by day 21. One patient was kept sedated and ventilated to minimise shearing. The remaining two required ventilation as part of their overall burns care. Good scar pliability and facial expression was achieved, with POSAS score at 6-8 months were better than expected (34-46), and Therabite® mouth opening reaching 82.5-87.5% of normal at 6 months.

Conclusions: Matriderm® can be effectively used in full facial burns to improve scar pliability and cosmesis, as well as facial function.

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49. Adipose-derived stem cells: Isolation within the intra-operative timeframe, and characterisation

Miss A Wilson, Professor P Butler, Professor A Seifalian (London)

Introduction: The use of adipose-derived stem cells (ASCs) as an autologous and self-replenishing source of tissue provides promise in reconstructive surgery. Multiple methods of ASC isolation from lipoaspirated tissue have been described.

Aim: The development of a novel time- and yield- efficient ASC isolation protocol which can be applied for use in the intra-operative timeframe to ameliorate results in reconstructive surgery.

Method: Six patients undergoing free fat transfer procedures donated surplus adipose tissue collected by the Coleman method from the abdomen for isolation and characterisation of ASCs. Adipose tissue was washed, digested, centrifuged and filtered to obtain the ASC pellet, which was cultured for 7 days. Cells were then FACS characterised using cell markers CD14, CD45, CD73, CD 90 and CD105 and HLA-DR.

Results: Cells were isolated using a time-efficient protocol totaling two hours 30 minutes. Cultured cells largely stained positive for CD73, CD90 and CD105, as expected from ASCs, and negative for CD14 and CD45.

Conclusion: An ASC isolation protocol suitable for use within the intra-operative timeframe has been identified. This may be further limited to under one hour, by reduction of digest time of adipose tissue. Multipotency of ASCs should be further demonstrated via differentiation in future work.

50. Novel use of fibrin sealant in the treatment of Morel-Lavallée lesions- Two case reports

Mr J Wokes, Mr A Blackburn, Mr M Ragbir (Newcastle)

Introduction: A Morel-Lavallée lesion occurs as a result of a closed degloving injury that is not adequately managed in the acute setting. Traumatic shearing forces separate the skin and subcutaneous tissue from the underlying fascia. The management of Morel-Lavallée lesions has included conservative compressive dressings, percutaneous drainage and surgical debridement. More recently, sclerodesis using doxycycline or alcohol has been described.

Methods: Two patients with recalcitrant Morel-Lavallée lesions were treated using our method. This involved excision of the lesion and capsule whole and the application of Tisseal® to the entire surface of the cavity. Manual compression was then applied for 5 minutes before the skin was closed in layers and a pressure garment fitted.

Results: Both patients did not develop any post-operative complications and were discharged with complete clinical resolution at 6 months post-operation.

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Conclusions: Although Morel-Lavallée lesions can successfully be treated with doxycycline or alcohol sclerodesis these management strategies do not stimulate the natural wound healing process and entail the introduction of a synthetic compound. There are potential complications with the use of alcohol or doxycycline such as skin burns and allergic reactions that are not risks with the use of a fibrin sealant. Given the promising results we have seen, a combination of surgical excision of the lesion and the application of a fibrin sealant represents a viable option in the management of Morel-Lavallée lesions.

51. Audit of severe open fractures at Bart's and the London and compliance with BOAST-4 national guidelines

Dr S Yalamanchili, Miss J Shepherd, Mr K Eseonu, Mr P Bates, Professor S Myers (London)

Introduction: Complications following high energy open tibial fractures can be severe but early joint orthopaedic and plastic surgical input in line with British Orthopaedic Association Standards for Trauma (BOAST-4) is associated with greatly improved outcomes.

At the Royal London Hospital audit of the BOAST-4 standards began in 2010, in conjunction with the Trauma Association Research Network (TARN) national audit. Poor 2011 compliance rates prompted implementation of a rota with a dedicated weekly plastic surgery trauma consultant.

We present new data from first three months following introduction of the new consultant rota (December 2011–February 2012).

Method: Data was prospectively collected using an audit proforma initiated at the time of presentation.

11 open fractures met BOAST-4 inclusion criteria of which five were Gustillo 3B or 3C fractures incorporated in the final analysis. Performance was gauged against parameters drawn from BOAST-4 standards.

Results: There was improvement across all parameters measured with comparison to 2011 performance:

- Reduced time to definitive cover from 8 days to 1.8 days.
- Reduced overall length of stay from 32 days to 13 days.
- Reduced deep infection rates from 60% to 20%.
- Improved overall BOAST-4 compliance from 30% to 80%.
- A&E compliance remained at 100%.

Conclusion: Introduction of a weekly dedicated plastics trauma consultant confers improvement in BOAST-4 outcome measures. Increased awareness from junior doctors and managers may have also contributed to improvements. Findings would need to be validated through a re-audit due to the small sample size, and to ensure that improved performance is maintained.

