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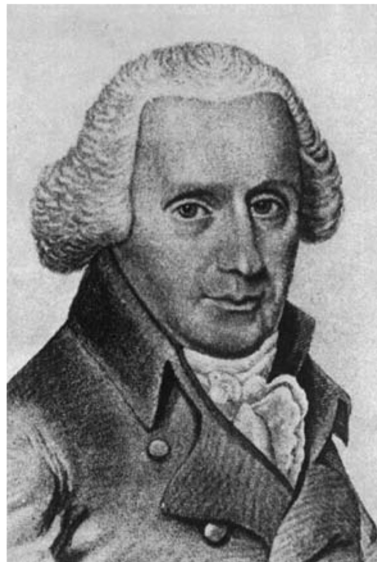
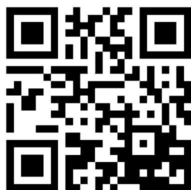


24th Sylvester O'Halloran Perioperative Scientific Symposium
Friday 4th March–Saturday 5th March 2016

Graduate Entry Medical School,
Faculty of Education and Health Sciences,
University of Limerick, Co. Limerick, Ireland



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Disclosure Statement

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SPONSORS 2016

The 24th Sylvester O'Halloran Perioperative Scientific Symposium greatly acknowledges the support given to the meeting by the following companies:

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<table>
<tr><td colspan="6">24th Sylvester O’Halloran Perioperative Scientific Symposium
The Graduate Entry Medical School, Faculty of Education & Health Sciences, University of Limerick</td></tr>
<tr><td colspan="6">Friday 4th March 2016</td></tr>
<tr><td colspan="2">GEMS0-016
9.00–11.00 am
Session 1: Clinical Breast Session
Chairs: Prof. Kevin Barry & Ms. Ruth Prichard
Papers 1–12 (12)</td><td colspan="2">GEMS0-028
9.00–11.00 am
Session 2: Upper Gastro-intestinal & Endocrine Session
Chairs: Mr. Sean Johnston & Mr. Chris Collins
Papers 13–23 (11)</td><td colspan="2">GEMS0-029
9.00–10.30 am
Session 3: Vascular Session
Chairs: Mr. Tony Moloney & Mr. Eamon Kavanagh
Papers 24–32 (9)</td></tr>
<tr><td colspan="6">Coffee (sponsored by Barringtons Hospital) 11.00–11.20 am & Poster Viewing</td></tr>
<tr><td colspan="3">GEMS0-016
11.20–1.00 pm
Session 4: Colorectal Session
Chairs: Dr Brian Kenny & Mr. David Waldron
Papers 33–41 (9)</td><td colspan="3">GEMS0-028
11.30–12.30 pm
ASGBI Paper Prize
Chairs: Prof. Simon Cross & Mr. John Moorehead</td></tr>
<tr><td colspan="6">GEMS0-029 Lunch (sponsored by Barringtons Hospital) 1.00–2.00 pm
Poster Viewing</td></tr>
<tr><td colspan="2">GEMS0-016
2.00–4.00 pm
Session 5: Plenary Session
Chairs: Prof. Arnold Hill & Prof. Michael Kerin
Papers 42–53 (12)</td><td colspan="2">GEMS0-028
2.00–4.00 pm
Session 6: Scientific Session
Chairs: Dr Pat Kiely, Prof Aoife Lowery & Prof J Calvin Coffey
Papers 54–61 (8)</td><td colspan="2">GEMS0-029
3.00–5.00 pm
Session 7: Head & Neck Session
Chairs: Prof. John Fenton & Prof. Ivan Keogh
Papers 62–74 (15)</td></tr>
<tr><td colspan="6">GEMS0-016
4.00–5.30 pm
Chair: Ms. Shona Tormey
The Inaugural Sylvester O’Halloran Debate
Teams from Beaumont Hospital Dublin & National University Hospital Galway</td></tr>
<tr><td colspan="6">5.30–6.30 pm Sylvester O’Halloran Lecture
GEMS0-016
Chair: Prof. J Calvin Coffey
Prof. Freddie Wood, President of Irish Medical Council
The Pursuit of Surgical Excellence: Sylvester O'Halloran, R.C.S.I. and the Medical Council; 1760 –2016</td></tr>
<tr><td colspan="6">Saturday 5th March 2016</td></tr>
<tr><td colspan="2">GEMS0-016
9.00–11.00 am
Session 8: General Session I
Chairs: Mr. Michael Sugrue & Mr. Mark Corrigan
Papers 77–86 (10)</td><td colspan="2">GEMS0-028
9.00–11.30 am
Session 9: Anaesthesia Session
Chairs: Prof. Dominic Harmon Dr Seosamh O Riain & Dr Pat Dillon
Papers 87–98 (12)</td><td colspan="2">GEMS0-029
9.00–10.45 am
Session 10: Orthopaedic Session I
Chairs: Mr. Dermot O’Farrell & Mr. Lester D’Souza
Papers 99–108 (10)</td></tr>
<tr><td colspan="6">11.00–11.30 am Coffee (sponsored by Barringtons Hospital) & Poster Judging</td></tr>
<tr><td colspan="2">GEMS0-016
11.20–1.00 pm
Session 11: General Session II
Chairs: Mr. Dermot Hehir, Mr. Peter Murchan
Papers 109–118 (10)</td><td colspan="2">GEMS0-028
11.20–1.00 pm
Anaesthesia & Critical Care Medicine Session</td><td colspan="2">GEMS0-029
11.20–1.00 pm
Session 12: Orthopaedic Session II
Chairs: Mr. Brian Lenehan & Mr. Tom Burke
Papers 119–128 (10)</td></tr>
<tr><td colspan="6">1.00–2.00 pm Sir Thomas Myles Lecture
GEMS0-016
Chair: Prof. J Calvin Coffey
Mr. Joe Duignan
“Irish Doctors in World War I”</td></tr>
<tr><td colspan="6">GEM0-029 2.00–4.00 pm “The Nurses’ Role in the Enhanced Recovery After Surgery Programme”</td></tr>
<tr><td colspan="6">Awards of Sylvester O Halloran Prize, ASGBI Paper, ENT & Orthopaedic Sessions</td></tr>
<tr><td colspan="6">The Sylvester O’Halloran Surgical Scientific Symposium qualifies for 10.5 CPD Points</td></tr>
</table>

Friday 4th March 2016

SESSION 1: CLINICAL BREAST SESSION

Time: 9.00–11.00 am (7 min Presentation & 3 min Discussion)

Chairs: Prof. Kevin Barry & Ms. Ruth Prichard

Room: GEMS0-016

9.00 **1. Investigating the influence of molecular subtype on response to neoadjuvant chemotherapy in breast cancer: a fifteen year review**
N. O'Flaherty[1], T.P. McVeigh[1,2], C. Curran[1], M. Keane[3], R. McLaughlin[1], M.J Kerin[1]
[1]Discipline of Surgery, Lambe Institute for Translational Research, NUI Galway; [2]Department of Clinical Genetics, Our Lady's Children's Hospital Crumlin, Dublin 12; [3]Department of Medical Oncology, Galway University Hospital, Saolta Hospitals Group

9.10 **2. An external validation of international nomograms used to predict non-sentinel lymph node positivity in an Irish cohort of breast cancer patients**
P.J. Carroll, M. Hyland, C.A. Fleming, J. Rothwell, D. Evoy, J. Geraghty, E. McDermott, R. Prichard
Department of Breast and Endocrine Surgery, St. Vincent's University Hospital, Dublin

9.20 **3. Use of axillary ultrasound guided core biopsy to assess for lymph node metastases in breast cancer patients—a different burden of disease**
M. O'Rahelly, M.R. Boland, N.R. Bhatt, J. Okninska, M. Murphy, A. Lal, S. Tormey, B.A. Merrigan
Department of Breast Surgery, University Hospital Limerick

9.30 **4. Large fibroadenomas—is excision always warranted?**
C.J. O'Neill[1], F. O'Connell[2], M.W. Bennett[2], M. Corrigan[1], L. Feeley[2], T.J. Browne[2]
[1]Cork University Hospital, Surgery; [2]Cork University Hospital, Histopathology

9.40 **5. Upper limb lymphedema after axillary surgery in breast cancer patients: an analysis of referral trends over a three year period in specialist breast unit in Ireland**
N.R. Bhatt[1], R McGovern[1], M Boland[1], M McSweeney[2], A Lal[1], S Tormey[1], BA Merrigan[1]
[1]Department of Surgery; [2]Lymphedema Service, University Hospital Limerick

9.50 **6. Pathological features of breast cancer in the elderly: are aggressive subtypes more or less common?**
C.J. O'Neill[1], A.J. McCarthy[2], L. Feeley[2], M.W. Bennett[2], F. O'Connell[2], T. Browne[2]
[1]Department of Surgery; [2]Department of Pathology, Cork University Hospital

10.00 **7. Establishing a registry for carriers of mutations in brca1 and brca2 cancer susceptibility genes: the western cohort.**
T.P. McVeigh[1,2], S. Bollard[1], N. Cody[2], R. Irwin[2], S. O'Brien[1], C. Curran[1], A.J. Green[2], M.J. Kerin[1]
[1]Discipline of Surgery, Lambe Institute for Translational Research, NUI Galway; [2]Department of Clinical Genetics, Our Lady's Children's Hospital Crumlin, Dublin

10.10 **8. Adherence to oral adjuvant hormonal therapy in women with breast cancer: intentional and unintentional influencing factors**
B.M. Cotter, R. Lenihan, M. Corrigan, V. Livingstone, E. Lehane
[1]Cork Breast Research Centre, Cork University Hospital; [2]Catherine McAuley School of Nursing and Midwifery, University College Cork

10.20 **9. Needle core biopsy of birads3 breast lesions in women under 25: is this really necessary**?
M. Twyford, D.P. McCartan, C. Power, M. Allen, A.D.K. Hill
Department of Surgery, Beaumont Hospital, Dublin

10.30 **10. The effect of the accordion suturing technique on wound lengths in breast cancer surgery at six weeks**
K. Koh, M. Ita, S. KaimKhani, L. Kelly, M.J. O'Sullivan, H.P. Redmond, M.A. Corrigan
Cork Breast Research Centre

10.40 **11. Positive margin rate following wide local excision of breast cancer: is the variation acceptable?**
M. Gallagher, M. Choynowski, A. Johnston, M. Sugrue
Department of Breast Surgery Letterkenny General Hospital, Donegal Clinical Research Academy and National University of Ireland, Galway

10.50 **12. Characterization and follow-up of fet with high mitotic activity. what's the ideal follow up period?**
D. O'Callaghan[1], M. O'Loughlin[2], S. Abd Elwahab[1], K.J. Sweeney[1], M. Kerin[1], M. McLaughlin[1], C. Brodie[2], C. Malone[1]
[1]Department of Surgery; [2]Department of Histopathology, University College Hospital Galway

SESSION 2: UPPER GASTROINTESTINAL & ENDOCRINE SESSION

Time: 9.00–11.00 am (7 min Presentation & 3 min Discussion)

Chairs: Mr. Sean Johnson & Mr. Chris Collins

Room: GEMS0-028

9.00 **13. Managing recurrent colorectal liver metastases (CRLM)—a ten year single institutional experience**
M. Durand, F. Hand, J. Geoghegan, D. Maguire, O. Traynor, E. Hoti
Department of Hepatopancreaticobiliary Surgery, St. Vincent's University Hospital, Dublin

9.10 **14. The effect of bariatric surgery on urinary incontinence in women**
H. Shabana, C.J. O'Boyle, O.E. O'Sullivan, M. Boyce, B.A. O'Reilly
Department of Bariatric Surgery, Department of Best Practice, Bon Secours Hospital, Cork, Ireland, Department of Urogynaecology, Cork University Maternity Hospital, Cork

9.20 **15. Validation of nomogram for predicting pathologically complete response after neoadjuvant chemotherapy for oesophageal cancer**
I. Soric, C. Donohue, J. Reynolds
Upper GI & General Surgery Department, St James's Hospital, Dublin

9.30 **16. Preliminary outcomes of laparoscopic versus open common bile duct exploration: the Mater experience**
L. Casey, M. Flanagan, J. Kelly, J. Conneely, G. McEntee
Department of General and Hepatobiliary Surgery, Mater Misericordiae University Hospital, Dublin

9.40 **17. Sarcopenia and visceral obesity predict severity of post-oesophagectomy complications in patients treated with multimodality therapy**
C. O'Connell, J.A. Elliott, S. Doyle[1,2], S. King[1], L. Healy[1], Z. Ahmed[1], P. Beddy[3], N. Ravi[1], J.V. Reynolds[1]
[1]Department of Surgery, Trinity Centre for Health Sciences, Trinity College, Dublin, St. James's Hospital, Dublin; [2]Department of Clinical Nutrition; [3]Department of Radiology, St. James's Hospital, Dublin

9.50 **18. Evolving practises in the management of squamous cell oesophageal carcinoma in a high-volume specialised centre**
F.D. Sheil, C.L. Donohoe, J.V. Reynolds, N. Ravi
Department of Upper Gastrointestinal Surgery, St. James' Hospital, Dublin

10.00 **19. Endoscopic management of oesophageal perforation secondary to benign disease**
S. Aloia, J. Jordan, E. O'Malley, A. Iqbal, O.J. McAnena, C.G. Collins
Department of Surgery, Galway University Hospital

10.10 **20. Patterns of peritoneal malignancy in ireland—a population-based study**
M. O'Neill[1], J.G. Solon[1], S. Deady[2], P. Walsh[2], C. Shields[1], B. Moran[3], J. Mulsow[1]
[1]National Centre for Peritoneal Malignancy, Mater Misericordiae University Hospital, Dublin; [2]The National Cancer Registry of Ireland, Cork; [3]Peritoneal Malignancy Institute, Basingstoke, UK

10.20 **21. Prognosis and management of wild type gastrointestinal stromal tumours (GISTS) in adults: a pooled analysis**
N.R. Bhatt[1], D. Collins[1], P. Crotty[2], P.F. Ridgway[1]
[1]Department of Surgery; [2]Department of Pathology, Tallaght Hospital, Dublin

10.30 **22. A review of the surgical management of phaeochromocytomas**
N.M. Foley[1], D.J. Bowden[1], G. Kane[2], C. Fleming[2], M. Casey[3], R. Prichard[2], E.W. McDermott[2], M.J. Kerin[1], A.J. Lowery[4], D. Quill[1]
[1]Department of Surgery, University College Hospital Galway; [2]Department of Surgery, St Vincent's University Hospital; [3]Department of Histopathology, University College Hospital Galway; [4]Department of Surgery, University Hospital Limerick

10.40 **23. Focused parathyroidectomy versus open parathyroidectomy for primary hyperparathyroidism: a meta-analysis**
M. Jinih[1], E. O'Connell[1], D.P. O'leary[2], A. Liew[3], H.P. Redmond[1]
[1]Department of Academic Surgery, Cork University Hospital; [2]Department of Surgery, Limerick University Hospital; [3]Department of Endocrinology, University College Hospital Galway

SESSION 3: VASCULAR SESSION

Time: 9.00–10.30 am (7 min Presentation & 3 min Discussion)

Chairs: Mr. Tony Moloney & Mr. Eamonn Kavanagh

Room: GEMS0-029

9.00 **24. Towards the characterisation of carotid artery plaque: linking mechanical properties to biological content**
H.E. Barrett[1,2,3,4], E.M. Cunnane[1,2,3,4], E.G. Kavanagh[5], M.T. Walsh[1,2,3,4]
[1]Centre for Applied Biomedical Engineering Research (CABER); [2]Health Research Institute; [3]Department of Mechanical, Aeronautical and Biomedical Engineering; [4]Material Surface Science Institute (MSSI), University of Limerick; [5]Limerick University Hospital

9.10 **25. Early and late outcomes following open repair of ruptured abdominal aortic aneurysms in an "open surgery for ruptures" centre—is open surgery a defensible alternative in the "EVAR for ruptures" era?**
N. Donlon, M. Bourke, S. Creedon, S. Flynn, T. Fitzgerald, G. O'Brien, G. McGreal
Department of Surgery, Mercy University Hospital, Cork

9.20 **26. Is there an association between the prevalence of coronary artery disease (CAD) in patients requiring valvular heart surgery?**
N. Mayooran[2], F. Hashim[1], S. Jahangeer[2], M. Tarazi[2], K. Doddakula[2]
[1]Faculty of Medicine, University College Cork; [2]Department of Cardiothoracic Surgery, Cork University Hospital

9.30 **27. Evaluation of the role of endovenous laser therapy (EVLT) in the management of chronic venous ulceration—a single centre experience**
E. O'Connell, R. Mihu, H. Mohan, B. Manning
Department of Surgery, Cork University Hospital