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MEETING INFORMATION

Venue
The BAPRAS Winter Scientific Meeting 2012 is taking place at the Royal College of Surgeons of England
35-43 Lincoln's Inn Fields
London WC2A 3PE

Registration and enquiry desk
The Registration and Enquiry Desk will be situated in the Entrance Hall and will be open at the following times:

- Wednesday 09:00–17:30
- Thursday 08:15–17:30
- Friday 08:00–15:45

The telephone number of the registration and enquiry desk during the meeting is:
07582 277 707 (BAPRAS mobile telephone)

Presenter information
Slide previewing and presentation loading is available in Committee Room 3

e-Poster viewing stations
e-poster viewing stations can be found in the Edward Lumley Hall.

Association Dinner
Join us on Thursday 6th December for our Annual Winter Meeting Dinner, which this year will be held in the Old Hall and the Crypt at Lincoln's Inn.

A drinks reception will take place in the Crypt from 19:30, followed by dinner at 20:00 in the Old Hall

Dress code is black tie.

Tickets
Tickets should have been purchased through the online registration system; however, one or two may still be available. Visit the registration desk for further information.

Location
On leaving the Royal College of Surgeons, turn right. Walk to the corner of the park and cross the road, walking straight ahead, through the Main Gate, where staff will direct you to the Old Hall.

AGM
This will be held on Tuesday 4th December 2012 from 16:50. The meeting will only be open to Full, Honorary, Senior and Trainee Members of BAPRAS.

Special Interest Group Meetings
Tuesday 4 December

13:30	Perineal Special Interest Group Meeting	Lecture Theatre 2
17:30	Skin Special Interest Group Meeting	Lecture Theatre 1

Wednesday 5 December

13:10	Facial Palsy Special Interest Group Meeting	Lecture Theatre 1

MEETING INFORMATION

Thursday 6 December

12:45	PLASTA Meeting	Lecture Theatre 1

Friday 7 December

12:30	Breast Special Interest Group Meeting	Lecture Theatre 1
12:30	Military plastic surgery	Lecture Theatre 1

Agendas have been sent in advance of these meetings, however, they are open to all attendees. Meetings will start promptly at the above times.

Lunchtime meeting (Integra)

Friday 7 December

12:30–14:00 Healing our wounded warriors: new techniques for soft tissue injuries

The science of a regenerative matrix
Dr Simon Archibald, *Chief Scientific Officer, Integra LifeSciences Corporation, Plainsboro, New Jersey, USA*

The use of regenerative dermal substitutes for soft tissue loss after major blast injuries
Dr Patrick Basile, *Assistant Chief of Plastic and Reconstructive Surgery; Director of Microsurgery, Walter Reed National Military Medical Center, Bethesda, Maryland, USA*

Single layer regenerative matrix for combat injuries
Lt Col Steven Jeffrey, *Consultant Plastic Surgeon, The Royal Centre for Defense Medicine, Queen Elizabeth Hospital, Birmingham, UK*

Audience participation Q & A

Integra LifeSciences, based in Plainsboro, New Jersey, USA, is a world leader in regnerative technology and a diversified medical device manufacturer. Integra offers innovative solutions in orthopaedics, neurosurgery, spine, reconstructive and general surgery.

The company offers the Integra Dermal Regeneration Template (IDRT) which is the first and only FDA approved tissue engineered product for burn and reconstructive surgery with a claim of dermal regeneration.

President's Prize

Once again for 2012, the President's Prize will be awarded to showcase and reward more clearly some of the outstanding research that has been undertaken by members of our training body.

The Prize session is open only to submissions that relate to research undertaken as part of a full time period away from training posts, and which are all, or in part, leading to submission for a higher degree of MS or PhD/DPhil standard (expressly not shorter MSc project material/dissertations). The prize is awarded (if an appropriate submission is delivered) for the most outstanding contribution to the advancement of surgical science related to the field of plastic, reconstructive, and aesthetic surgery.

The prize session is taking place on Wednesday 5 December at 12:10.

The organising committee reserves the right not to award the Prize in any given year. The prize winner will receive a commemorative medal and a full set of the newly published 'Plastic Surgery' volumes (P Neligan), which retails at £968 GBP

MEETING INFORMATION

Future meetings in 2012 and 2013

19–21 June 2013 East Midlands Conference Centre, University of Nottingham
26–29 November 2013 The Convention Centre, Dublin
6-11 July 2014- ESPRAS 2014, The Edinburgh International Conference Centre

Continuing medical education (CME)

The following CME points have been awarded for this conference:

Tuesday 4th December:	5 points
Wednesday 5th December:	6 points
Thursday 6th December:	7 points
Friday 7th December:	6.5 points
Total	24.5 points

EXHIBITORS

Advantech Surgical Ltd **Stand 19**

7 The White House 42-44 The Terrace, Torquay, TQ1 1DE

Contact: Ben Sharples | 0845 130 5866 | ben@advantechsurgical.com | www.advantechsurgical.com

Advantech Surgical is a small, family company focused on bringing the newest, most innovative products to the UK plastic surgery market. In the past we have introduced products such as the Endotine range for brow and face lifting and now we are very excited to introduce the LipoFilter and LipoFilter Mini, large and small volume fat harvesting systems. They are fast, easy to use closed systems that really work providing a cost effective disposable solution for fat harvesting. When you combine the LipoFilter with our fantastic MicroAire Power Assisted Lipoplasty system, you have a true body sculpting system in one affordable package.