9.40 **28. A comparison of carotid and femoral arterial plaque composition and clinical correlates details for consecutive patients that underwent endarterectomy at University Hospital Limerick 2012–2014**
M.M. Hennessy[1], E.M. Cunnane[2], E.G. Kavanagh[1], P.E. Burke[1], M.T. Walsh[2]
[1]Department of Vascular Surgery, University Hospital Limerick; [2]Centre for Applied Biomedical Engineering Research (CABER), Department of Mechanical, Aeronautical and Biomedical Engineering, and Materials and Surface Science Institute (MSSI), University of Limerick

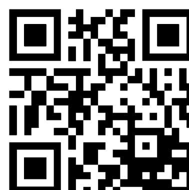
9.50 **29. The mechanical, compositional and morphological characterisation of femoral atherosclerotic plaque for the continued improvement of endovascular treatment**
E.M. Cunnane[1,2,3,4], H.E. Barrett[1,2,3,4], E.G. Kavanagh[5], M.T. Walsh[1,2,3,4]
[1]Centre for Applied Biomedical Engineering Research; [2]Department of Mechanical, Aeronautical and Biomedical Engineering; [3]Materials and Surface Science Institute; [4]Health Research Institute, University of Limerick; [5]Department of Vascular Surgery, University Hospital Limerick

10.00 **30. AAA in Ireland—who and how many are affected?**
C.J. O'Neill[1], G. McGreal[2], **G. Browne**[3]
[1]Department of Surgery, Cork University Hospital; [2]Department of Surgery, Mercy University Hospital, Cork; [3]Department of Epidemiology and Public Health, University College Cork

10.10 **31. The use of arteriovenous fistulae as an adjunct to peripheral arterial bypass: a systematic review and meta-analysis**
T. Aherne[1], R. Kheirelseid[2], K. Bashar[1], T. Moloney[1], P. Burke[1], E. Kavanagh[1], P. Naughton[2]
[1]Department of Vascular Surgery, University Hospital Limerick; [2]Department of Vascular Surgery, Beaumont Hospital, Dublin

10.20 **32. Open surgical repair, hybrid and endovascular repair of aortic arch pathology: systematic review and meta-analysis**
A. Elhelali[1], L. Morris[1], N. Hynes[2], E.P. Kavanagh[2], S. Sultan[2,3]
[1]GMedTech, Department of Biomedical Engineering, Galway Mayo Institute of Technology; [2]Department of Vascular and Endovascular Surgery, Galway Clinic; [3]Western Vascular Institute, Department of Vascular and Endovascular Surgery, University Hospital Galway

11.00–11.20 am Coffee (Sponsored by Barringtons Hospital) & Poster Viewing



SESSION 4: COLORECTAL SESSION

Time: 11.20–1.00 pm (7 min Presentation & 3 min Discussion)

Chairs: Dr. Brian Kenny & Mr. David Waldron

Room: GEMS0-016

11.20 **33. A randomised controlled trial comparing purse-string approximation with primary skin closure at ileostomy reversal**
M.R. Carter, M. Burton, D. Wijewardene, C. Pierce, E. Burton, S.C. Coffey, D. Waldron, E. Condon, J.C. Coffey
Department of Surgery, University Hospital Limerick

11.30 **34. Long term outcomes following stapled haemorrhoidectomy**
D.J. O'Connor, P.S. Waters, N. Aucharaz, E. Condon, D. Waldron
Department of Surgery, University Hospital Limerick

11.40 **35. The prognostic role of neutrophil to lymphocyte ratio in colorectal cancer**
I. O'Riordan, T. Bulter, W.P. Joyce
Department of Surgery, Galway Clinic

11.50 **36. Mucinous rectal adenocarcinoma is associated with a poor response to neo-adjuvant chemoradiotherapy: a meta-analysis**
C. Clancy, N. McCawley, B. O'Neill, J. Deasy, D. McNamara, J.P. Burke
Department of Colorectal Surgery, Beaumont Hospital, Dublin

12.00 **37. Validation of risk predictor scores in colorectal cancer patients**
I. O'Riordan, T. Bulter, W.P. Joyce
Department of Surgery, Galway Clinic

12.10 **38. Endoscopic tattooing: the roadmap for oncologic resections**
I. Reynolds[1], F. Hand[2], J.P. Burke[1], J. Deasy[1], D.A. McNamara[1].
[1]Department of Colorectal Surgery, Beaumont Hospital, Dublin; [2]Department of Surgery, Mayo University Hospital

12.20 **39. Quality of life following wide mesenteric excision in patients with crohn's disease**
D.J. Murphy, L. Walsh, D.P. O'Leary, J.C. Coffey
Department of Surgery, Limerick University Hospital

12.30 **40. Complication rates following closure of loop ileostomy**
L. Aljohmani, P.M. Neary, F. Narouz, T. Manzoor, B.J. Mehigan, J.O. Larkin, P. McCormick
Department of Colorectal Surgery, St James's University Hospital, Dublin

12.40 **41. Transanal endoscopic microsurgery: an institutional experience**
N.M. Foley, D. Hechtl, M. Jinih, J. Kelly, M. McCourt
Department of Colorectal Surgery, Cork University Hospital

ASGBI PAPER PRIZE

Room: GEMS0-028

11.30–12.30 pm

Chairs: Prof. Simon Cross & Mr. John Moorehead

1.00–2.00 pm GEMS0-029 Lunch (Sponsored by Barringtons Hospital) & Poster Viewing

SESSION 5: PLENARY SESSION

Time: 2.00–4.00 pm (7 min Presentation & 3 min Discussion)

Chairs: Prof. Arnold Hill & Prof. Michael Kerin

Room: GEMS0-016

2.00 **42. Risk factors for benign anastomotic stricture after oesophagectomy with gastric conduit reconstruction**
Z. Ahmed, J. Elliott; S. King, N. Ravi, J.V. Reynolds
Department of Surgery, Trinity Centre for Health Sciences, Trinity College Dublin & St. James's Hospital, Dublin

2.10 **43. Fibrocytes contribute to mesenteric manifestations in crohn's disease**
M.G. Kiernan, S.M. Sahebally, A. Jarrar, J.P. Burke, J. Hogan, P.A. Kiely, B. Shen, M. Moloney, M. Skelly, D. Leddin, H. Hedayat, P.N. Faul, V. Healy, P.R. O' Connell, S. Martin, F. Shanahan, C. Dunne, J.C. Coffey
Crohn's Disease Collaboration Group

2.20 **44. Isolation and characterisation of mesenchymal stem cells from osteoporotic/osteoarthritic patients**
Siobhan Coyle[1,2], Michele Corrigan[1], Marie-Noelle Labour[1], Brian Lenehan[2], David Hoey[1]
[1]University of Limerick, Centre for Applied Biomedical Engineering Research Materials and Surface Science Institute, Limerick; [2]University Hospital Limerick

2.30 **45. Differentiated thyroid cancer susceptibility in a western European population: a common variant at a 9q22 locus**
P.W. Owens[1], T.P. McVeigh[1,2], N. Miller[1], C. Guerin[3], F. Sebag[3], D. Quill[1], M. Bell[4], A.J. Lowery[1], M.J. Kerin[1]
[1]Discipline of Surgery, Lambe Institute for Translational Research, National University of Ireland, Galway; [2]Department of Surgery, Galway University Hospital; [3]Department of Clinical Genetics, Our Lady's Children's Hospital Crumlin, Dublin; [4]Department of Endocrine Surgery, Hôpital de la Timone, Marseilles, France; [5]Department of Endocrinology, Galway University Hospital

2.40 **46. Towards the development of a stratification parameter to predict the mechanical response of atherosclerotic plaque to endovascular treatment**
M.M. Hennessy[1], E.M. Cunnane[2], E.G. Kavanagh[1], P.E. Burke[1], M.T. Walsh[2]
[1]Department of Vascular Surgery, University Hospital Limerick, Limerick; [2]Centre for Applied Biomedical Engineering Research (CABER), Department of Mechanical, Aeronautical and Biomedical Engineering & Materials & Surface Science Institute (MSSI), University of Limerick

2.50 **47. Prospective evaluation of the potential to reduce breast cancer risk, through lifestyle modifications in brca-mutation carriers**
S.A. McGarrigle, E.M. Guinan, J. Hussey, J.N. O'Sullivan, T. Boyle, D. Al-azawi, M.J. Kennedy, D.J. Gallagher, E.M. Connolly
Department of Surgery, Trinity College Dublin & St. James's Hospital

3.00 **48. Lymph node ratio (LNR) in sentinel lymph node biopsy (SLNB) era: are we losing prognostic information?**
K.I. Quintyne[1,2], B. Woulfe[3,4], J.C. Coffey[2,5], R.K. Gupta[3,4]
[1]Department of Public Health, HSE Mid-West, Limerick; [2]Graduate Entry Medical School, University of Limerick; [3]Department of Medical Oncology, University Hospital Limerick; [4]Stokes Institute, University of Limerick; [5]Department of Surgery, Limerick

3.10 **49. Does metabolic syndrome affect post operative recovery after aortic valve replacement surgery?**
I. Stapleton[2], N.S. Hamdam[1], N Mayooran[2], S. Jahangeer[2], K. Doddakula[2]
[1]Faculty of Medicine, University College Cork; [2]Department of Cardiothoracic Surgery, Cork University Hospital

3.20 **50. The effect sacral neuromodulation on anal, perineal and rectal light-touch evoked potentials in the rat**
J. Evers[1], E.V. Carrington[1,2], S.M. Scott[2], C.H. Knowles[3], P.R. O'Connell[4], J.F.X. Jones[1]
[1]School of Medicine and Medical Science, University College Dublin; [2]GI Physiology Unit, The Wingate Institute of Neurogastroenterology, Queen Mary, University of London; [3]National Centre for Bowel Research and Surgical Innovation, Queen Mary, University of London; [4]Centre for colorectal disease, St Vincent's University Hospital, Dublin

3.30 **51. Prospective validation of neutrophil-to-lymphocyte ratio (NLR) as a diagnostic and management adjunct in acute appendicitis**
A. Khan, M. Riaz, M.E. Kelly, W. Khan, R. Waldron, K. Barry, I.Z. Khan
Department of Surgery, Mayo University Hospital, Saolta University Healthcare Group

3.40 **52. A Quantitative analysis of tumour characteristics in breast cancer patients with extranodal extension in non-sentinel nodes**
N.A. O'Keeffe[1], C. O'Neill[1], A. Zahere[1], V. Livingston[2], T.J. Browne[3], H.P. Redmond[1], M.A. Corrigan[1]
[1]Cork University Hospital, Breast Research Centre; [2]Department of Medicine and Health; [3]Department of Pathology

3.50 **53. Early satiety is associated with an exaggerated postprandial satiety gut hormone response early after oesophagectomy with gastric conduit reconstruction**
J.A. Elliott[1,2], H.G. Eckhardt[1], S.L. Doyle[2], E. Guinan[2], N.G. Docherty[1], N. Ravi[2], J.V. Reynolds[2], C.W. le Roux[1,4]
[1]Diabetes Complications Research Centre, Conway Institute of Biomedical and Biomolecular Research, University College Dublin; [2]Department of Surgery, Trinity Centre for Health Sciences, Trinity College Dublin and St. James's Hospital, Dublin; [3]Wellcome Trust and HRB Clinical Research Facility, St. James's Hospital, Dublin; [4]Gastrosurgical Laboratory, Sahlgrenska Academy, University of Gothenburg, Sweden

SESSION 6: SCIENTIFIC SESSION

Time: 2.00–4.00 pm (7 min Presentation & 3 min Discussion)

Chairs: Dr Pat Kiely, Prof Aoife Lowery & Prof J Calvin Coffey

Room: GEMS0-028

2.00 **54. An evaluation of multiple novel markers expression on breast cancer recurrence and outcome**
C. Cuggy[1], S. Abd Elwahab[2], S. Khan[1], R.M. Dwyer[1], K.J. Sweeney[2], R. McLaughlin[2], M.J. Kerins[2], C. Malone[2]
[1]Division of Surgery, School of Medicine; [2]Department of Surgery, University Hospital Galway

2.10 **55. Identification of an injury induced skeletal progenitor**
R. Tevlin[1,3], O. Marecic[1,3], A. McArdle[1,3], E.Y. Seo[1,3], I.L. Weissman[2,3], M.T. Longaker[1,3], C.K.F. Chan[1,2,3]
[1]Hagey Laboratory for Pediatric Regenerative Medicine; [2]Departments of Pathology and Developmental Biology; [3]Institute for Stem Cell Biology and Regenerative Medicine, Stanford University, Palo Alto, CA 94305

2.20 **56. Investigation of serum-derived exosome-encapsulated microRNAs as circulating biomarkers of breast cancer**
D.P. Joyce, J.L. Bourke, E. Ramphul, M.J. Kerin, R.M. Dwyer
Discipline of Surgery, Lambe Institute for Translational Research, School of Medicine, National University of Ireland Galway

2.30 **57. In silico and in vitro modelling of flow behaviour in lymphatic vessels**
S.T. Morley, D.T. Newport, M.T. Walsh
Department of Mechanical, Biomedical & Aeronautical Engineering (MABE), University of Limerick

2.40 **58. Adipophilin is a prognostic biomarker in colorectal cancer**
E.M. Lyons, J. Hogan, L. O'Byrne, M. Kiernan, C. Dowling, P. Kiely, C. Dunne, M. O'Callaghan, D.P. O'Leary, M. Kalady, J.C. Coffey
Department of Surgery, Limerick University Hospital

2.50 **59. MUTYH—associated polyposis: the Irish experience**
T.P. McVeigh, M. Duff, C. Carroll, N. Cody, R. O'Shea, L. Bradley, M. Farrell, D.J. Gallagher, C. Clabby, A.J. Green
[1]Department of Clinical Genetics, Our Lady's Children's Hospital, Crumlin, Dublin; [2]Discipline of Surgery, Lambe Institute for Translational Research, NUI Galway; [3]Mater Private Hospital, Dublin

3.00 **60. Towards a better understanding of tumour heterogeneity: a case study examining the expression pattern of protein kinase c in a triple negative metaplastic carcinoma**
M. McCumiskey[1,2,3,4], C. Dowling[1,4], M. Murphy[5], E. Kelly[5], D. Walsh[4], S. Tormey[2], A. Merrigan[2], A. Lal[2], T, Dalton[3], P.A. Kiely[1,4]
[1]Department of Life Sciences; [2]Department of Surgery, University Hospital Limerick; [3]Stokes Institute; [4]Graduate Entry Medical School; [5]Department of Pathology, University of Limerick

3.10 **61. The mesocolic hilum: an electron microscopic appraisal of anatomy**
L.G. Walsh[1,2,3], I.S. O'Brien[4], D.P. O'Leary[1], P.A. Kiely[3], C. Dunne[3], F. Quandamatteo[4], P. Dockery[4], J.C. Coffey[1,2,3]
[1]Surgical Professorial Unit, Department of Surgery; [2]Graduate Entry Medical School, Limerick; [3]Centre for Interventions in Infection, Inflammation and Immunity (4i), Graduate Entry Medical School, University of Limerick; [4]Department of Anatomy, The National University of Ireland, Galway

SESSION 7: ENT/HEAD & NECK SESSION

Time: 3.00–5.00 pm

Oral Presentations: 7 min Presentation & 3 min Discussion

Poster Presentations: 3 min Presentation & 2 min Discussion

Chairs: Prof. John Fenton & Prof. Ivan Keogh UCHG

Room: GEMS0-029

Presenter should identify themselves as Senior (Spr) or Junior (Pre-Spr) at start of presentation.

3.00 **62. A novel solo endoscopic nasogastric tube insertion technique**
C. Wijaya, R. Ramli
Department of Otorhinolaryngology, Beaumont Hospital, Dublin—**Oral**

3.10 **63. Nasal corticosteroid sprays: patient knowledge, use and satisfaction**
F. Tan, K. Hinchion, M. Thornton, I. Keogh
Department of Otorhinolaryngology & Head and Neck Surgery, University Hospital Galway—**Oral**

3.20 **64. Case series of patients diagnosed with cervicogenic disequilibrium—an unfamiliar complaint**
C. Hennessy, C. O'Rourke, C. Noonan, J.E. Fenton
Department of Surgery, ENT, Limerick University Hospital—**Poster/Oral**

3.25 **65. Citation analysis of case reports citation classics in otorhinolaryngology—head & neck surgery**
S.A. Yellin[1], D.J. Shearer[1], L.W. Edelmayer[2], D.H. Coelho[2], J.E. Fenton[1]
[1]Graduate Entry Medical School, University of Limerick, Ireland, [2]Department of Otolaryngology—Head & Neck Surgery, Virginia Commonwealth University, Richmond, VA, USA **Poster/Oral**

3.30 **66. Case report: progression of laryngeal dysplasia in a 7 year old boy to laryngeal squamous cell carcinoma 20 years later**
S.L. Gillanders, A. Naude, J.P. O'Neill
Department of Head & Neck Oncology, Beaumont Hospital, Dublin—**Poster/Oral**

3.35 **67. IGG4—the new umbrella for some known conditions**
C.J. O'Neill[1], M. Harney[2]
[1]Department of Surgery, Cork University Hospital; [2]Bon Secours Hospital Cork—**Oral**

3.45 **68. Revision cochlear implantation: indications, outcome and predictors**
C. Wijaya, C. Simões-Franklin, F. Glynn, P. Walshe, L. Viani
National Cochlear Implant Center, Beaumont Hospital, Dublin—**Oral**

3.55 **69. Recurrent pleomorphic adenoma: a single surgeons experience over 15 years**
E. Keane, P. Lennon, C.V. Timon
Department of ENT/Head & Neck Surgery, St James Hospital, Dublin 8—**Oral**

4.05 **70. Tongue-tie classification systems: a review of the literature**
M. Flora, J.E. Fenton, C. O'Rourke, M. Kaare
Department of Otolaryngology/Head and Neck Surgery, University Hospital Limerick—**Poster/Oral**

4.10 **71. Can the use of sugammadex during ambulatory microlaryngoscopy procedures decrease theatre operating time and unplanned admission rates**
S. Wentzell[1], S. Keane[2], M.T.M. Kaare[1,3], P. Dillon[2], J.E. Fenton[1,3]
Departments of Otorhinolaryngology & Anaesthesia, Limerick University Hospital & UL GEMS, Limerick—**Poster/Oral**

4.15 **72. Re-establishing the surgical parathyroidectomy service as the optimal treatment for primary hyperparathyroidism in University Hospital Waterford**
A. Waris[1], R. Sehgal[1], G.T. O'Donoghue[1]
[1]Department of Surgery, University Hospital Waterford—**Poster/Oral**

4.20 **73. Malignancy risk stratification in multinodular goitre: a retrospective review of ultrasound features, histopathological results and cancer risk**
B.S. Kelly[1], P. Govender[1], M. Jeffers[2], J. Kinsella[3], J. Gibney[4], M. Sherlock[4], W.C. Torreggiani[1]
[1]Department of Radiology; [2]Department of Pathology; [3]Department of Otolaryngology; [4]Department of Endocrinology, Adelaide Meath incorporating the National Children's Hospital Tallaght, Dublin 24—**Oral**

4.30 **74. Inadvertent parathyroidectomy after thyroid surgery**
D.M. McGoldrick, M. Majeed, A. Amin, H.P. Redmond
Department of Surgery, Cork University Hospital—**Oral**

4.40 **75. The development of unique gold nano stars to improve SERS and aid in the early diagnosis of squamous cell carcinoma**
K. Davies, J. Cai, V. Raghavan, P. Dockery, H. Fan, M. Olivo, I. Keogh
University College Hospital Galway—**Oral**

4.50 **76. A retrospective study of successful Nizoral treatment in thirteen cases of recurrent otitis externa**
C. Byrne, J.E. Fenton
Department of Otorhinolaryngology and Head & Neck Surgery, University Hospital Limerick—**Oral**

THE INAUGURAL SYLVESTER O'HALLORAN DEBATE

Teams from Beaumont Hospital Dublin & National University Hospital Galway

Chair: Ms. Shona Tormey

Room: GEMS0-016

Time: 4.00–5.30 pm

SYLVESTER O'HALLORAN LECTURE

Chair: Prof J Calvin Coffey

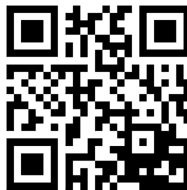
Speaker: Prof Freddie Wood, President of Irish Medical Council

Title: The Pursuit of Surgical Excellence: Sylvester O'Halloran, R.C.S.I. and the Medical Council; 1760–2016

Room: GEMS0-016

Time: 5.30–6.30 pm

Saturday 5th March 2016



SESSION 8: GENERAL SESSION I

Time: 9.00–11.00 am (7 min Presentation & 3 min Discussion)

Chairs: Mr. Michael Sugrue & Mr. Mark Corrigan

Room: GEMS0-016

9.00 **77. The Movember campaign—great for moustaches but not for men's cancer**
J.S.A. Khan, P.F. Wrafter, J.C. Kelly, F. Darcy, C. Dowling
Department of Urology, University Hospital College Galway

9.10 **78. Assessment of #digital literacy of hospital staff @ UCHG**
B. Moran, S. Abd Elwahab, K.J. Sweeney
National University College, Galway, University College Hospital Galway

9.20 **79. Horrible handwriting—the quality of handwriting of inpatient prescriptions in an Irish hospital**
A. Nic an Ríogh[1], R. Sehgal[1], E. Jordan[1], P. Fogarty[2], A. Lloyd, [2], F. Awan[1], O. El-Faedy[1], L. Silvio[1], R. Pretorius[1], P. Balfe[1]
[1]Department of Surgery, St. Luke's Hospital, Kilkenny; [2]School of Medicine, University of Limerick

9.30 **80. Audit of day of surgery preoperative waiting times in a peripheral hospital**
D. Meskell, S. Johnston, D. Hehir
Department of General Surgery, Midlands Regional Hospital

9.40 **81. The effect of emergency department closures on surrounding hospital workload**
S.K. Upadhayay, C. McDonnell, N. Ní Choileáin, E. Myers
Department of General Surgery, Portiuncula Hospital, Co. Galway

9.50 **82. Implementing a digital streamlined emergency surgical admission and handover system. An audit of the conventional system**
S. Akasha, S. Elwahab, R. Mclaughlin
Department of General Surgery, Galway University Hospital

10.00 **83. PATI: patient accessed tailored information: a pilot study to evaluate the effect on preoperative breast cancer patients of information delivered via a mobile application**
N.M. Foley[1], E.P. O'Connell[1], V. Livingstone[1], B. Maher[2], E.A. Lehane[3], T. Cil[4], N. Relihan[1], M.W. Bennett[1], H.P. Redmond[1], M.A. Corrigan[1]
[1]Breast Research Centre; [2]School of Medicine; [3]Catherine McAuley School of Nursing and Midwifery, University College Cork; [4]Division of General Surgery, University of Toronto, Canada

10.10 **84. The five year paradigm shift of primary cutaneous melanoma management by general surgeons, dermatologists, general practioners and specialist melanoma cancers surgeons' in the south east of Ireland**
Z.A. Aljaffar[1], S. Fields[2], C. Buckley[2], R. Landers[3], J.O. Murphy[4], G.T. O'Donoghue[4]
[1]Medical School, RCSI; [2]Department of Dermatology; [3]Department of Pathology; [4]Department of Surgery, University Hospital Waterford

10.20 **85. Laparoscopic repair of caecal perforation**
C. Cronin, F.P. Pretorius, L. Silvio
St. Luke's Hospital, Kilkenny

10.30 **86. Magnitude of non-operative emergency admissions; service implications for surgical and radiological practice**
R.M. Heaney, I. Reynolds, F. Hand, W. Khan, I. Khan, R. Waldron, K. Barry
Department of Surgery, Mayo University Hospital

SESSION 9: ANAESTHESIA SESSION

Time: 9.00–11.20 am (7 min Presentation & 3 min Discussion)

Chairs: Prof. Dominic Harmon, Dr Seosamh O Riain & Dr Pat Dillon

Room: GEMS0-028

9.00 **87. Model of improvement for ISBAR communication tool utilisation when contacting anaesthesia NCHD's in University Maternity Hospital, Limerick**
S. Keane[1], A. Cotter[2], J. Shannon[1]
[1]Department of Anaesthesia; [2]Department of Obstetrics and Gynaecology, University Maternity Hospital, Limerick

9.10 **88. Breast cancer intervention and chronic pain**
L. Holmes, D. Harmon
Department of Anaesthesia & Pain Medicine, Limerick University Hospital

9.20 **89. Assessment of patient concerns: a review**
J. Nilan, D. Doltani, D. Harmon
Department of Anaesthesia & Pain Medicine, Limerick University Hospital

9.30 **90. A literature review examining the role of a companion attending consultations with the patient**
E. Troy, D. Doltani, D. Harmon
Department of Anaesthesia & Pain Medicine, Limerick University Hospital

9.40 **91. Exploring the facets of empathy and pain in clinical practice: a review**
J. Roche, D. Harmon,
Department of Anaesthesia & Pain Medicine, Limerick University Hospital

9.50 **92. Role and influence of patient's accompanist in pain medicine consultations: the patient perspective**
J. Roche, D. Harmon
Department of Anaesthesia & Pain Medicine, Limerick University Hospital

10.00 **93. Change in model of care and accommodation in a high dependency unit: a comparison**
C. Ashe, R. Irwin, J. O'Dea
Department of Anaesthesia, University Hospital Limerick

10.10 **94. Training and confidence in providing total intravenous anaesthesia: a national audit of anaesthetists in Ireland**
C.S. Black[1], B.D. O'Donnell[2]
[1]Specialist Registrar, CAT-RAN; [2]Consultant, Department of Anaesthesia, Cork University Hospital

10.20 **95. A clinical audit of haemodilution in patients undergoing elective intravascular coiling of intracerebral aneurysms**
I. Geraghty, S. O'Callaghan
Cork University Hospital

10.30 **96. Medical record weight (MRW): a new reliable predictor of hospital stay, morbidity and mortality in the hip fracture population?**
P. Calpin
Galway University Hospital

10.40 **97. Delayed admissions and discharges from the intensive care unit, the reasons, and the impact on patients**
J. O'Keeffe, J. O'Dea, F. O'Brien
Department of Anaesthesia & Pain Medicine, Limerick University Hospital

10.50 **98. Ultrasound guided identification of the crico-thyroid membrane to facilitate front of neck access in obese parturients: a feasibility study**
A. Lavelle[1], A. Cotter[2], J. O'Driscoll[1], J. Shannon[1,]
[1]Department of Anaesthesia; [2]Department of Obstetrics and Gynaecology, University Hospitals Limerick & University of Limerick GEMS

SESSION 10: ORTHOPAEDIC SESSION I

Time: 9.00–10.45 am (7 min Presentation & 3 min Discussion)

Chairs: Mr. Dermot O'Farrell & Mr. Lester D'Souza

Room: GEMS0-029

9.00 **99. Quantitative analysis of technological innovation in knee arthroplasty**
D.M. Dalton, T.P. Burke, E.G. Kelly, P.D. Curtin
Department of Trauma & Orthopaedic Surgery, Limerick University Hospital

9.10 **100. Tomosynthesis: a new radiologic technique for rapid diagnosis of scaphoid fractures**
N. Compton, L. Murphy, F. Lyons, J. Jones, P. MacMahon, J. Cashman
Department of Anatomy, University College Dublin, Department of Orthopaedics, Department of Radiology, Mater Misericordiae University Hospital, Dublin

9.20 **101. Factors Influencing intra-operative fluoroscopy usage during operative treatments of hip fractures**
G.A. Kelly, F.E. Rowan, C. Hurson
Department of Trauma and Orthopaedics, St. Vincent's University Hospital

9.30 **102. Cyanoacrylate glue for primary wound skin closure in total hip replacement**
S.L. Gillanders, E. Sheehan
Department of Trauma & Orthopaedics, Midlands Regional Hospital Tullamore

9.40 **103. Subtrochanteric femur fractures in an Irish trauma centre over 8 years—how incorrect data collection causes inaccurate incidence rates**
E.I. Coveney, J.F. Quinlan
Adelaide and Meath Incorporating the National Childrens Hospital, Tallaght

9.50 **104. Exploring the impact of a 5-day full service working week on hip fracture patients length of hospital stay**
G.A. Kelly, F.E. Rowan, C. HursonDepartment of Trauma and Orthopaedics, St. Vincent's University Hospital

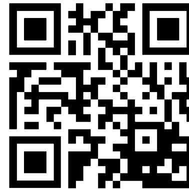
10.00 **105. Early postoperative pain is a reliable prognostic indicator in arthroscopic tibiotalar arthrodesis**
A. Moriarity, P. Ellanti, K. Mohan, T. Bayer, J. McKenna
St. James' Hospital, Dublin

10.10 **106. Seeing is believing—what patients learn on youtube about ACL reconstruction**
E.M. Fitzgerald, J.T. Cassidy, M. Cleary
Department of Orthopaedics, University Hospital Waterford

10.20 **107. A review of intertan nailing utilisation and complication's analysis**
Houlihan Lena Mary, O Connor Conleth, O'Neill Barry, Harty James
Department of Orthopaedics, Cork University Hospital

10.30 **108. Malrotation of a total knee replacement prosthesis—a simple approach to investigation**
A. Hughes[1], S. O'hEireamhoin[1], E. Heffernan[2], C. Hurson[1]
[1]Department of Orthopaedic Surgery; [2]Department of Radiology, St. Vincent's University Hospital, Dublin

11.00–11.20 am Coffee (Sponsored by Barringtons Hospital) & Poster Viewing



SESSION 11: GENERAL SESSION II

Time: 11.20–1.00 pm (7 min Presentation & 3 min Discussion)

Chairs: Mr. Dermot Hehir, Mr. Peter Murchan

Room: GEMS0-016

11.20 **109. Audit: correlation between dermoscopy score and final histology in skin lesions**
D.M. McGoldrick, K.M. Fogarty, M. Majeed, A. Amin Achakzai, H.P. Redmond
Department of Surgery, Cork University Hospital

11.30 **110. A randomised controlled trial of negative pressure wound therapy at primary closure of midline laparotomy wounds**
M.R. Carter, M. Burton, B. Anglim, E. Concannon, C. Pierce, S.N. Coffey, D. Wijewardene, E. Burton, D. Waldron, K. Hickey, J.C. Coffey
Department of Surgery, University Hospital Limerick

11.40 **111. Colonoscopy following diverticulitis; cost-effectiveness versus safety**
S. Anderson, L. Simmons, S.M. Walsh, C.P. Power, A.D.K. Hill
Department of Surgery, Beaumont Hospital Dublin

11.50 **112. The outcomes of patients presenting with acute diverticultis: a need for national consensus?**
P.F. Wrafter, D. O'Callaghan, M.E. Kelly, K.J. Sweeney
Department of Breast Surgery, University Hospital Galway, Saolta University Healthcare Group

12.00 **113. Appendicitis: have we improved in the management of acute appendicitis?**
S. Kimura, K. Bashar, P.E. Burke
Department of Surgery, University Hospital Limerick

12.10 **114. RIF pain in females of reproductive age: is ultrasound abdomen pelvis the optimal imaging modality**
O. Ahmed, A.C. Rogers, L. Loughlin, M. Farrell, F.P. Pretorius, B.M. Waldron, M.P. McMonagle
Kerry General Hospital, Department of Surgery, St Luke's General Hospital Kilkenny, Department of Surgery and Radiology, University Hospital Waterford, Department of Surgery

12.20 **115. Clinical and histopathological appraisal of *negative* appendectomies: two year retrospective single centre study with follow up**
C. Singh[1], P. Balfe[1]
[1]Department of Surgery, St. Luke's Hospital, Kilkenny

12.30 **116. Diverticular disease is a risk factor for the development of post operative incisional hernias**
I. O'Riordan, T. Connolly, P. Wrafter, T. Butler, WA Kolton, W.P. Joyce
Galway Clinic, RCSI and Penn State Hershey Medical Centre

12.40 **117. Predicting the course: is neutrophil to lymphocyte ratio the key in acute diverticulitis?**
I. Reynolds, R. Heaney, F. Hand, W. Khan, I. Khan, K. Barry, R. Waldron
Department of Surgery, Mayo University Hospital

12.50 **118. University Hospital Waterford: a four-year experience of cutaneous melanoma**
R. Sehgal, X.C. Cheung, S. Norton, A. Waris, G.T. O'Donoghue
Department of Surgery, University Hospital Waterford

SESSION 12: ORTHOPAEDIC SESSION II

Time: 11.20–1.00 pm (7 min Presentation & 3 min Discussion)

Chairs: Mr. Brian Lenehan & Mr Tom Burke

Room: GEMS0-029

11.20 **119. Cementless total hip arthroplasty in octogenarians—an Irish study**
C. Fenelon, R. Merchant, J. Galbraith, E. Masterson
Department of Orthopaedic Surgery, University Hospital Limerick

11.30 **120. Clinical outcomes in ankylosing spondylitis patients following traumatic spinal**
M. Nugent, M.J. Berney, S. Morris
Mater Misericordiae University Hospital, Dublin

11.40 **121. Trends in discharge location of hip fractures from a tertiary referral centre—a 10 year experience**
E.I. Coveney, J.F. Quinlan, M. Cleary
Department of Trauma and Orthopaedics, University Hospital Waterford