Why not come and see us to arrange a trial?

The American Society of Plastic Surgeons **Stand 30**

444 E Alongquin Road, Alrington Heights, IL 60005, USA

www.plasticsurgery.org

Allergan **Stand 18**

1st Floor, Marlow International Parkway, Marlow, Bucks, SL7 1YL

Contact: Paula Hughes | hughes_paula@allergan.com | 01628 494 343 | www.natrelle.co.uk

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Cynosure **Stand 23**

The Old Barn Offices, Lower Mount Farm, Long Lane, Cookham, Berks, SL6 9EE

Contact: Ben Savigar-Jones | 01628 522 252 | www.cynosure.co.uk

Cynosure UK Ltd's modular lasers are market leading products offering the ultimate technology for applications such as hair removal in all skin types, skin rejuvenation, tattoo removal, treatment of pigmented/vascular lesions including facial and leg veins, plus Cynergy MPX, the most advanced vascular laser combining Pulsed Dye with Nd:YAG for superficial and deep lesion targeting.

Our range includes the more invasive treatments such as laser lipolysis, surgical cellulite clearance and fractional rejuvenation.

DGL Solutions **Stand 13**

42 Ball Moor, Buckingham Industrial Park, Buckingham MK18 1RQ

Contact: Kingsley Hollis | kings@dgl-solutions.com | 08450 664 600 | www.dgl-solutions.com

DGL Solutions is the UK's leading software provider for the private medical sector, with more than 4000 licences sold. Its comprehensive software suite provides consultants, secretaries, clinical staff and managers with a total solution, from booking to billing, through diagnosis and treatment.

Designed and developed in-house, its software is powerful and flexible, yet intuitive and easy to use, enabling your practice to run more efficiently, and reducing the time required for completing administrative tasks. DGL Solutions recognises that every practice, clinic and hospital is unique, and its software is designed to offer a bespoke package that is right for you.

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e-LPRAS **Stand 29**

www.e-lfh.org.uk/e-lpras

The British Association of Plastic, Reconstructive and Aesthetic Surgeons is working in partnership with e-Learning for Healthcare to develop an e-learning resource to support good clinical practice.

EXHIBITORS

e-LPRAS will support the training programme for plastic, reconstructive and aesthetic surgery and is aimed at plastic surgery trainees from specialty training year 3 (ST3) onwards.

The e-learning will also appeal to consultants and non-consultant career grades who want to increase and update their knowledge base.

Elsevier **Stand 28**

The Boulevard, Langford Lane, Kidlington, Oxford, OX5 1GB
www.elsevier.co.uk

Euromedical Systems Ltd **Stand 22**

Connaught House, Moorbridge Road, Bingham, Nottingham, NG13 8GG
Contact: Philip Richardson | info@euromedicalsystems.co.uk | 0845 130 4949 | www.euromedicalsystems.co.uk

Euromedical Systems Ltd is one of the largest distributors of medical devices for cosmetic surgery, plastic surgery and medical aesthetics in the UK.

We are proud to distribute the Eurosilicone range of breast implants and tissue expanders. Eurosilicone's new Integrated Valve Tissue Expander is ideal for breast reconstruction procedures following mastectomy as it allows for variable projections. It provides high elasticity and integrity and has similar dimensions and heights (low, moderate and full) as The Matrix range of anatomical implants.

The Lipoelastic® range of compression garments are designed for post-operative treatment following plastic or cosmetic procedures and the design and quality of Lipoelastic® products is first class.

Eurosurgical Ltd **Stand 4**

Contact: Peter Cranstone | peterprs@eurosurgical.co.uk | 01483 456 009 | www.eurosurgical.co.uk

Eurosurgical Ltd are looking forward to welcoming all plastic surgeons to our stand. We shall be featuring our wide range of products and services that encompass all areas of plastic, burns and reconstructive surgery. The Silimed range of breast implants includes the Pure-Polyurethane BioDesign range. With the lowest reported complication rates for any breast implant and particularly low incidents of Capsular Contracture. Available in 5 styles, including the Conical shape, (ideal for sliding breast shape) they are a must for all surgeons. Insorb, a subcuticular, absorbable staple, that fires the small 3/0 staples horizontally into the dermis, not through the skin, for fast and effective wound closure, and no spitting!! Aquavage and Lipivage for fat harvest, wash and transfer that eliminates the need for centrifuge, are closed and sterile systems, are disposable and cost effective. Snowden Pencer instruments, Design Veronique post-operative support garments.