11.50 **122. Musculoskeletal infection management via outpatient parenteral antibiotic administration**
A. Hughes[1], D. Dalton[1], S. Fitzgerald[2], E. Feeney[3], P. Curtin[1], C. Hurson[1]
[1]Department of Orthopaedic Surgery; [2]Department of Microbiology; [3]Department of Infectious Diseases, St. Vincent's University Hospital, Dublin

12.00 **123. Management of pregnancy and lactation associated osteoporotic spine fractures**
P. Staunton[1], J. Baker[1], E. Tatro[2], A. Devitt[1]
[1]Department of Trauma & Orthopaedics, Galway University Hospitals; [2]Department of Medicine, Beaumont Hospital, Dublin

12.10 **124. A cost-effective alternative to DEXA scanning in detecting patients at risk of hip fractures due to osteoporosis**
K. Mohan, P. Ellanti, A. Moriarity, T. McCarthy
Department of Trauma & Orthopaedics, St. James's Hospital, Dublin

12.20 **125. Indications to operate: spinal deformities in Hurler's syndrome**
L.A. Lambert, D.F. Lui, J. Tan, T. Savage, N. Burke, J. Kennedy, P.M. Kelly, P. Kiely, J. Noel
Our Lady's Children's Hospital Crumlin

12.30 **126. Predicting acute post-operative outcome in frail hip fracture patients**
E. Fitzgerald, J. Ryan
GEMS, University of Limerick

12.40 **127. Ventral rod migration of posteriorly applied growing rod technology for early onset scoliosis**
L.A. Lambert, P.J. Kiely
Our Lady's Children's Hospital, Crumlin

12.50 **128. Hip resurfacing: five-year outcomes comparing Birmingham hip resurfacing and articular surface replacement systems using matched joint registry data**
P. Dawson, J. Butler, M. Quinn, P. Kenny
Cappagh National Orthopaedic Hospital, Dublin

SIR THOMAS MYLES LECTURE

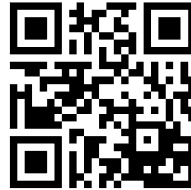
Chair: Prof. J. Calvin Coffey

Speaker: Mr. Joe Duignan

Title: "Irish Doctors in World War I"

Room: GEMS0-016

Time: 1.00–2.00 pm



"THE NURSES' ROLE IN THE ENHANCED RECOVERY AFTER SURGERY" PROGRAMME

Room: GEMS0-029

Time: 2.00–4.00 pm

GENERAL POSTERS

1. **Education and training at an Irish tertiary referral centre—a tale of two specialties?**
N.P. Lynch, P. Finucane
Department of Surgery & Department of Medicine, University Hospital Limerick

2. **Effect of the anti-microbial drug taurolidine on human breast cancer cell lines**
E. O'Connell, J.H. Wang, H.P. Redmond
Department of Surgery, Cork University Hospital

3. **Redefining segmentation of human visceral adipose tissue in computed axial tomographic images: a proof of concept**
S.A. Yellin[1], M. Shelly[2], D.P. O'Leary[1], J.C. Coffey
[1]Department of Surgery; [2]Department of Radiology, University Hospital Limerick

4. **Innovation for the future of Irish medtech industry: retrospective qualitative review of impact of clinical fellows**
E.K. McGloughlin, P.P. Anglim, BioInnovate
National University of Ireland Galway, University of Limerick, University College Cork

5. **Comparative analysis of adipose derived stem cells from breast tissue and mesenchymal stem cells by immunophenotyping**
D. Courtney, S. Khan, P. Donovan, R.M. Dwyer, K. Sweeney, A.J. Lowery, M.J. Kerin
Department of Surgery, The Lambe Institute, NUI Galway

6. **The appropriateness of endoscopy referrals: a clinical audit**
M.A. Zarog, D.P. O'Leary, J.C. Coffey, G. Byrnes
Department of Surgery, University Hospital Limerick

7. **Circulating fibrocytes represent a key biomarker in diagnosis of acute appendicitis**
M.A. Zarog, M. Kiernan, D.P. O'Leary, E.M. Lyons, P. Tibitts, S.N. Coffey, G. Byrnes, J.C. Coffey
Department of Surgery, University Hospital Limerick

8. **Endocolonic ultrasound mapping of the mesocolon and its mesenteric attachments: a prospective observational study**
K.G. Byrnes[1], D.P. O'Leary[1], J.C. Coffey[1,2,3]
[1]Professorial Unit, Department of Surgery, University Hospital Limerick; [2]Graduate Entry Medical School, University of Limerick; [3]Centre for Interventions in Infection, Inflammation and Immunity (4i), Graduate Entry Medical School, University of Limerick

9. **Study on colorectal cancer presentation, treatment and follow up**
M. Aakif, P. Balfe, O. Elfaedy, Fl Awan, F. Pretorius, Silvio, Castinera, Hd Mustafa, M. Umair
Saint Lukes Hospital Kilkenny

10. **Familial breast cancer clinic: high risk, high yield**
S.R. Tee, N.P. Lynch, D. Alazawi, T. Boyle, E.M. Connolly
Department of Surgery, Trinity Centre for Health Sciences, St. James Hospital, Dublin

11. **Related malignancy in patient presenting with acute diverticulitis—is early colonoscopy mandatory in all patients?**
D.J. O'Connor, P.S. Waters, N. Aucharaz, E. Condon, J.C. Coffey, D. Waldron
Department of Surgery, University Hospital Limerick

12. **Acute cellulitis: a 3 month prospective study**
A. Kabir, A. Waris, R. Sehgal, G. O'Donoghue
Department of Surgery, University Hospital Waterford

13. **Open appendicectomy—no longer a realistic training requirement**
S. Norton, M. Anas, C.A. Slattery, J.O. Murphy, G.T. O'Donoghue
Department of Surgery, University Hospital Waterford

14. **Assessment of virtual reality colonoscopy in the surgical planning of stage IV penetrating colorectal endometriosis**
A. Zawwar, J. Feeney, A. O'Neill, P. Neary
AMNCH, Tallaght Hospital

15. **Change management within the Irish healthcare system—a doctor's conundrum**
C. Kiernan, L. Tunney
UCD Michael Smurfit Business School, RCSI, RCPI

16. **An analysis of performance correlating breast volume excision and margin status**
K. Cheung Ng, A. Johnston, V. Savva, G. MacGregor, M. Sugrue
Breast Centre North West, Letterkenny University Hospital

17. **Predictive value of CRP/albumin ratio in major abdominal surgery**
N.E. Donlon, H. Mohan, I. Finn, K. Mealy
Department of Surgery, Wexford General Hospital

18. **Community outreach clinics reduce OPD non-attendance**
R.G. Brennan, J.C. Bolger, K.P. Murray
Department of Surgery, Kerry General Hospital

19. **Two cases of popliteal artery systic adventitial disease treated with excision and primary bypass graft: review of outcomes using this and other methods**
M.M. Hennessy, G. McGreal, G. O'Brien
Mercy University Hospital, Cork

20. **Vascular obstructive jaundice**
M. Hegazy, H. Hseino, A. Leahy
Department of Vascular Surgery, Beaumont Hospital, Dublin

21. **Initial serum lactate is a biomarker for risk of mortality in acute mesenteric ischaemia**
N.P. Mulcrone[1,3], M. Quirke[1,2,3], P. Healy, G.A. Bass[1], A.D.K. Hill[1,3]
[1]Departments of Surgery; [2]Emergency Medicine, Beaumont Hospital, Dublin; [3]The Medical School, and RCSI

22. **Informed consent: audit of practice with implication to patient satisfaction and cost-effectiveness**
C. Singh[1], M. Hekket, P. Balfe, F.N. Awan
Department of Surgery, St. Luke's Hospital, Kilkenny

23. **Science or popular media: what drives breast cancer online activity?**
R. Sugrue, S. Sheehy, M.E. Kelly, K.J. Sweeney
Department of Breast Surgery, University Hospital Galway, Saolta University Healthcare Group

24. **Defining unique features of breast cancer in women under the age of 35 to inform clinical, radiological and oncological assessment and treatments**
M. Brennan[1], S. Abd Elwahab[2], S. Walsh[3], R. McLaughlin[2]
[1]Discipline of Surgery, School of Medicine; [2]Department of Surgery & [3]Department of Radiology, National University of Ireland Galway

25. **Granulomatous mastitis: a review of 3 cases**
S.R. Tee, D. Alazawi, E. Connolly, T. Boyle
Department of Breast Surgery, St. James's Hospital, Dublin

26. **To design, develop and test the effect of an educational initiative to improve risk perception amongst women at the high-risk breast clinic**
D. Keohane, E. Rutherford, V. Livingstone, E. Lehane, L. Kelly, S. Kaimkhani, F. O'Connell, H.P. Redmond, M.A. Corrigan
Department of Surgery, Cork University Hospital

27. **Invasion of the anterior abdominal wall—a case report of a desmoid tumour**
S. Norton, R. Seghal, G. O'Donoghue
University Hospital Waterford

28. Squamous cell carcinoma (SCC) of the penis in Ireland—moving towards phallus preserving strategies. A case series
S. Norton, C. McCourt, A. Looney, P. Daly, I. Cullen
University Hospital Waterford

29. Perforated jejunal diverticulum: a rare case of acute abdomen
T. Hills[1], **C. McCourt[1]**, R. Sehgal[1], A. Waris[1], X.C. Cheung[1], T. Khan[1]
[1]Department of Surgery, University Hospital Waterford

30. Hereditary pancreatitis—a case report
Ali Zawwar
AMNCH, Tallaght Hospital

31. Surgical management of perianal fistulas: a systematic review and meta-analysis
C. Cheung, A. Rogers, T. Fahey, D. Kavanagh
Department of Surgery, AMNCH, Tallaght, Department of Postgraduate Studies, RCSI, Dublin

32. Large symptomatic splenic cyst in a young woman: case report and assessment of literature for this uncommon condition
S. Aloia, C. Wong, E. O'Malley, C.G. Collins
Department of Surgery, Galway University Hospital

33. An analysis of the use of short message services (SMS) by on-call services in a tertiary hospital
D.J. Lehane, L. Kelly, T. Cil, H.P. Redmond, M.A. Corrigan
Cork Breast Research Centre, Cork University Hospital, Women's College Hospital, Toronto, Ontario, Canada

34. Appendiceal intussusception: a rare presentation with a previously unreported cause
E. O'Malley, S. Aloia, A. Aziz, C.G. Collins
Department of Surgery, Galway University Hospital

35. On the variable quality of breast cancer related information on the internet
D.J. Bowden
Department of Surgery, Galway University Hospital

36. Management of traumatic head injuries in patients presenting to an acute surgical assessment unit (ASAU)
A. Hoban, H. Dillon, E. Hannon, O. El-Faedy
Department of General Surgery, St. Luke's General Hospital, Kilkenny

37. True incidence & prevalence of anal fistulae from UK and Irish national databases
P.F. Wrafter, A.J. Regan, M. Zilversmit, E. Bambury, M.C. Regan
Department of General Surgery, University College Hospital Galway

38. Tailor made hernia repair: one size does not fit all
C.T. Cronin, H. Mustafa, P. Balfe, F.P. Pretorius
Department of Surgery, St. Luke's Hospital, Kilkenny

39. Large incarcerated spigelian hernia
C. Cronin, R. Seghal, E. Silvio
Department of Surgery, St. Luke's Hospital Kilkenny

40. Neglected gallbladder disease in Ireland
L Silvio, C.T. Cronin,
Department of Surgery, St. Luke's Hospital, Kilkenny

41. Illumination—near infra-red intra-operative imaging using indocyangreen
L. Silvio, C.T. Cronin
Department of Surgery, St. Luke's Hospital, Kilkenny

42. Laparoscopic management of colo-vesical fistula
L. Silvio, C.T. Cronin
Department of Surgery, St. Luke's Hospital, Kilkenny

43. Audit of hospital recovery and complications of breast reconstruction patients: an overview for implementing an enhanced recovery protocol—pilot study
C. Hayes, S. Abd Elwahab, N. O'Halloran, R. McLaughlin, C. Malone
Department of Surgery, University Hospital Galway

44. Achalasia in pregnancy—a case series
Clare O'Connell[1], Michelle Fanning[2], N. Ravi[1], J.V. Reynolds[1]
[1]Department of Surgery, Trinity Centre for Health Sciences, Trinity College Dublin, St. James's Hospital; [2]Department of Clinical Nutrition, St. James's Hospital, Dublin

45. **An analysis of LCIS in fibroadenomas: should we excise them all?**
C. O'Neill[1], C. Fives[2], M.W. Bennett[2], M. O'Sullivan[2], M. Corrigan[1], R. Murphy[2], L. Feeley[2], F. O'Connell[2], T.J. Browne[2]
[1]Surgery & [2]Histopathology, Cork University Hospital

46. **Is mesenteric based surgery associated with more complications than non-mesenteric based surgery for the curative treatment of lower or middle rectal carcinomas?—a systematic review and meta-analysis**
S.N. Coffey, J.C. Coffey
Department of Surgery, University Hospital Limerick

47. **Is sedation really needed for OGD?**
C. Berry, M.E. Kelly, K. Barry, R. Waldron, W. Khan, I.Z. Khan
Mayo University Hospital & Saolta University Hospital Group

48. **A meta-analysis: nipple discharge probabilities and diagnostic accuracy of investigations**
A. Leong[1,2], A. Johnson[1], M. Sugrue[1]
[1]Department of Breast Surgery, Letterkenny Hospital & Donegal Clinical Research Academy Ireland; [2]National University of Ireland, Galway
Supported by the Breast Development Fund Letterkenny and DCRA

49. **A preliminary analysis of sentinel lymph node biopsy following neoadjuvant chemotherapy; accounting for the missing positive nodes**
A. Stroiescu, V. Livingstone, T.J. Browne, A. Zaheer, H.P. Redmond, M.A. Corrigan
Cork Breast Research Centre, Cork University Hospital
Acknowledgement: Aid Cancer Research for funding support.

50. **Variability of breast implant loss from implant-based reconstruction surgery**
A. Affendi, B. Julius, A. Johnston, M. Sugrue
Department of Breast Surgery, Letterkenny General Hospital

ANAESTHESIA POSTER SESSION

1. **Medical student feedback from an undergraduate ultrasound pilot project at the University of Limerick**
G. Burke[1], H. Misran[1], S. Keane[1], S. Mahdy[1], T. Kiernan[2], D. Harmon[1], K. McDermott, C.M. Nix[1]
[1]Department of Anaesthesia, Intensive Care Medicine and Pain Medicine; [2]Department of Cardiology, Department of Anatomy, University of Limerick

2. **Ultrasound guided pectoral blocks for chronic post-sternotomy pain**
R. Fenton, R. Kearsley, S. Mahdy, D. Harmon
Department of Anaesthesia & Pain Medicine, University Hospital Limerick

3. **Practice of preoperative fluid prescription in paediatric surgical patients**
A. Mohamed, D. Harmon,
Department of Anaesthesia and Pain Medicine, Limerick University Hospital

4. **Concerns of patient's attending a chronic pain clinic consultation**
D. Doltani, J. Nilan, D. Harmon
Department of Anaesthesia and Pain Medicine, Limerick University Hospital

5. **Pre-operative assessment of anaemia in elective surgical patients**
J. Mannion
Department of Anaesthesia, Northwick Park Hospital, London

6. **A six month audit of critical care inter-hospital transfers involving University Hospital Limerick**
A. Mohamed, S. Ó Riain, F. O'Brien
Department of Anaesthesia, Critical Care & Pain Medicine, University Hospital Limerick

7. **Using ultra sound for peripheral central venous access**
C. Efrimescu, B. Straub, E. O'Mahony
Tullamore General Hospital

8. **Regional anaesthesia to aid weaning from mechanical ventilation: a successful case report**
D.S. Gogarty, R. O'Connor, B. O'Donnell, I. Hayes
Department of Anaesthesia, Cork University Hospital

9. **Bone cement implantation syndrome—its implications in anaesthesia**
K. Doody, S. Moore. S. Mahdy
Department of Anaesthesia, University Hospital Limerick

10. **Audit of preoperative fasting in emergency general surgical patients**
K. Sheehan[1], N. O'Donohoe[2]
[1]Department of Surgery, University of Limerick Hospitals Group; [2]Department of Surgery, King's College Hospital NHS Foundation

11. **Perioperative fasting of elective adult patients**
Vikram Maraj
Mercy University Hospital, Cork

12. **An audit of the potential for abuse of opioids in the theatre setting**
D.J. Lehane, R.M. Nee, G. Iohom
Department of Anaesthesia, Cork University Hospital

13. **Triplet pregnancy associated with severe hyponatraemia and preeclampsia**
M. Finnan, A. Iftikhar, J. Shannon
Department of Anaesthesia, University Hospital Limerick