The Healing Foundation **Stand 32**

The Royal College of Surgeons of England, 35-43 Lincoln's Inn Fields, London WC2A 3PE
Contact: Brendan Eley | brendane@thehealingfoundation.org.uk

Established in 1999, the Healing Foundation is the UK's leading medical research charity supporting all areas of reconstructive and plastic surgery, disfigurement and visible loss of function. The Healing Foundation Centre at the University of Manchester is home to one of the world's leading research groups investigating wound healing and tissue regeneration. Now with around 40 staff, the Centre employs a range of animal models in pursuit of novel solutions to common surgical problems. A major clinical trial is underway with patients with diabetes, investigating the role of estrogen receptors in improved healing in chronic wounds. Other work seeks to understand the cellular mechanisms of tail regrowth in tadpoles and its translation to the human model.

Within the last 12 months, the Healing Foundation has also established a major programme of research into the causes and treatments for Cleft Lip and Palate with a Gene Bank and Cohort Study now underway at the University of Bristol and a major

EXHIBITORS

Clinical Research Centre for Cleft and Craniofacial anomalies established in Manchester. The Healing Foundation Centre for Burns Research is also now active within the Queen Elizabeth Hospital, Birmingham and in the South West, a partnership led by the University of Bristol and involving the Universities of the West of England, Bath and Cardiff will see The Healing Foundation Children's Burns Research Centre fully established in 2013.

The Healing Foundation is dependent upon voluntary contributions, and the support of plastic surgeons, to continue its work.

Integra **Stand 9**

Newbury Road, Andover, Hampshire, SP10 4DR
www.integralife.eu | www.integralife.com

Integra facilitates surgical practice by developing, manufacturing and selling implants and instruments used in neurosurgery, extremity reconstruction, spine and biologics, as well as in general surgery. Integra's prime objective is to limit uncertainty in surgical procedures to enable surgeons to concentrate on decision-making.

Integra became the global forerunner in the development of the dermal regeneration technique with the Integra® Dermal Regeneration Template, which is used in the treatment of third-degree burns and reconstruction following severe trauma. Renowned for our expertise in various fields of extremity surgery, we provide a large range of solutions to help orthopedic surgeons in treating pathologies of the foot, ankle, shoulder, hand, wrist and elbow. Our expertise in tissue repair and regeneration applies also within peripheral nerve surgery.

Ideal Medical Solutions **Stand 11**

SBC House Sutton Business Centre, Restmor Way, Wallington, Surrey, SM6 7AH
Contact: Andrew Wakeling | andrew.wakeling@ideal-ms.com | 020 8773 7844 | www.ideal-ms.com

Ideal Medical Solutions Ltd is a UK based distribution company and we offer the highest quality medical devices sourced from leading manufacturers throughout the world.

We are delighted to be the new exclusive distributor for Matriderm - Tissue Regeneration Concept – In a One-Step Procedure

- Quality in Efficacy: Cost effective one-step procedure
- Quality in Structure: Turns a split-thickness skin graft into full skin quality
- Quality in Life: Superior functional and aesthetic outcome
- Promotes the regeneration of the skin after injuries up to complete loss of epidermis and dermis,
- Reduces the risk of scar tissue formation,
- Helps to reduce and prevent wound contractions.

"A reliable one-step procedure for skin reconstruction"
The Result: Better skin elasticity and healthy skin architecture. Function you can feel!

LemonChase **Stand 27**

The Brewery, Bells Yew Green, TN5 6TR
Contact: Mark Chase | info@lemonchase.com | 01892 752 305 | www.lemonchase.com

Whether you are contemplating your first pair or would like advice on any changes to your current pair, Nick Lemon & Mark Chase would be delighted to see you at their stand where they are also demonstrating Designs for Vision's outstandingly bright range of Lithium Ion, Battery powered LED lights, with up to 12 hours of continual use - and which allow you to move freely around the operating theatre. Come and see what you're missing!

EXHIBITORS

The MDU **Stand 17**

membership@the-mdu.com | 0800 716 376 | www.the-mdu.com

The Medical Defence Union (MDU) is a not for profit company owned by our members. Established in 1885, the MDU was the world's first medical defence organisation and we have led the way ever since.

We are the only long-standing mutual medical defence organisation offering access to a strong combination of traditional discretionary benefits in addition to the security of an insurance contract.

Our members have access to the largest team of medico-legal experts throughout the UK, 24 hours a day, 7 days a week. Our sole purpose is to serve members and that is why we pride ourselves on providing the best and most personal service to you.

Malosa Medical **Stand 15**

Ashday Works Business Park, Elland Road, Elland, HX5 9JB

Contact: Tim Stansfield info@malosa.com 0870 3000 555 www.malosa.com

Malosa Medical is a wholly British owned manufacturer and distributor of high quality Single-Use surgical instruments and procedure packs. State of the art manufacturing facilities and automated systems provide capability to produce low volume solutions with "Just in Time" deliveries. Malosa specialises in producing new/revised instruments to your own design and will assemble them into procedure packs with consumable items, to provide complete bespoke solutions. All Malosa products are cleaned, packed and sterilised in the UK. Malosa produces instruments ethically and is regulated by ISO13485 and ISO9001.