14. **Train of four monitoring**
A. Albetel-Biculescu, D. Grady
Anesthesia Department, Galway University Hospital

15. **Spinal cord infarction as a rare complication of fat embolism syndrome following bilateral intramedullary nailing of femur fractures**
R. Kearsley[1], D.M. Dalton[2], C. Motherway[1], D. O'Farrell[2]
[1]Department of Anaesthesia & Intensive Care; [2]Department of Trauma & Orthopaedic Surgery, University Hospital Limerick

16. **An Audit of management of post dural puncture headache in University Maternity Hospital Limerick**
N. Barnwell, P. Dillon, J. Shannon
Department of Anaesthesia & Intensive Care Medicine, UHL

17. **Perceived injustice and resistance to change in chronic pain patients**
H. Misran, F. Margiotta, D. Harmon
Department of Anaesthesia & Pain Medicine, Limerick University Hospital

ORTHOPAEDIC POSTER SESSION

18. **Management of torus fractures of the distal radius: a review of the literature**
E. Fitzgerald, S. Boran
UL GEMS, Limerick

19. **The average change in haemoglobin after hip surgery in a trauma orthopaedic service at a Cork university teaching hospital**
R. Cusack[1], T.J. Nolan[2]
[1]Department of Anaesthetics; [2]Department of Medicine, Cork University Hospital

20. **Alkaptonuria; the mummy returns**
N.E. Donlon, H. Heneghan, E. Kelly, E. Sheehan, J.V. Reynolds,
Department of General Surgery, St. James Hospital Dublin, Department of Orthopaedics MRHT, Tullamore

21. **Trends in the morbidity and mortality of farmyard injuries in Ireland: a 10 year analysis**
M. Lee, D.T. Cawley, J. Ng, K. Karr
Department of Trauma & Orthopaedic Surgery, Galway University Hospital

22. **Financial impact of missed adverse events in joint arthroplasty content validation of adverse event assessment form**
K. Mohamed, M. Lee, J. Kelly, J. Galbraith, J. Street, B. Lenehan
Department of Trauma and Orthopaedic Surgery, Limerick University Hospital

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SESSION 1 CLINICAL BREAST SESSION

1. Investigating the influence of molecular subtype on response to neoadjuvant chemotherapy in breast cancer: a fifteen year review

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Background: The use of chemotherapy in the adjuvant setting as part of multimodal management of breast cancer is being guided increasingly by the specific molecular profile of the tumour, with well-established prediction models for likelihood of disease relapse depending on gene expression analysis, in particular for tumours of Luminal A molecular subtype. The use of neoadjuvant chemotherapy (NAC) is decided based on more crude prognostic factors, including tumour size and nodal status.
Aim: The aim of this study is to evaluate the impact of molecular biology on response to NAC.
Methods: A retrospective cohort study was undertaken. The study cohort included all patients undergoing NAC for breast cancer between 1999 and 2014. Data was collected with respect to tumour pathological characteristics, treatment and outcome.
Results: Data was collected with respect to 251 tumours from 247 patients, including 129 (53 %) of Luminal A molecular subtype. Minimal pathological response was seen in 18 % of tumours, and complete pathological response (cPR) in 30 %.
Luminal A tumours most commonly had minimal response (32, 25 %), compared to Luminal B (5, 11 %), Her2-overexpressing (1, 5 %) or Triple negative breast cancer (TNBC) (5, 10 %); and least commonly achieved cPR (18, 14 %) [$p = 0.015$, χ^2]. Breast conserving surgery was facilitated in 37 % TNBC; 38 % Luminal B; 38 % Her-2; compared to 26 % Luminal A tumours. Median residual tumour size was greatest in Luminal A (37 mm), compared to Luminal B (12 mm), TNBC (11 mm) and Her2-overexpressing (0 mm) [$p < 0.0001$, Kruskal–Wallis].
Conclusions: The use of NAC in Luminal A breast cancer is less often associated with cPR compared to other subtypes, resulting in greater proportions of residual disease, and decreased opportunity for breast conservation. Molecular profiling may be a means to direct application of pre-operative chemotherapy towards those patients with Luminal A breast cancer in whom treatment will have most benefit.

2. An external validation of international nomograms used to predict non-sentinel lymph node positivity in an Irish cohort of breast cancer patients

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Introduction: Prediction of non-sentinel lymph node (NSLN) positivity can help select patients who require axillary node clearance (ANC) in node positive breast cancer and help identify those in whom it is not essential and the morbidity of ANC may potentially be avoided. Memorial Sloan Kettering Cancer Centre (MSKCC) and MD Anderson Cancer Centre (MDACC) have developed nomograms for NSLN metastases prediction. We aimed to validate these tools in an Irish population of breast cancer patients for the first time.
Methods: We retrospectively reviewed all breast cancer patients treated in our unit from 2011 to 2014 (inclusive) in whom SLN biopsy returned positive. Only patients who proceeded to ANC were suitable for inclusion to allow for full NSLN assessment. Demographic, radiological and histopathological data was tabulated and analysed, in particular factors required for MSKCC and MDACC nomogram completion. Statistical analysis was performed using SPSS, version 22.
Results: A total of 178 patients were suitable for inclusion. All patients were female with a median age of 55 years (range 27–85). The following histological subtypes were included: invasive ductal carcinoma [74.7 % (n = 133)], invasive lobular carcinoma [16.8 % (n = 30)], mixed [8.42 % (n = 15)], and invasive micropapillary carcinoma [0.8 % (n = 1)]. Following axillary clearance, 37 % (n = 65) were observed to have positive NSLNs. Both the MSKCC and MDACC nomograms were significantly predictive of non-sentinel lymph node positivity ($p = 0.046$ and $p = 0.044$ respectively) with the MDACC nomogram observed as more accurate [AUC = 0.613 (95 % CI 0.527–0.700)] than MSKCC [AUC = 0.570 (95 % CI 0.480–0.661)].
Conclusion: We have externally validated two International nomograms used to predict NSLN positivity in an Irish cohort of breast cancer patients for the first time. The MDACC nomogram has perfomed more favourably than the MSKCC when used in our cohort of patients.

3. Use of axillary ultrasound guided core biopsy to assess for lymph node metastases in breast cancer patients—a different burden of disease

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Introduction: The use of ultrasound guided core biopsy to assess for axillary metastatic disease in breast cancer patients has increased. Whilst recent studies have shown that certain patients with sentinel lymph node metastases may not require completion axillary clearance (AC) it remains unclear if patients with a positive pre-operative axillary ultrasound guided core biopsy (PAUCB) would satisfy such criteria. The aim of this study was to assess tumour characteristics and nodal burden in patients found to have PAUCB.
Methods: Data was extracted from a prospectively maintained database of a symptomatic breast unit between July 2013 and July 2015. Breast cancer patients who underwent pre-operative axillary ultrasound guided core biopsy were included. Tumour characteristics and nodal burden was recorded for all patients with PAUCB. Patients found to satisfy ACOSOG Z011 criteria that would not mandate completion AC were also identified.
Results: 160 breast cancer patients undergoing axillary ultrasound guided core biopsy were identified. 106/160 (66.25 %) patients had a positive pre-operative axillary core biopsy. Of the 106 patients with PPACB, 63 (59.4 %) proceeded to axillary clearance. Of those who underwent AC, patients were most likely to have Grade II Invasive Ductal Carcinoma and undergo mastectomy. The mean number of nodes excised during AC was 12 and the mean total number of

positive nodes was 4. Less than 10 % (n = 6) of patients would satisfy ACOSOG Z011 criteria.
Conclusion: Breast cancer patients with positive pre-operative axillary ultrasound guided core biopsy are more likely to have aggressive tumour characteristics and nodal burden. Few would satisfy ACOSOG Z011 criteria.

4. Large fibroadenomas—is excision always warranted?

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Background: Fibroadenomas (FA) are the most common benign tumour in the female breast and arise in approximately 25 % of asymptomatic women. The majority of FAs have classical clinical and radiologic findings and the diagnosis can be readily confirmed by core needle biopsy (CNB). Most FAs are managed conservatively provided there is radiologic concordance with the histological findings. Conversely surgical excision is typically recommended for cellular fibroepithelial lesions to exclude a diagnosis of phylloides tumor. Some studies have suggested surgical excision in all FA >3 cm to reduce CNB sampling errors. The aim of our study was to evaluate if surgical excision was warranted based on size criteria alone.
Materials and methods: The pathology data base at a large academic centre with combined screening and symptomatic breast sub-speciality service was reviewed for all CNBs with a diagnosis of FA that had a subsequent surgical excision at our institution over a 51/2 year period. Patient demographics including patient age was recorded, CNB diagnosis, excision diagnosis and preoperative radiologic size of FA.
Results: 12,109 consecutive radiologically guided CNB were performed January 2010–June 2015. 3438 with a diagnosis of FA were identified. 296 cases went on to have surgical excision at our institution. Average age 34.7 years. Atypical features were reported in 62/296 CNB (20.9 %) including lobular neoplasia (n = 24), atypical ductal hyperplasia (n = 4), cellular fibroepithelial lesion (n = 33), fibroadenoma with mucocoele-like lesion (n = 1). The remaining 234 cases were reported as FAs on CNB. Average preoperative radiologic size was 26 cm with 48 % of the cases (n = 142) measuring >/=3 cm. 4 of the 234 (1.7 %) cases with a diagnosis of FA without atypia turned out to be a low grade phylloides tumour on excision. The ages were 25 (n = 2), 46 (n = 1), 56 (n = 1) with the lesions measuring 3.4 cm (n = 3) and 1.6 cm (n = 1).
Conclusion: Our study although relatively small suggests that surgical excision based solely on size is not warranted in radiologically concordant cases with a diagnosis of FA on CNB.

5. Upper limb lymphedema after axillary surgery in breast cancer patients: an analysis of referral trends over a three year period in specialist breast unit in Ireland

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Introduction: Surgical techniques in breast cancer (BCa) have seen a dramatic change recently with breast conserving surgery (BCS) and sentinel lymph node biopsy (SLNB). The ACOSOG-Z0011 trial reported equivalence in outcomes for certain patients with SLN metastases treated with axillary clearance (AC) or SLNB alone. Our aim was to investigate changes in lymphedema referral patterns in BCa patients over last 3 years in a specialist unit and to elucidate effects of SLNB, BCS and Z0011 trial publication on such patterns.
Methods: A retrospective study was performed over a 3-year period (May 2012–May 2015). Patients were identified using a prospectively maintained lymphedema database and newly referred BCa patients with data availability were included.
Results: 138 patients meeting the inclusion criteria attended the service during this period. Majority of lymphedema referrals involved patients who underwent AC (59 %), compared to SLNB only (23 %) and SLNB followed by AC(18 %). There was a statistically significant difference in lymphedema referral patterns after implementation of Z0011 with new referrals reduced by 20 % compared to the pre-ACOSOG-Z011 era (Chi-sq; p = 0.001). Volume of referrals post-AC reduced by 40 % with concomitant 31 % rise in those post-SLNB alone, reflecting changing surgical patterns.
Conclusion: The Z0011 trial in association with wider implementation of SLNB has led to a reduction in new lymphedema referrals in patients with BCa. The pattern of lymphedema referrals has also changed significantly.

6. Pathological features of breast cancer in the elderly: are aggressive subtypes more or less common?

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Background: Breast cancer is a common disease of the elderly with incidence increasing with age. Increased comorbidities, higher stage at diagnosis and less effective treatment are often contended to explain this trend. The aim of our study was to look at the histopathological features of the breast cancers found in this elderly cohort.
Methods: Patients aged 75 years and over at the time of diagnostic breast core needle biopsy were identified from the institutional files of a tertiary referral subspecialised breast service over a 5 year period (2010–2014). All core needle biopsies were taken from the primary breast cancer and processed in a single laboratory with standardised uniform pre-analytics. Hormone and HER2 evaluation with IHC and Brightfield dual in situ studies were performed as per UK recommendations.
Results: 1603 patients were diagnosed with breast cancer during this time period. 374/1603 (23.3 %) were 75 years or over at the time of diagnosis. 348/374 (93 %) had invasive carcinoma. Age range for these 348 patients was 75–99 years with a mean age of 81.9 years. Histologic subtypes; 76.2 % ductal carcinoma, 18.7 % lobular carcinoma, 2.3 % mutinous carcinoma, 1.1 % papillary carcinoma, 0.9 % mixed ductal and lobular carcinoma, 0.4 % micro-papillary carcinoma and 0.4 % mixed tubular and cribriform carcinoma. Histologic grades; 30.7 % grade 3, 58 % grade 2, 11.3 % grade 1.
Conclusion: Our study suggests that the failure of current breast cancer management to significantly improve outcomes in older women may be due primarily to tumour biology rather than suboptimal screening and/or treatment.

7. Establishing a registry for carriers of mutations in BRCA1 and BRCA2 cancer susceptibility genes: the western cohort

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Introduction: Pathogenic mutations in breast cancer susceptibility genes BRCA1 and BRCA 2 confer up to 80 % lifetime risk of breast cancer and 60 % of ovarian cancer. The aim of this project was to create a comprehensive registry of affected and pre-symptomatic carriers of mutations in BRCA1 and BRCA2 in the west of Ireland.
Methods: All patients fulfilling criteria for testing for germline mutations in BRCA1 and BRCA2 referred to the National Centre for Medical Genetics were tabulated and cross-referenced with patients attending the symptomatic breast unit in Galway University Hospital (GUH) for management or active surveillance. Data was collected with respect to patient demographics; personal and familial cancer history; treatment; surveillance; and genotype. A secure password-protected online registry was then established.
Results: Mutations in BRCA1 were identified in 48 patients (27 families), and in BRCA 2 in 38 patients (23 families). Forty-one patients were affected by cancer. The median age of diagnosis of breast cancer was 40 (25–60) BRCA1 mutation carriers and 45 (31–65) in BRCA 2 mutation carriers. Median age of diagnosis of ovarian cancer was 50 (45–80). All patient data were logged on an electronic secure online registry, to which clinicians were granted password-protected access. The most common mutation identified in BRCA2 was the frameshift mutation 8525delC, while large genome rearrangements accounted for the vast majority of mutations in BRCA1, including almost entire deletion of the gene (deletion exons 1–23).
Conclusions: It is imperative that carriers of such deleterious gene mutations be identified to ensure they undergo appropriate surveillance techniques, and timely surgical prophylaxis. A national registry of mutation carriers will facilitate continuity of care of families across eight cancer centres. Establishing this regional registry will form the foundation of a national registry.

8. Adherence to oral adjuvant hormonal therapy in women with breast cancer: intentional and unintentional influencing factors

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The role of anti-oestorgen therapies such as Tamoxifen and aromastase inhibitors is hugely important in adjuvant therapies for oestrogen receptor/progesterone-receptor positive breast cancer. There is an associated risk between disease recurrence of breast cancer and non adherence to medications. The aim of this study is to assess adherence rates to oral adjuvant hormonal therapy in women with breast cancer, primarily focusing on the intentional and unintentional influencing factors.
Methods: A patient focused questionnaire was designed and distributed to a cohort study of 212 patients with ER/PR positive breast cancer, currently prescribed one of the above mentioned anti-oestorgen therapies. The questionnaire was completed anonymously by consecutive patients attending breast clinic follow up over a 6 month period. The questionnaires were validated using a medication adherence score. The data collected focused on the specific therapy type, frequency of medication omission and influencing factors, recurrence risks, side effects and patient demographics.
Results: The mean age of women involved in the study was 59.2 years, 72.8 % of women were post menopausal and 77.7 % of women took between 1 and 3 tablets per day. 33.3 % of women had post high school qualifications, whilst 18.6 % received a University education. 83.4 % of women underwent lumpectomy/Wide local excision whilst 28.9 % underwent mastectomy prior to oral medication. 68.2 % had radiotherapy during their treatment 72.2 % of women believed that having cancer in the past will affect their future health. The majority of women involved in the study shared similar medication beliefs. 42.5 % agreed and 25.9 % strongly agreed that oral medications allowed them to have a better quality of life. In relation to medication compliance the majority of patients had a specific planning strategy relating to their oral medications with 92 %
Conclusion: Adherence to oral hormonal therapy in women with breast cancer corresponds to their perceived risk of future health issues.

9. Needle core biopsy of birads3 breast lesions in women under 25: is this really necessary?

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Benign fibroadenom as account for the majority of palpable breast lumps in young women and are a common reason for referral to symptomatic breast clinics [1]. Current standard of care is ultrasound and if a radiologic correlate for the clinical finding is identified, a core needle biopsy is performed to establish a histological diagnosis.

The aim of this study is to examine the histological diagnoses returned from core needle biopsy of clinically palpable, BiRADS3 breast lumps in women under the age of 25.

A retrospective database was established of patients under the age of 25 who had a breast biopsy submitted for histological diagnosis between January 2007 and December 2013. Anonymised data was extracted from hospital pathology, radiology and clinic records.

In the study period, there were no patients under the age of 25 with invasive breast cancer.

A total number of 399 lesions were included in this cohort. 75 of these went on to receive surgical intervention. This 18.79 % was significantly lower to a similar 25–35 year old cohort.

The natural history of fibroadenomas varies. While clinical assessment of lesion size may not be reliable, the majority of biopsy confirmed fibroadenomas <1.5 cm do not enlarge and repeat imaging is of little value.

In conclusion, based on the results of our study, it would suggest that it is safe, not to biopsy female's under 25 year's of age, who present with a benign appearing breast lump, confirmed on radiology and less than 1.5 cm.

10. The effect of the accordion suturing technique on wound lengths in breast cancer surgery at six weeks

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Background: Cosmetic outcomes and scar lengths remain important considerations in breast cancer surgery. Suturing techniques should decrease scar tissue formation and provide good cosmetic results. The use of an accordion suturing technique may result in decreased surgical wound lengths and better cosmetic outcomes. We compared the outcomes of the accordion suturing technique with the standard suturing technique in breast cancer surgeries.

Materials and methods: We randomly assigned eligible female patients for wide local excision of breast tumours to undergo closure of their surgical wound by either the accordion or the non-accordion (standard) suturing techniques between the months of May and October 2015. Pre-closure and post-closure wound lengths were measured intraoperatively. One primary outcome was a reduction of the surgical wound length at 6 weeks. The second primary outcome was a composite of the absence of hypertrophic scar tissue formation and optimal cosmesis.

Results: Thirty eligible women for wide local excision of breast tumours were randomly assigned to the accordion and non-accordion groups (15 accordion and 15 non-accordion). Seven women were excluded from the study because they underwent re-excision of margins for their breast tumours before the end of 6 weeks, and one woman was lost to follow up. We therefore compared the outcomes of 12 women who underwent closure of their surgical wound by way of the accordion suturing technique to the outcomes of 10 women who underwent closure with the non-accordion (standard) suturing technique. The percentage reduction of wound length at 6 weeks was significantly greater in the accordion group than in the non-accordion group ($M = 24.43$, $SD = 10.2$ vs. $M = 8.57$, $SD = 11.5$, $p = 0.003$) using independent samples t test. There was no significant difference in the cosmetic outcome between both groups using the James Quinn's wound evaluation score.

Conclusion: The accordion suturing technique was associated with a significant reduction in surgical wound lengths in breast conserving surgery at 6 weeks with a comparable cosmetic result.

11. Positive margin rate following wide local excision of breast cancer: is the variation acceptable?

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Supported by the Breast Development Fund Letterkenny and DCRA.

A positive margin status following conservative breast surgery generally results in reoperation with associated increase in cost, complications and potentially poorer oncological outcomes. Reported positive margins range from 3 to over 50 %. This study assessed the published variation in margin positivity and potential reasons for this.

An ethically approved review was conducted through the databases Scopus and PubMed for reported positive margin rates from January 2010 until July 2015. Data describing positive margin status in relation to study location, sample size and definition of positive margin used as well as tumour, patient and technical factors was assessed. Margin positivity was defined as 'tumour on ink' in a subset comprising of 33 papers of the 61 papers analysed.

A total of 6271 positive margins were reported from the 35,253 patients who underwent conservative breast surgery, giving an average positive margin rate of 17.8 %. There is great variability in the positive margin rate reported, ranging from 3.0 to 51.1 % in the total number of papers analysed and from 3.3 to 38.3 % in the thirty-three papers that defined a positive margin as 'tumour on ink'.

Given the implications of a positive margin in terms of surgical resource utilisation, potential distress and negative outcomes for patients, there needs to be an international consensus on what is a standardised negative margin rate for variable tumour and breast sizes. It should be a focus of oncological and surgical societies to guide margin management and complete tumour excision in the future.

Disclosure: The first author of this research has received support from the Donegal Clinical Research Academy and the Breast Development Fund. The first author is a medical student at the National University of Ireland, Galway.

12. Characterization and follow-up of FET with high mitotic activity. What's the ideal follow up period?

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Introduction: Fibroepithelial (FET) breast lesions have a wide spectrum of neoplastic potential, ranging from benign fibroadenoma (FA), to sarcomatous Phylloides Tumour (PT). PTs are rare, accounting for 0.5 % of breast malignancies, with poor prognoses [1, 2]. FET with high mitotic rate lie in the middle of that spectrum, however their sarcomatous potential is poorly understood. They're difficult to manage with no guidelines regarding post-operative management. We aim to study the behaviour of these lesions and draw a post-operative management protocol accordingly.

Methods: This is a retrospective cohort study of FET with high mitotic rate in the period between 2008 and 2013. The data was obtained from medical and histopathology charts. Follow-up data was obtained by calling patients and/or GPs.

Results: During that period 1300 FET were diagnosed UCHG, 51 were FET with high mitotic rate. Benign discrete lump was the commonest finding (60.4 %) and a clinically suspicious lump in 14.6 %. The BIRADS score was normal in 22.9 % of patients, R3 in 52 % of patients, malignancy was suspected in 25.1 %. The commonest histological diagnosis was FA (54.9 %), benign PT 35.3 %, and malignant PT was diagnosed in 3.9 %. The rate of recurrence was 16.3 % (n = 8), of which 62.5 % (5) were FAs and 37.25 % (3) were PTs. The mortality rate was 2 %. 57.1 % (28) of our patients had annual follow-up, the remainder discharged post-operatively.

Discussion/conclusion: FETs with high mitotic activity are associated with high risk of recurrence. According to our results, the highest incidence of recurrence occurs in the first 3 years following diagnosis, so we propose a minimum follow-up period of 4–5 years for patients who present with these lesions.

SESSION 2 UPPER GASTROINTESTINAL & ENDOCRINE SESSION

13. Managing recurrent colorectal liver metastases (CRLM)—a ten year single institutional experience

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Introduction: The liver is the most frequent site of metastases in colorectal cancer, occurring in up to 55 % of cases. Surgical resection is the gold-standard treatment, offering prolonged survival and potential cure. Recurrence rates are as high as 50 % however. We review our experience managing CRLM, with focus on recurrent CRLM.
Methods: This was a retrospective cohort study, including consecutive patients undergoing hepatectomy for CRLM at our institution between January 2005–2015. Data was retrieved from electronic and hard-copy medical records. Primary outcomes assessed were 30-day mortality and overall survival. Mann–Whitney–Wilcoxon analysis was performed.
Results: 523 hepatectomies were performed for CRLM during this period. 62 patients underwent repeat resection for recurrent disease. There were two perioperative deaths (0.5 %). Five-year survival for 2005–2010 was 45 %, while a significant proportion of the 2010–2015 group are still alive. Across the CRLM cohort, significant survival differences were demonstrated with greater tumour number [solitary vs. multiple metastases (median 35 vs. 23 months) $p = 0.0004$]; increasing number of resections performed [single vs. repeat (median 34 vs. median 46 months) $p < 0.0001$]; and resection margins [R0 vs. R1 (median 34 months vs. 22.5 months) $p = 0.0002$]. Neoadjuvant chemotherapy did not confer significant survival benefit [no neoadjuvant vs. neoadjuvant (median 30 months vs. 25.5 months) $p = 0.1955$]
Conclusions: A wide spectrum of CRLM exists, often representing the life-limiting factor in those with colorectal cancer. Repeat resection confers a survival benefit, in line with international literature. The role of neoadjuvant therapy including newer biological agents remains controversial.

14. The effect of bariatric surgery on urinary incontinence in women

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Obesity is known to be a contributing factor to the development of urinary incontinence in women. However little is known regarding the effect of bariatric surgery on urinary incontinence. Between September 2008 and November 2014, 240 female underwent bariatric surgery. The prevalence of urinary incontinence preoperatively was 45 %. Eighty-two (76 %) completed detailed urinary function questionnaires. Thirty-one (38 %) reported leaking on sneezing or coughing-suggestive of stress urinary incontinence. A further thirteen (16 %) complained of leaking before reaching the toilet-suggestive of overactive bladder. The remaining thirty-eight women (46 %) reported mixed symptoms. The mean preoperative BMI was 50 ($SD = 6.2$) kg/m^2. Postoperatively the mean BMI drop was 16 ($SD = 5.2$) kg/m^2. Preoperatively 61 (75 %) patients reported having moderate to very severe urinary incontinence compared to 30 (37 %) of patients postoperatively, ($\chi^2 = 3.7$, $p = 0.05$). in total, 27(33 %) patients reported complete resolution of urinary incontinence. Fifty-one (62 %) patients required daily incontinence pads preoperatively compared to 35(43 %) postoperatively ($\chi^2 = 22.2$, $p = 0.00$). Furthermore, the mean ICIQ-UI was9.3 ($SD = 4.4$) for patients preoperatively, compared to a mean of 4.9 ($SD = 5.3$) postoperatively. This difference showed statically significant improvement in incontinence after bariatric surgery ($t = 7.2$, $p = 0.000$). Furthermore, patients reported an improvement score of 8(3) postoperatively. A significant difference in the ICIQ-UI was identified between QAB and SUI groups when adjusting for age, children and type of delivery ($t = 2.13$, $p = 0.03$). Bariatric surgical intervention results in a clinically significant improvement in urinary incontinence in the majority of symptomatic morbidly obese females. However, this is unrelated to preoperative BMI, age, parity and mode of delivery.

15. Validation of nomogram for predicting pathologically complete response after neoadjuvant chemotherapy for oesophageal cancer

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Background: A pathological complete response (pCR) to neoadjuvant chemoradiotherapy (nCRT) is seen in up to 30 % of patients with oesophageal cancer. Based on patient and tumour characteristics a nomogram for the prediction of pathological complete response after neoadjuvant chemoradiotherapy was developed by Department of Surgery, Erasmus MC, Rotterdam.
Aim: Since this nomogram was not externally validated, we sought to assess the predictive ability of the nomogram in a similar prospectively maintained database of patients treated with nCRT prior to oesophageal cancer surgery from our centre.
Methods: Patients who underwent nCRT followed by surgery were identified and response to nCRT was assessed according to a modified Mandard classification in the resection specimen. Performance of the prediction nomogram was quantified using the concordance statistic (c-statistic).
Results: We identified 271 patients (202 of whom were male) who received nCRT followed by surgery during the period 2000–2014 and met similar inclusion criteria to those in the aforementioned study. Pathological complete regression was prospectively recorded in this cohort and was 19.2 % ($n = 52$). The performance of the nomogram in this cohort of patients was similar with a c-statistic of 0.665 (0.5781–0.749).
Conclusion: Our study confirmed that the developed nomogram has a reasonable predictive power. However, for more accurate prediction of pathological complete response novel biomarkers need to be identified.

16. Preliminary outcomes of laparoscopic versus open common bile duct exploration: the Mater experience

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Background and aim: ERCP is the gold standard treatment for stones in the common bile duct (CBD). Open or laparoscopic exploration of the CBD is only warranted where ERCP is unsuccessful, or if the patient's anatomy is unamenable to ERCP such as in cases of prior gastrectomy. We report the outcomes of open and preliminary outcomes of laparoscopic approaches.
Methodology: An audit of outcomes of CBD exploration for gallstones from 1 Jan 2008 to July 2015 was performed. Demographic and clinical data of patients in the study group is included below. Mater Morbidity and Mortality Audit data was used to identify complications, which were then graded using the Clavien-Dindo classification.
Results: A total of 26 patients underwent CBD exploration: 20 open and 6 via laparoscopic approach. The mean age at surgery was 67 in both groups (range 47-83). In the open CBD cohort, 10 % (2/20) were performed due to complication of ERCP compared to 0 % in the laparoscopic cohort. The duct was cleared in 90 % (18/20) of cases in those who underwent open procedure compared to 66.7 % duct clearance (4/6) of those who underwent laparoscopic approach. The 30-day mortality in the open cohort was 5 % (1/20) compared to 0 % in patients explored laparoscopically.
Conclusion and recommendation: Laparoscopic CBD exploration is a new treatment modality available for CBD stones. Preliminary results suggest that both open and laparoscopic approaches are safe and effective in cases of unsuccessful ERCP.

17. Sarcopenia and visceral obesity predict severity of post-oesophagectomy complications in patients treated with multimodality therapy

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Introduction: Malnutrition, common in oesophageal cancer, may increase operative complications. Weight and BMI have limitations, particularly among overweight/obese patients, and this study assessed body composition and severity of post-oesophagectomy complications.
Methods: Patients undergoing multimodality therapy for oesophageal cancer between September 2010 and September 2014 were studied prospectively. Skeletal muscle index (SMI), lean body mass (LBM), fat mass (FM), total (TFA), subcutaneous (SFA) and visceral fat areas (VFA) were determined by CT. Sarcopenia and visceral obesity were defined using sex-standardized SMI and VFA thresholds. Cumulative severity of postoperative complications was scored using the comprehensive complications index (CCI) [1]. Multivariate linear regression was performed to determine factors predictive of CCI.
Results: 101 patients underwent oesophagectomy (71 % 2-stage, 21 % 3-stage, 8 % transhiatal). The median (range) CCI was 21 (0–63). SMI and LBM declined during neoadjuvant therapy (both $P < 0.0001$), but FM, TFA, SFA and VFA were unchanged. Preoperatively, sarcopenia, visceral obesity and sarcopenic obesity were identified in 19, 49 and 6 % of patients. On multivariate analysis, ASA grade ($P = 0.019$), visceral obesity ($P = 0.017$) and sarcopenia ($P = 0.036$) were independent predictors of CCI, while visceral obesity independently predicted postoperative atrial fibrillation ($P = 0.014$). No association between BMI and postoperative complications was observed.
Conclusion: Sarcopenia and visceral obesity are associated with increased severity of postoperative complications among patients undergoing multimodal therapy for oesophageal cancer. Preservation of LBM during neoadjuvant therapy could improve functional status and reduce postoperative morbidity.
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18. Evolving practises in the management of squamous cell oesophageal carcinoma in a high-volume specialised centre

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Squamous cell carcinoma of the oesophagus confers significant morbidity and mortality. Neoadjuvant chemo-radiotherapy and radical surgery are thought to confer survival benefit in modern practice, when compared to radical chemo-radiotherapy alone [1]. We aimed to show how practise is evolving in the management of squamous cell carcinomas of the oesophagus in a high-volume centre.

Three time periods were studied: 2000–04; 2005–10; and 2010–14, where 197, 207 and 263 patients respectively with squamous cell oesophageal cancer were referred for assessment. All data was prospectively recorded, and staging, pathology, treatment, operative and oncologic outcomes were compared.

The proportion of patients treated with radical intent significantly increased in the latter time periods [90 (46 %) vs 130 (63 %) vs 156 (59 %), $p < 0.001$]. Over 15 years, 384 patients were treated with curative intent of whom: 149 completed radical chemo-radiation therapy (CRT) (39 %), 190 underwent surgery (49 %) and 45 patients began neoadjuvant therapy but progressed or did not tolerate the treatment (12 %). Eighty-four (44.5 %) patients underwent neoadjuvant CRT. The 5 year disease specific survival rate of patients treated with surgery was 50 versus 16 % for patients treated with radical CRT ($p < 0.001$). The median survival of patients treated with surgery increased over the three time periods ($p = 0.061$).

In our centre, more patients are being offered curative surgery, with an associated increase in median survival. Treatment with neoadjuvant CRT and surgery is superior to treatment with radical chemo-radiotherapy alone and should we offered to all suitable candidates.

19. Endoscopic management of oesophageal perforation secondary to benign disease

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Introduction: Benign oesophageal perforation is a life threatening condition which may be iatrogenic, secondary to foreign body, or due

to Boerhaaves Syndrome. Optimal management is unclear but a conservative approach appears safe and is increasingly being used.
Materials and methods: A retrospective analysis of patients with oesophageal perforation was performed excluding those secondary to malignancy or anastomotic leak. Demographics included sex, age, route of admission, major comorbities and American Society of Anaesthesiologist (ASA) classification. Variables included, time to diagnosis, time to and type of treatment, hospitalization length, Intensive care unit (ICU) stay, re-admission rate, surgical second look needed, mortality and long term outcome.
Results: In total 14 patients (4 female) were included, average age was 69.7 years with 12 patients being referred from outside hospitals, ASA classification was 3 or above in 10 patients and 10 patients received a diagnosis after 24 h. Stenting with total parenteral nutrition and antibiotics was used in 9 patients, stenting with endovac sponge in 2 cases, 2 patients had foreign bodies and minimal tears treated with fasting and antibiotics, major surgery was performed in 1 patient. Average hospitalization length was 53 days with ICU stay of 26 days, one mortality was recorded (7 %), no second surgical looks were required and 4 patients were readmitted (28.5 %) with 2 requiring dilatation, one a stent placement and one having a chronic pleural effusion.
Conclusion: In these high risk patients conservative treatment was successful despite diagnosis after 24 hours [1]. With correct patient selection conservative treatment is a reasonable option with low complication rates [2].