Medira Ltd **Stand 16**

1 Monoux Place, Sandy SG19 1JN

Contact: Roseanne Aitken | raitken@medira.com | 07810 358 815 | www.medira.com

Medira welcomes all plastic surgeons with an interest in collagen biomaterials for reconstruction, burns and wound healing to visit our stand. We are particularly pleased to showcase PriMatrix™, a novel and natural, bioactive acellular collagen matrix derived from fetal bovine dermis. In addition to non-denatured Type I collagen, PriMatrix™ is rich in Type III collagen, a natural component of fetal dermis. Type III collagen is active in developing and healing tissues, and PriMatrix™ delivers this unique fetal collagen composition and architecture into the wound bed.

We look forward to answering all your questions about PriMatrix™, manufactured by TEI Biosciences.

Medira is ISO9001:2008 certified and listed on the DOH National Indemnity Register.

Mentor Medical **Stands 6 & 7**

Johnson & Johnson Medical Ltd, Pinewood Campus, Nine Mile Ride, Wokingham, RG40 3EW

Contact: Elin Gillard | egillard@its.jnj.com | 07867 525 869 | www.mentor.com

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Mercian Surgical Supply Company Ltd **Stand 2**

10 Topaz Business Park, Topaz Way, Bromsgrove, Worcs, B61 0GD

Contact: John Duffy | john@merciansurgical.com | 0844 879 1133 | www.merciansurgical.com

Mercian has been established for over 45 years with a reputation for high quality plastic surgery instrumentation with a particular interest in the microsurgery field.

The S&T microsurgery instruments which are supplied by Mercian are know the world over as leaders in the field of microsurgery instruments and micro sutures.

EXHIBITORS

We will be showing at the forthcoming BAPRAS meeting

- The original Acland Micro Vessel Clamps
- Our new Super-Fine Micro Surgery Instrument Set
- Hand Surgery Instruments
- Micro Sutures
- A complete range of S&T Micro Surgery Instrumentation

Nagor **Stand 1**

129 Deerdykes View, Westfield, Cumbernauld, Glasgow, G68 9HN
Contact: Sharon Davies | Sharon.davies@nagor.com | 07786 628 317 | www.nagor.com

Nagor's new 2 stage Tissue expander with integrated valve. Wide range of round and anatomical breast implants.

Optident Ltd **Stand 14**

IDC, Valley Drive, Ilkley, West Yorkshire, LS29 8AL
Contact: Rob Bridgewater | 01943 604 400 | www.optident.co.uk

Optident Vision Boutique will be displaying their latest range of Surgical Loupes and Headlights, including a new design of loupe with an integrated prism to help improve comfort and reduce neck tilt whilst working. In addition and new to the range, they will launch their fully portable Surgical Headlight and Portable LED Endoscope light.

Optifit Bra Company **Stand 25**

Suite 1, Globe Chambers, 76 High Street, Uppermill, Saddleworth
Contact: Sue McDonald | 07718 126 663 | sue@thebraspaco.uk | www.optifitbra.com

Overseas Committee/BFIRST **Stand 31**

c/o BAPRAS
Contact: Barbara Jemec | overseasfellowships@googlemail.com

As well as furthering surgical excellence and education at home, BAPRAS is dedicated to the development, delivery and support of high-quality reconstructive surgical services to the world's poor.

The BAPRAS Overseas Service & Training Committee guides our work in this area, and has as its ultimate goal the establishment of sustainable and autonomous services within the infrastructure and resource limits of individual developing countries

BAPRAS also supports the provision of emergency reconstructive surgical services, wherever required, in the event of natural or man-made disasters. As part of these disaster relief commitments, the Association welcomes collaboration and coordination with other professional organisations, aid agencies and government groups.

PLASTA **Stand 21**

The Plastic Surgery Trainees' Association (PLASTA) represents all Plastic Surgery trainees in the UK and Ireland. Members of the elected PLASTA Committee attend regular meetings with the following important groups:

- Council of the British Association of Plastic, Reconstructive and Aesthetic Surgeons (BAPRAS);
- The SAC in Plastic Surgery;
- British Society for Surgery of the Hand;
- BAPRAS Education and Research Committee;
- Joint Committee on Intercollegiate Examinations.

Your PLASTA Committee is dedicated, enthusiastic and available to represent you.