20. Patterns of peritoneal malignancy in Ireland—a population-based study

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Peritoneal malignancy (PM) is predominantly secondary to advanced gastrointestinal tract cancer with a minority originating primarily from the peritoneum. PM carries a poor prognosis, is generally considered incurable therefore rarely the focus of novel therapeutic strategies. Population-based data on the true incidence is lacking. This study assessed patterns and survival outcomes of PM in Ireland.

The National Cancer Registry of Ireland database was interrogated to identify patients diagnosed with PM between 1994 and 2012. Patient demographics and tumor characteristics were retrieved and survival outcomes calculated.

6054 patients were diagnosed with PM during the study period. The median age at diagnosis was 68 years; females accounted for 61 %. The incidence of PM increased annually from 236 in 1994 to 428 in 2012. Primary PM accounted for $<$3 % of cases. Colorectal (22 %), gastric (14 %) and ovarian (16 %) cancers accounted for the majority of cases of secondary PM. Almost 75 % of patients had PM at initial presentation. The 5-year survival was 7 % in patients with secondary PM. Outcomes were best in patients with ovarian cancer PM (5-year survival 13.6 %) and worst in primary cancers of the lung (1.2 %) and pancreas (1.8 %). Patients with colorectal PM had a 5-year survival of 6.7 %.

This is the first population-based study to report the incidence and outcomes for PM in Ireland. Reported rates likely underestimate the true incidence, nevertheless PM is more common than previously thought and survival remains poor. This highlights the need for greater clinician awareness and the development of new therapeutic approaches to improve patient outcomes.

21. Prognosis and management of wild type gastrointestinal stromal tumours (GISTS) in adults: a pooled analysis

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Background: Wild type (WT) Gastrointestinal Stromal Tumours (GISTs) lack mutations in KIT tyrosine kinase or PDGF receptor α oncogenes and constitute 85 % pediatric GISTs and 15 % of adult GISTs. Due to paucity of cases in the adult population, prognostic data is lacking and comparative analysis with pediatric tumours is not available.
Aim: To determine overall survival (OS), disease free survival (DFS) and clinicopathological characteristics of adult WT GIST based on a pooled analysis of published data and compare the same with WT GISTs in the pediatric population.
Methods: Electronic databases MEDLINE and SCOPUS were searched using terms "Wild type" AND "GIST" from January 01, 2000 to December 31, 2014. English language studies with follow-up data on Adult patient (18+ years) with WT GISTs were included. Patients with neurofibromatosis type 1 were excluded. Data on pediatric patients with WT GISTs was recorded for comparison. Kaplan–Meier curve and Life table analysis were used to depict survival while log rank test was used for comparison.
Results: Eighty-two adult patients from fourteen studies were included. Comparative data was obtained on thirty-eight pediatric patients from five studies. Clinicopathological characteristics of adult GISTs were similar to the pediatric group. There was no statistically significant difference in the survival between both groups ($p = 0.241$). Mean OS was 32 years (26–38 years); median DFS was 10 years and 5-year OS was 88 %.
Conclusion: Overall survival in adults with WT GISTs is favourable compared to other adult GIST subtypes, this likely reflects a molecular pathway similar to paediatric GIST.

22. A review of the surgical management of phaeochromocytomas

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Background: Phaeochromocytoma are rare tumours of neuroectodermal origin, occurring in less than 0.2 % of hypertensive individuals, with an incidence of up to 4–5 % in patients presenting with adrenal incidentaloma. This study aims to report our experience with surgical management and outcomes of a series of patients with pheochromocytoma treated at two Irish tertiary referral centres.
Materials and methods: Patients with pheochromocytomas treated surgically in UCHG and SVUH, between 2001 and 2015 were included. Data collected included demographics, diagnosis, localisation, pathology, pre-operative preparation, surgical management and outcomes. Data were analysed using SPSS V20.
Results: During the study period, 25 adrenalectomies were undertaken for patients with pheochromocytoma and 1 for a paraganglioma. (9 male, 17 female; mean age 54.8 ± 16 years). 16 patients were

symptomatic. 24 cases were sporadic. All 26 received pre-operative alpha-blockade using phenoxybenzamine (n = 21), prazosin (n = 1), doxazosin (n = 1) or combination (n = 3). The surgical procedures included open adrenalectomy (OA) (n = 12), laparoscopic adrenalectomy (LA) (n = 6) and retroperitoneoscopic adrenalectomy (RA) (n = 8). 2 patients who underwent LA and 2 patients who underwent RA required conversion to OA. The Clavien-Dindo grade of post-operative complications was as follows: I (n = 2), II (n = 5), III (n = 1) and IV (n = 2), and was significantly higher following OA. The median LOS was 5 days and was significantly longer in those with complications (median 12.5 vs 4.5 days).

Conclusion: In the surgical management of pheochromocytoma, minimally invasive procedures (LA & RA) are feasible and effective, resulting in less morbidity and shorter post-operative convalescence in this series of patients.

23. Focused parathyroidectomy versus open parathyroidectomy for primary hyperparathyroidism: a meta-analysis

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Currently, either focused parathyroidectomy (FP) or open parathyroidectomy (OP) remains the surgical options for patients with primary hyperparathyroidism (PHPT). However, the relative risk of recurrence, persistence, overall failure, reoperation, any complications and transient hypocalcaemia associated with either FP or OP is unclear. We sought to determine the best estimate of the risk of these six outcomes.

PUBMED and EMBASE were searched for studies comparing these six outcomes between FP and OP. A meta-analysis was performed on studies that compared FP with OP for treatment of PHPT using STATA software version 14. Published data were pooled using the DerSimonian random-effect model and results were presented as odds ratio (OR) with 95 % confidence interval (CI).

A total of 12,797 patients from 19 studies were included in this meta-analysis. In comparison with OP, the FP arm has comparable rates of recurrence (OR: 1.08; 95 % CI: 0.59–2.00; p = 0.80; n = 13 studies), persistence (OR: 0.89; 95 % CI: 0.58–1.35; p = 0.56; n = 12), overall failure (OR: 0.88; 95 % CI: 0.58–1.34; p = 0.56; n = 9) and reoperation (OR: 1.05; 95 % CI: 0.25–4.32; p = 0.95, n = 4). However, there is a statistically significant lower risk of overall complication in the FP arm (OR: 0.35; 95 % CI: 0.15–0.84; p = 0.02; n = 12), which is attributed predominantly to a lower risk of transient hypocalcaemia (OR: 0.36; 95 % CI: 0.14–0.90; p = 0.03; n = 9). There was a significant heterogeneity among these studies, for all outcomes.

FP long term recurrence rates are equivalent to OP for the treatment of HPTH with a significantly lower risk of transient hypocalcaemia.

SESSION 3 VASCULAR SESSION

24. Towards the characterisation of carotid artery plaque: linking mechanical properties to biological content

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Treatment of arterial-stenosis by endovascular intervention, involving forceful circumferential expansion, can be unpredictable in calcified plaques. The cutting-balloon has been designed to alleviate current clinical issues in treating heavily calcified lesions using standard balloon angioplasty through the use of force-focused fractures controlled by longitudinal incisions in plaque. However, the ubiquitous use of cutting-balloon angioplasty to treat calcified plaques is partially impeded by the paucity of experimental data in characterizing the forces required to fracture the plaque which can be determined by measuring its fracture toughness.

The study investigated the toughness of carotid plaques using guillotine-cutting tests which characterizes the mechanical work-done to pass a surgical-blade through the longitudinal axis of plaque by measuring the resistance of the plaque to blade penetration across a unit length. Toughness of common, bifurcation and internal carotid plaques were examined individually. Structural and biological composition using scanning electron microscopy and Fourier transform-infrared spectroscopy were related to toughness defining a relationship between biomechanical toughness and plaque composition at each anatomical location.

Our findings show that plaque toughness was directly related to the presence of calcification. The average calcified tissue toughness (1066.75 ± 1019.4 J/m^2) was significantly tougher in comparison with non-calcified tissue (28.21 ± 15.8 J/m^2). Calcification was predominantly found in the bifurcation and internal carotid segments, regions where the stenosis was localised. A large range of toughness values were identified in the calcified segments (115–3810 J/m^2), the upper limit resembling the toughness of bone. Electron microscopy examination rationalized the range of toughness for calcified regions by structurally defining the relatively characteristic types.

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25. Early and late outcomes following open repair of ruptured abdominal aortic aneurysms in an "open surgery for ruptures" centre—is open surgery a defensible alternative in the "EVAR for ruptures" era?

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In recent years, efforts to reduce the morbidity and mortality associated with open repair for ruptured abdominal aortic aneurysms (AAA), in addition to advances in endovascular technology and expertise, has led some authors to advocate endovascular repair (EVAR) as the treatment of choice for for ruptured AAA (rAAA). Reported outcomes, albeit hampered by inclusion biases, have shown reductions in perioperative mortality for EVAR of rAAAs, compared with open repair. Many centres, in the absence of timely access to endovascular treatment options, continue to manage rAAAs with standard open surgery. In our centre, while suitable AAAs are treated electively with EVAR, for the reasons outlined above, we manage all rAAAs with open surgery. The aims of this study were to audit our

outcomes from managing ruptured AAA in the 'traditional' open manner. In order that we might compare our results with published data from centres managing ruptures endovascularly, we looked at our early (30-day) outcomes from 100 consecutive ruptured AAAs prior to July 1st 2015. We also analysed long term outcomes in those 50 consecutive ruptured aneurysms that presented prior to July 1st 2010, allowing the potential for at least 5 years follow-up. Patients were identified using HIPE data. For both groups, the parameters we examined were perioperative mortality, perioperative cardiovascular, renal and respiratory morbidity, length of hospital stay, necessity for re-intervention and longterm (5 year) survival. It is our contention that open repair can provide comparable morbidity and mortality outcomes to those being reported for endovascular repair.

26. Is there an association between the prevalence of coronary artery disease (CAD) in patients requiring valvular heart surgery?

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Objectives: Coronary artery disease (CAD) is often associated with valvular heart disease. Coronary angiography (CAG) is indicated for patients requiring valvular heart surgery, prior to their surgical intervention. We aim to evaluate the prevalence of coronary artery disease (CAD) and to identify the patients who are at risk to have CAD prior to valvular heart surgery.
Methods: A retrospective analysis of prospectively updated database was performed. Patients who underwent valvular heart surgery at our institution between January 2013 to December 2014 were included ($n = 233$). Patients with CAD (coronary artery stenosis of 50 % or more) were identified ($n = 92$, 39.5 %). The prevalence of CAD with different valve pathologies (congenital, degenerative, functional regurgitation, infective endocarditis, annulo-ectasia and Rheumatic heart disease) and type of valve replacements (aortic, mitral and dual valve) was evaluated. The association between CAD prevalence and CAD risk factors were analysed. All statistical analysis were conducted using the SPSS software (v.22), with a p-value of considered to be statistical significant.
Results: Total of 233 valvular heart surgeries were performed. Patient characteristics are illustrated in Table 1. CAD is noted in 92 patients (39.5 %). Male patients ($p \leq 0.0001$) and hypercholesterolemia ($p = 0.002$) are noted to be high risk to have coronary artery disease in this cohort. Well known risk factors such as smoking and family history showed no statistically significant impact on CAD in this cohort. 44.38 % (71/160) of aortic stenosis, 31.82 % (14/44) of mitral regurgitation patients noted to have CAD.
Conclusion: This study proves that, the association of CAD in patient undergoing valvular heart surgery is much higher in male gender and hypercholesterolemia. There is high prevalence of CAD in aortic stenosis patients, even though this fact is not statistically proven by this study.

27. Evaluation of the role of endovenous laser therapy (EVLT) in the management of chronic venous ulceration—a single centre experience

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Background: Chronic venous ulcers have an estimated prevalence of 1 % in the adult population and are associated with a significant economic burden. Conservative treatment with compression bandaging allows good healing rates. However conservative approaches do little to correct underlying venous hypertension which is accepted to play a role in venous ulcer aetiology.
Aims: To examine the outcomes for patients with chronic venous ulcers treated with Endovenous Laser Therapy.
Methods: Patients with venous ulcers presenting to a vascular surgery clinic were studied. Venous duplex ultrasonography was performed to assess venous reflux and plan the most suitable surgery. Those suitable for surgery were treated with Endovenous Laser Therapy and/or sclerotherapy. This was followed by 40 mmHg compression bandaging for 3 days followed by Class II compression stockings until review. Postoperatively, subjects were reviewed to assess ulcer healing. Primary outcomes measure was the time to complete ulcer healing.
Results: 66 % of patients treated with EVLT experienced resolution of their ulcer. The median time to ulcer healing after EVLT was 4 months with a range of 1–12 months.
Conclusion: EVLT may be used in combination with compression bandaging to improve venous ulcer healing. This treatment may be provided under local anaesthetic in a day case setting and has the potential to improve ulcer management by targeting an important cause of venous ulcer disease. We are continuing to evaluate the role of EVLT by expanding the study sample and comparing outcomes for patients treated by EVLT versus compression bandaging alone.

28. A comparison of carotid and femoral arterial plaque composition and clinical correlates details for consecutive patients that underwent endarterectomy at University Hospital Limerick 2012–2014

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Atherosclerosis leads to arterial stenosis and occlusion. Endarterectomy to remove plaque from carotid and femoral arteries of symptomatic patients reduces the risk of stroke or improves limb perfusion, respectively. This study aims to correlate patient clinical details including demographics, radiology and non invasive physiology with arterial plaque biological and mechanical data following carotid or femoral endarterectomy.

Forty plaques, 24 carotid and 16 femoral artery plaques were previously analysed. Patient charts were reviewed, to extract data including age, gender, smoking status, co-morbidities and pharmacotherapy. Radiological and non invasive physiological studies were reviewed (magnetic resonance angiography (MRA), carotid duplex scans and ankle:brachial pressure indices). Data were analysed using SPSS 21.

Regarding the biological content, lipid and calcium content ratios Lipid: Total (Li:Tot) and Calcium:Lipid (Ca:Li) correlated with several patient characteristics including gender, previous ischaemic heart disease, previous coronary bypass and treatment with aspirin and beta blockers. Statin use was significantly higher in the femoral group versus the carotid group (58 %, $p = 0.027$) using Fishers exact test. In spite of there being statistically significant differences in the

MRA of each group, this is unsurprising given differing clinical indications for carotid and femoral endarterectomy.

The results provide a unique insight into the heterogeneity of plaque characteristics taken from carotid and femoral arteries. The findings of this study could be useful in the development of novel endovascular treatments. By correlating patient characteristics with plaque composition, patients may be stratified into different treatment groups for clinical studies.

29. The mechanical, compositional and morphological characterisation of femoral atherosclerotic plaque for the continued improvement of endovascular treatment

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Common femoral endarterectomy has been the standard treatment for focal occlusive femoral artery disease for over 50 years [1]. However, certain patients are high risk for surgery [2]. Endovascular treatments such as angioplasty and atherectomy are advocated as alternatives [2]. Despite this, the results for such treatments are disappointing. This study seeks to improve results by assessing the suitability of lesions for endovascular treatment based on the mechanics on the tissue.

20 femoral plaque samples extracted from 15 patients undergoing endarterectomy were subjected to infrared spectroscopy (IR) and extension tests to characterise the composition and mechanical response respectively. A further 46 plaque sections extracted from 10 patients were subjected to IR and guillotine tests to determine the tissue's toughness response (resistance to cutting) during atherectomy. Scanning Electron Microscopy (SEM) was employed to elucidate the impact of tissue morphology on behaviour.

Extension tests reveal varying plaque mechanical response and failure properties. IR demonstrates that increasing calcified content increases the susceptibility of plaques to fail during endovascular device expansion. SEM reveals brittle calcified structures at the failure sites that likely contribute to failure. Guillotine testing reveals large inter and intra patient variance. However, calcified content correlates significantly with plaque toughness. SEM reveals the presence of large calcified regions in the toughest sections. A computational test-bed based on the mechanical behaviour, toughness values and composition of the plaques is also developed to evaluate novel endovascular devices. Such a tool can aid in the development of devices tailored to specific plaque composition and mechanics.