EXHIBITORS

Any queries can be directed to individual committee members below or to plastauk@googlemail.com

PLASTA Committee

President	Anastassi Halka	tassi@doctors.org.uk
Secretary	Deborah Foong	debsfoong@gmail.com
SAC Rep	Jonathon Pollock	jpollock@doctors.org.uk
Exam Rep	Robert Winterton	wintertonris@hotmail.com
ASiT Rep	Daniel Saleh	dan_saleh@hotmail.com
BSSH Rep	Mo Akhavani	mo@akhavani.com
BBA Rep	Claudia Malic	claudemalic@yahoo.co.uk
Education/Research	Adrian Murphy	adrian.murphy@me.com

PRASIS **Stand 24**

The Garden House, Blackhall Lane, Sevenoaks, Kent, TN15 0HP

Contact: Sherry Williams | info@prasis.co.uk | 0845 519 4393 | www.prasis.co.uk

PRASIS is now a leading provider of comprehensive professional indemnity providing all the security you need for your NHS and independent sector practice. Exclusively for plastic surgeons practising in the UK, PRASIS is a not for profit company, owned and run by its members.

'PPM' - PRIVATE PRACTICE MANAGER **Stand 8**

The Business Centre, 100 Honey Lane, Waltham Abbey, Essex, EN9 3BG

Contact: Tom Hunt | tomhunt@ppmsoftware.com | 01992 655 940 | www.ppmsoftware.com

Please visit us to find out why so many of your colleagues have implemented 'PPM'- Private Practice Manager
'PPM' will provide all the facilities for the complete Administration and Financial Control of your Private Practice.
The service includes on-site installation and personal training. In addition, the flexibility of the software means it can be customised, in many areas, to your particular requirements.

Alternatively, if you would like to arrange a demonstration, after the exhibition, contact Tom Hunt

Sandison Easson & Co **Stand 12**

Rex Buildings, Alderley Road, Wilmslow, Cheshire, SK9 1HY

Contact: Lisa Goodall | lisa@sandisoneasson.co.uk | 01625 527 351 | www.sandisoneasson.co.uk

Established over 30 years ago by the sons of two former hospital consultants, Sandison Easson & Co is an independent, highly regarded, firm of Chartered Accountants specialising in acting exclusively for Doctors of Medicine in all areas of the United Kingdom.

The firm provides advice on a pro-active basis to clients, in addition to the preparation of their accounts, tax returns and associated matters.

The partners travel extensively throughout the country and meetings can take place at whatever location is most convenient for the client.

EXHIBITORS

Sigmacon (UK) Ltd **Stand 3**

Heriots Wood, the Common, Stanmore, Middlesex, HA7 3HT

Contact: Vaughan Daniels | events@sigmacon.co.uk | 0208 950 9501 | www.sigmacon.co.uk

Sigmacon (UK) Ltd has been serving the National Health Service and Private Health Care System for over thirty years. We supply a wide range of products for the operating theatre and outpatient clinic.

Sigmacon's business philosophy is simple – premium products with premium service focused on its customer's needs, striving to provide solutions and develop constant improvements that foster long lasting relationships.

We supply a wide range of products for the operating theatre and outpatient clinic.

Training- We provide a wide range of training opportunities from individually tailored sessions to weekend courses which we hold around the country and abroad. We view continued training as an integral part of our business and a good way to build lasting customer relationships.

Technical Support- We have a team of highly trained engineers on site who are able to provide ongoing support and advice whenever you require it.

Technology- We are the distributor for a wide range of surgical, ophthalmology and aesthetic products and are always researching the very latest in technology. By constantly reassessing our product range we can ensure that our customers benefit from the very latest in technological advances and in turn provide the best treatment for their patients.

SilDerm Ltd **Stand 5**

Dane Mill Business Centre, Broadhurst Lane, Congleton, Cheshire, CW1 1LA

Contact: Aileen Cameron | aileen@silderm.com | 07974 444 282 | www.sildermgroup.com

SilDerm is an innovative company providing clinical proven treatments for aesthetic conditions and is unique in the UK as all of our products have clinical studies to prove their effectiveness. Our aim is to provide products for conditions that cause patients distress and where they will look for effective treatments.

Sinclair IS Pharma **Stand 26**

Whitfield Court, 30-32 Whitfield Street, London W1T 2RQ

Contact: Amina Sellberg | aselberg@sinciairpharma.co.uk | 0207 467 6947 | www.sinclairispharma.com

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Surgical Acuity **Stand 20**

4 Flag Business Exchange, Vicarage Farm Road, Peterborough, PE1 5TX

Contact: Carol Curtis | carol.curtis@sybron.com | 01733 352 865

TEKNO-Surgical **Stand 10**

Unit 10, Fonthill Business Park, Dublin 22, Ireland

Contact: Amy Gillivan | amygillivan@tekno-surgical.com | 016 754 842 | www.tekno-surgical.com

TEKNO Surgical was established in 1996. It is involved in the distribution of specialist medical products, targeting key niche areas: Orthopaedics – Surgical - Aesthetics

The Company has exclusive distribution agreements with manufacturers of orthopaedic, surgical and aesthetic products.
For over 15 years TEKNO Surgical has been developing its surgical product portfolio by introducing world leading technologies and constantly striving to be at the forefront with new devices and systems.
For the Consultant Plastic and Reconstructive Surgeon we are proud to represent the following product range:

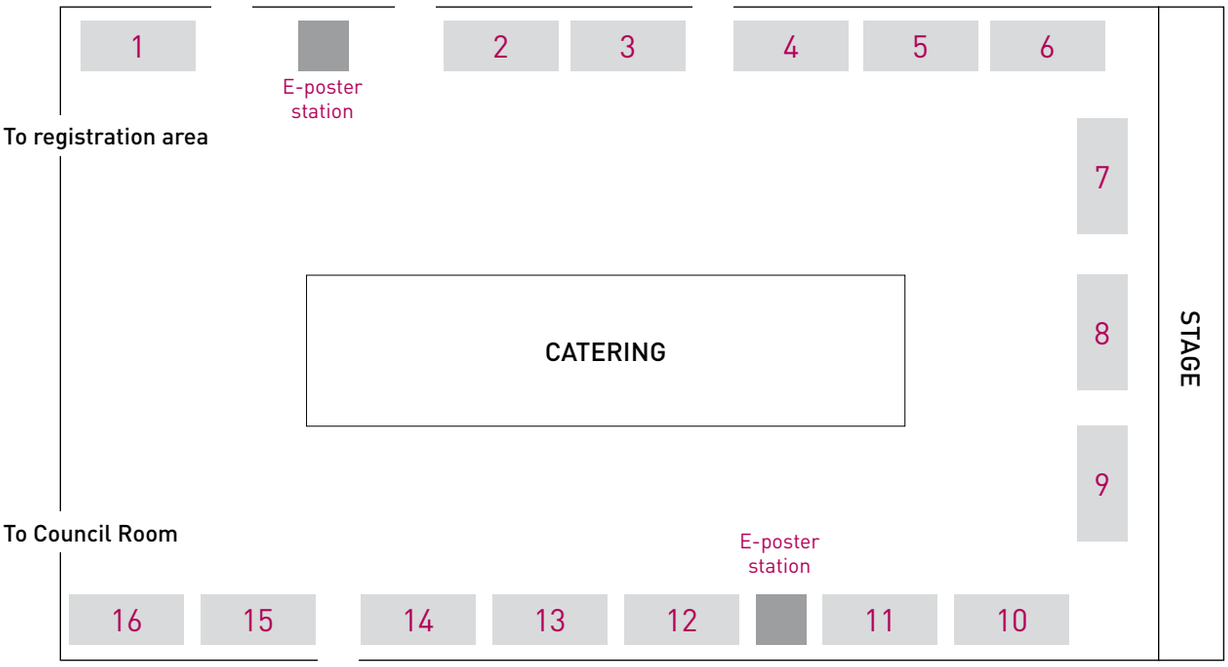
EXHIBITORS

- Lasers
- Breast Implants
- Aesthetic Fillers
- Surgical Acuity- Operating Loupes

We now provide the new innovative and safe Motiva breast implant. We also offer breakthrough technologies such as Ulthera, LED light technology and Coccon Cryotechnology.

EXHIBITION FLOOR PLAN

EDWARD LUMLEY HALL



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3 Sigmacon
4 Eurosurgical
5 Silderm
6 Mentor
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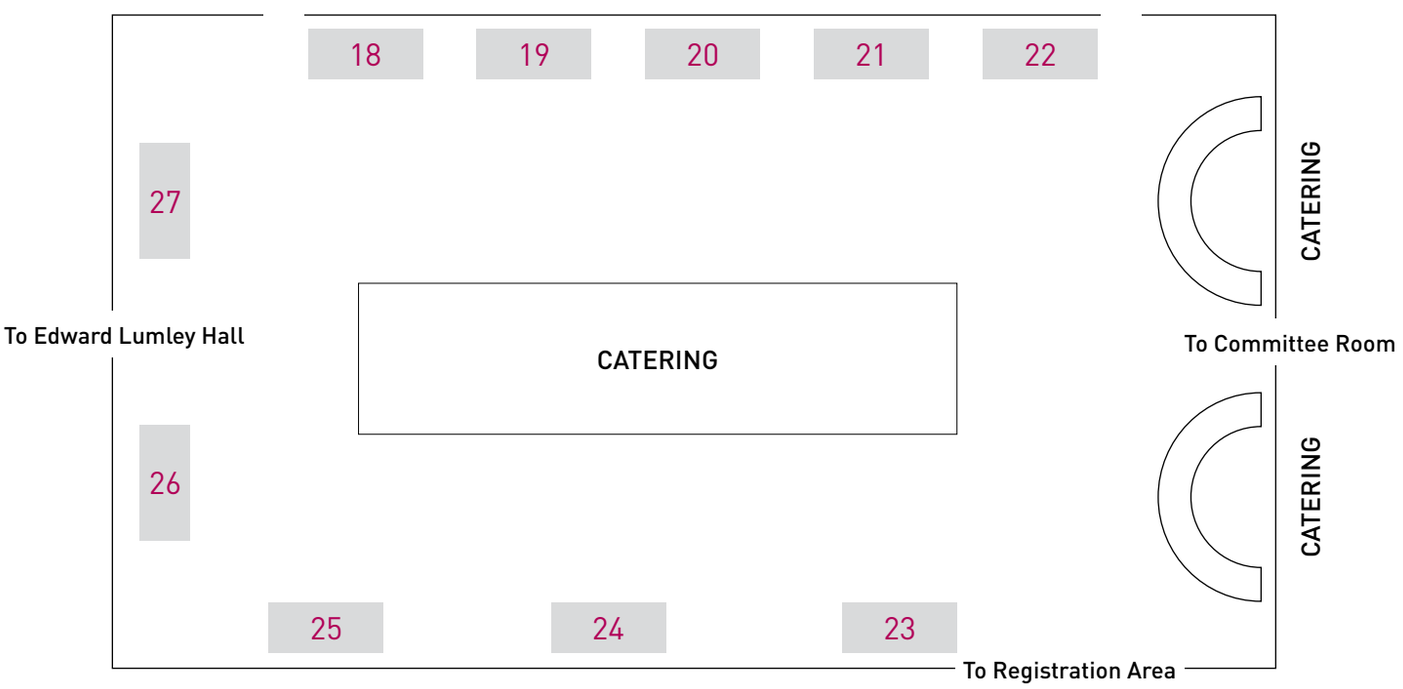
8 PPM
9 Integra
10 TEKNO-Surgical
11 Ideal MS
12 Sandison Easson
13 DGL Solutions
14 Optident
15 Malosa Medical
16 Medira
17 MDU

COUNCIL ROOM



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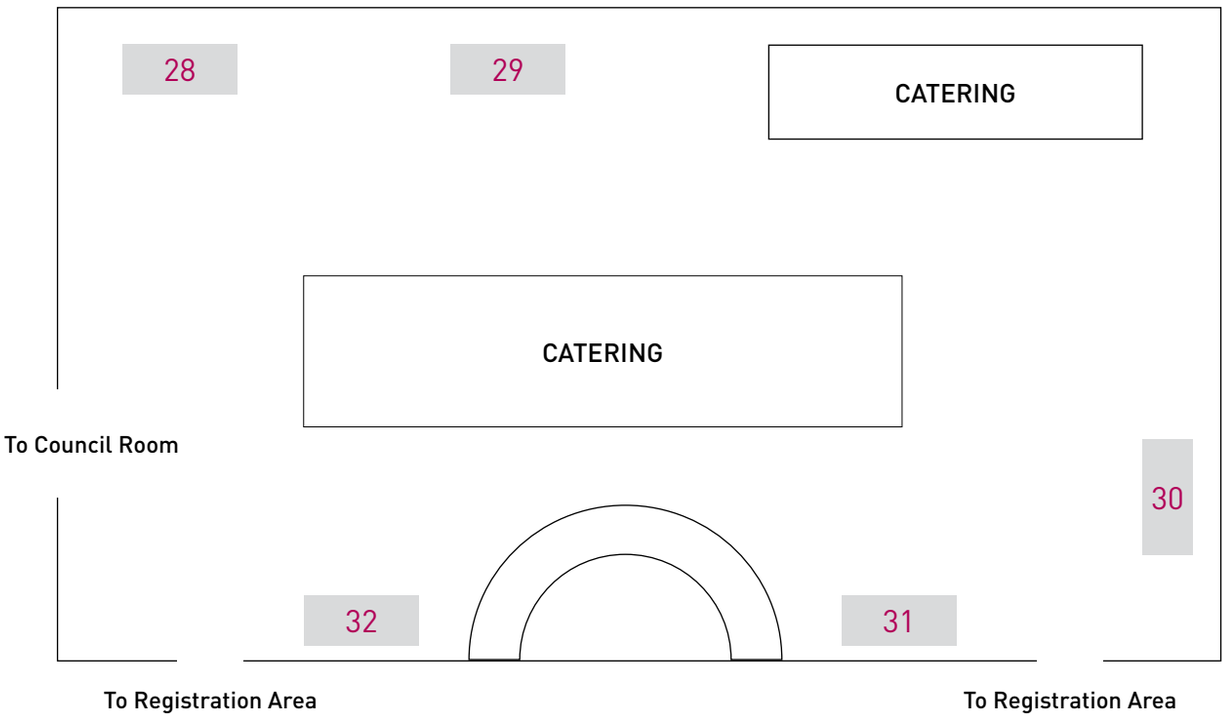
27 LemonChase

EXHIBITION FLOOR PLAN

COMMITTEE ROOM



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31 BFIRST
32 The Healing Foundation

Royal College of Surgeons
D3.

BAPRAS The Royal College of Surgeons of England
35–43 Lincoln's Inn Fields, London WC2A 3PE
Tel: 020 7831 5161 Fax: 020 7831 4041
Email: secretariat@bapras.org.uk www.bapras.org.uk

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