30. AAA in Ireland—who and how many are affected?

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Introduction: There is a vital gap in current knowledge regarding the incidence and mortality of Abdominal Aortic Aneurysm (AAA) in Ireland. It is a common, quiescent disease that carries a significant mortality risk in the event of rupture. The literature reveals screening has been proven to beneficial and cost-effective in meta-analysis.
Methods: Disease-specific yearly mortality rates, stratified by age and gender were calculated for Ireland 2003–2012 using Central Statistics Office registered deaths. Hospital In-Patient Enquiry registered admissions explored potential determinants of mortality.
Results: The mortality rate (per 100,000 population) from AAA is significantly higher in men. Mortality increases exponentially with age, rising to 140.8 in men and 75 in women. Of the 19,952 admissions during 2003–2012 that described AAA in the diagnostic code, 5682 [28.5 %] were women. 87 % of all subjects were over 65 years. 1,952 subjects died, 66 % of these were men. 3,497 subjects [83 % men, 80 % 65–84 years old] were admitted for aortic repair from 2003 to 2012. Surgical repair survival rate was 89.7 %, including emergency and elective procedures. Aortic repair procedure rates are increasing each year, with improving survival. In a multivariate logistic model, the odds of death were associated with increasing age and emergency admissions but not gender or residential area.
Discussion: AAA is more common in men, with associated higher mortality rates, admission rates and procedure rates with respect to women and associated mortality increases with age. Further research based on these results could be conducted to investigate the role of a screening programme in at-risk groups in Ireland.

31. The use of arteriovenous fistulae as an adjunct to peripheral arterial bypass: a systematic review and meta-analysis

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Introduction: Peripheral arterial bypass is an effective means of managing critical limb ischaemia. However, it may be associated with high rates of graft occlusion, particularly when the distal anastomosis is to the below knee arterial segment. This is often related to the high afterload associated with these small caliber vessels. A number of studies suggest that arteriovenous fistulae (AVF) sited at the distal anastomosis may reduce afterload and improve graft patency. We aimed to assess the effects of an adjuvant AVF on the patency and limb salvage rates in peripheral bypass.
Methods: A systematic search of online databases was performed in May 2015. Randomized controlled and observational studies assessing the role of AVF as an adjunct to peripheral arterial bypass were included. Studies were required to include at least one pre-defined outcome.
Results: Two randomized controlled trials and seven retrospective cohort studies comprising 966 participants were included. Pooled data showed no difference in primary graft patency [pooled risk ratio = 1.25 (0.73, 2.16), 95 % CI, p = 0.41], secondary patency [pooled risk ratio = 1.16 (0.82, 1.66) 95 % CI, p = 0.40] or limb salvage at 12-months [pooled risk ratio = 1.13 (0.80, 1.60) 95 % CI, p = 0.48] for the peripheral bypass with AVF group compared with peripheral bypass alone. Subgroup analysis indicated a reduction in re-intervention rates associated with AVF when performed in conjunction with synthetic grafts [pooled risk ratio = 0.55 (0.30, 0.98) 95 % CI, p = 0.04].
Conclusions: While it remains a safe procedure there is little evidence to support the use of adjuvant AVF in peripheral bypass. Evidence assessing its merits is weakened by small, retrospective studies with heterogeneous cohorts.

32. Open surgical repair, hybrid and endovascular repair of aortic arch pathology: systematic review and meta-analysis

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Treatment of aortic arch pathologies remains challenging. Although the introduction of hybrid arch repair and purely thoracic endovascular repair (TEVAR) have improved outcomes for mortality and morbidity rates, however the outcomes of these surgical techniques are still debatable. This study aims to evaluate safety and efficacy of open surgery, TEVAR and hybrid repair.

An extensive electronic literature search was undertaken using EMBASE, PubMed, Cochrane central register of controlled trials and Cochrane database of systematic reviews. We performed a meta-analysis for 30-day mortality, stroke, paraplegia and renal failure. This study was conducted according to the PRISMA statement for reporting systematic reviews for non-randomised observational studies and the study quality was assessed using the Newcastle-Ottawa Scale.

Forty-three eligible studies with 6876 participants were identified. Pooled estimate for 30-day mortality, Stroke, Paraplegia and Renal Failure were significant for all three surgical interventions ($P = 0.000$). Hypertension, COPD, diabetes mellitus (DM) and cardiovascular disease (CVD) were significant risk factors between both three groups ($P = 0.001$, $P = 0.033$, $P = 0.006$ and $P = 0.029$ respectively). Subgroup analysis comparing open surgery to hybrid repair reported insignificant reduction in stroke and paraplegia for hybrid versus open repair OR: 1.29; 95 % CI: 0.50, 3.32 ($P = 0.60$) and OR 4.28; 95 % CI: 0.49, 37.21 ($P = 0.51$), respectively.

This study reported improved 30-day mortality, stroke, paraplegia and renal insufficiency for both hybrid repair and TEVAR. Length of hospital stay and ICU stays were reduced in patients treated with hybrid and TEVAR in comparison to open repair.

SESSION 4 COLORECTAL SESSION

33. A randomised controlled trial comparing purse-string approximation with primary skin closure at ileostomy reversal

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Introduction: Recent literature has suggested that purse-string approximation (PSA) skin closure at reversal of ileostomy (RoI) leads to fewer surgical site infections (SSI) than traditional primary linear closure (PLC). A randomised controlled trial was conducted to compare PSA versus PLC in the University of Limerick Hospitals population.
Methods: Following ethical approval, 61 patients were recruited between May 2013 and July 2015 and randomised pre-operatively to PLC or PSA. 27 underwent primary linear closure and 34 underwent purse string approximation at RoI. Patients were followed up by phone call and chart review in relation to occurrence of SSI and long-term complications. Data were statistically analysed using Minitab Version 17.
Results: 8 of 27 patients (30 %) in the PLC group developed SSI and 3 of 34 patients (9 %) in the PSA group developed SSI showing a significant difference in rates of SSI ($p = 0.048$, Fisher's exact test). Cosmesis as assessed by the patients was not significantly different between the groups at 6 months post op with average satisfaction scores of 7.38/10 in the PSA group and 7.9/10 in the PLC group ($p = 0.42$, Student t test). There was also no difference in quality of life between the groups at 6 months post-operatively with almost all patient rated themselves "satisfied" or "strongly satisfied" ($p = 0.62$, Student t test).
Conclusion: There was a significant decrease in SSI rates when purse-string approximation was performed at reversal of ileostomy skin closure compared to primary linear closure.

34. Long term outcomes following stapled haemorrhoidectomy

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Introduction: Stapled Haemorrhoidectomy is a useful adjunct in the treatment of haemorrhoids. Randomised studies have shown that the stapled haemorrhoidectomy offers less pain and earlier control of symptoms than the traditional approach in the short term. Earlier studies have recommended further analysis of longterm outcomes.
Aim: To assess the efficacy of stapled haemorrhoidectomy in on a selected cohort in a single institution.
Methods: A prospective database of stapled haemorrhoidectomy cases was reviewed and all cases with >/=2 years of follow up data were included. Patient characteristics, nature of presentation and post operative recurrence and complications were included in our analysis.
Results: 47 patients in total were identified (24 male and 23 female) with a median follow up of 8 years (range 2–10.75). The average age at time of surgery was 47 years. The most common presenting complaint was bleeding per rectum (37) followed by prolapse (24), 33 patients had combined symptoms on presentation. Grade 3 and Grade 2 haemorrhoids occurred in 22 and 21 instances respectively. Initial therapies to control symptoms included injection schlerotherapy in 29 cases and 10 patients underwent stapled haemorrhoidectomy as their initial treatment. 5 cases required further schlerotherapy at 1 year and only 1 case had a recurrence after the first post operative year. No instances of impaired continence or anal stenosis were identified.
Conclusion: Stapled haemorrhoidectomy remains an effective procedure in the armamentarium of the colorectal surgeon. Its use need not be limited to grade 3 and 4 haemorrhoids as it can be employed in patients with concomitant prolapsed and haemhorridal peri-anal disease.

35. The prognostic role of neutrophil to lymphocyte ratio in colorectal cancer

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Background: Neutrophil to lymphocyte ratio (NLR) has been studied in recent years in its role in prediction of survival in several

gastrointestinal malignancies. The role of NLR in prognosis of colorectal cancer remains controversial. In this study, we aim to evaluate retrospectively the potential value it may have in predicting postoperative mortality.

Methods: A prospective database of malignant colorectal resections of 211 patients over a period of 11 years (2004–present) was examined. Preoperative NLR was calculated for all elective operations. 30 day post operative survival, Duke's Stage, and TNM staging were compared against NLR.

Results: 185 patients had a preoperative NLR recorded. The average NLR for all patients was 4.1. NLR was compared to Duke's Stage and TNM regarding survival. The average NLR for Dukes A was 3.55, Dukes B 4.37, Dukes C 4.29 and Dukes D 5.6. A positive correlation of 0.92 was found between Dukes Staging and NLR. Regarding TNM staging, the average NLR for Stage 1 was 4.61, Stage 2 was 4.34 and Stage 3 was 4.31. This gave a negative correlation of −0.915. In a small number of patients who died postoperatively ($n = 9$), NLR was found to be exceptionally high; the average in this group being 9.10. (STDEV 5.6).

Conclusions: These data shows that NLR may be a useful prognostic tool in patients undergoing elective surgery. It also shows a significant correlation with Duke's Staging, which could indicate a role in predicting long term survival following resection for colorectal malignancy. NLR may also have a role in predicting 30 day post operative mortality.

36. Mucinous rectal adenocarcinoma is associated with a poor response to neo-adjuvant chemoradiotherapy: a meta-analysis

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Introduction: Mucinous adenocarcinomas represent a potentially poor prognostic subgroup of rectal cancers. A consensus on the effect of mucin on outcomes following neo-adjuvant chemoradiotherapy and curative resection for rectal cancer has not been reached. The aim of this study is to use meta-analytical techniques to assess the effect of mucin on responses to neo-adjuvant chemoradiotherapy for rectal cancer.

Methods: A search of PubMed, Embase, and The Cochrane Library was performed. All studies examining the effect of mucin on chemotherapeutic response in rectal cancer were included. Outcomes of mucinous rectal adenocarcinomas were compared with non-mucinous tumors using random-effects methods. Data are presented as ORs with 95 % CIs. Outcomes measured were pathological complete response (PCR), tumor and nodal down-staging, positive resection margins, mortality and local recurrence.

Results: Eight series describing outcomes in 1,724 patients were identified, 241 had mucinous tumors (14 %). Mucinous tumors had a reduced rate of PCR (OR: 0.078, 95 % CI: 0.015–0.397, p: 0.002) and tumor down-staging (OR: 0.318, 95 % CI: 0.185-0.547, $p < 0.001$) following neo-adjuvant chemoradiotherapy with an increased rate of positive circumferential resection margin (OR: 5.018, 95 % CI: 3.224-7.810, $p < 0.001$) and overall mortality (OR: 1.526, 95 % CI: 1.060–2.198, p: 0.023). Mucin expression did not significantly effect nodal down-staging (OR: 0.706, 95 % CI: 0.295–1.693, p: 0.435) or local recurrence (OR: 1.856, 95 % CI: 0.933–3.693, p: 0.078). There was no across-study heterogeneity for any end point.

Conclusions: Mucinous rectal adenocarcinoma represents a biomarker for poor response to preoperative chemoradiotherapy and is an adverse prognostic indicator. Further studies of alternative adjunctive treatment to surgery are required.

37. Validation of risk predictor scores in colorectal cancer patients

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Background: Preoperative risk predictor scores have been long used to assess a patient's risk of morbidity or mortality based on a defined number of physiological and operative factors. These scores can be helpful in clinical decision-making; however they have obvious limitations. Variations can exist between individual surgeons, hospitals, and countries, making one score unlikely to provide accurate information for all institutions.

Methods: The prospective database of a single colorectal surgeon was examined. This included 211 patients (male to female 1:1.3) who underwent major colorectal surgery for malignancy between 2004 and 2015. P POSSUM, CR POSSUM, AND ACPGBI scores were calculated for all patients. 30-day postoperative mortality and morbidity were recorded for all patients.

Results: CR possum was the most accurate predictor of postoperative mortality, with an observed to expected ratio of 0.98. There was no significant difference between the observed and expected data for CR POSSUM. ($p = 0.66$). The P POSSUM score under predicted mortality by 20 %, with no significant difference $P = 0.66$. ACPGBI score over predicted mortality by 35 %, no significant difference between observed and expected mortality ($p = 0.536$).

Conclusions: These results show that in our institution, the CR POSSUM calculator for colorectal resections is the most accurate, and can provide useful information in assess preoperative risk. Further consideration should be given to developing more specified risk prediction scores, due to heterogeneity in populations, institutions, surgeons and patients.

38. Endoscopic tattooing: the roadmap for oncologic resections

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Background: In the era of laparoscopic surgery, endoscopic tattooing has proved valuable in locating colorectal malignancies. While helpful in lesion localization, abscess formation and dye spillage are recognized complications. The Irish Joint Working Group on GI endoscopy has published guidelines advising an agreed group policy on tattooing to minimize such complications. To date however, no such consensus has been published.

Aim: The aim of this study was to establish the knowledge base and comfort level of endoscopists currently involved in endoscopic tattooing.

Methods: A questionnaire was distributed at random to both physicians and surgeons attending the European Society of Coloproctology meeting held in Dublin, September 2015. Respondents were asked 10 questions on technical aspects of tattooing. Results were analyzed using the Mann–Whitney U test with GraphPad Prism version 6. 100 questionnaires were returned and suitable for inclusion.

Results: Only 37 % of respondents felt confident with their ability and knowledge of endoscopic tattooing. Similarly just 34 % were correct regarding tattoo placement, with no significant differences between surgeon and physician answers ($p = 0.5$). Half of respondents (52 %) were aware of the need to place at least 2 tattoos 180 degrees apart for laparoscopic visualization. The average score of respondents was 4.7/10, with no significant difference between physicians and surgeons ($p = 0.1$), or trainees and consultants ($p = 0.2$).
Conclusion: Technical aspects of endoscopic tattooing are practiced in a heterogeneous manner. Consensus guidelines are needed to ensure standardized practice across all endoscopy centres thus facilitating safe and complete oncologic resections. This presentation will highlight the important technical aspects of endoscopic tattooing.

39. Quality of life following wide mesenteric excision in patients with crohn's disease

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Traditionally, a conservative mesenterectomy has been performed for Crohn's resections. However this is associated with a high recurrence rate. Extensive mesenterectomy is the gold standard for oncological resections. Since 2011 our unit has performed wide mesenterectomies for Crohns resections. The aim of this study was to assess the impact of this approach on patient Quality of Life (QoL). All operations were performed by a single surgeon.

We used the Crohn's Life Impact Questionnaire (CLIQ), a fully validated PROM [1], to assess QoL. It is a twenty-seven-point questionnaire which measures the physical and emotional effects of Crohn's Disease. A higher score indicates a lower QoL. A simple linear regression analysis was performed in SPSS to identify predictors of QoL following surgery.

Twelve patients from a group of twenty-one returned the questionnaire (Response Rate = 57 %). The mean duration of time from operation to survey completion was 27 months (±18.4). The mean score was eleven (±6.76). Analysis of variance (ANOVA) identified female gender as a significant predictor of a higher CLIQ scores ($p < 0.029$). Other factors such as age, family history, disease phenotype, pre-op medications, disease activity before surgery, age at diagnosis, smoking status, and CRP were not significant predictors of QoL.

Women who have undergone wide mesenterectomy for Crohn's have a lower QoL than men.

40. Complication rates following closure of loop ileostomy

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Aims: The formation of a loop ileostomy is often deemed necessary to protect patients from a potentially life threatening distal anastomotic leak. However, the morbidity following closure of loop ileostomy (CLI) may be significant. This study aims to accurately identify complication rates following CLI.
Methods: A retrospective analysis via individual chart review was conducted on all patients who underwent CLI from January 2011 to April 2015. Patient demographics and outcomes were documented.
Results: Of 109 patients that underwent CLI, 24 were excluded from subsequent analysis due to patients undergoing planned additional surgery during the same anaesthetic. Of the remaining 85 patients, mean age, male to female ratio and median ASA was 64.1, 1.1 and III respectively. The majority of patients originally underwent an anterior resection for adenocarcinoma (78.8 %). Mean length of stay was 7.9 days. Peri-operative morbidity and mortality was 50.1 and 1.2 % respectively. One patient died from pulmonary sepsis and subsequent multi-organ failure. The morbidity involved prolonged ileus (17.6 %), pneumonia (12.9 %), wound infection (8.2 %), clostridium difficile infection (3.5 %), urinary tract infection (2.4 %), myocardial infarction (2.4 %) and one pulmonary embolus (1.2 %). Three patients required intensive care unit admission for septic complications.
Conclusions: CLI is associated with significant morbidity and mortality. This accurate reflection of complications rates following CLI challenges surgeons to further define the absolute necessity of loop ileostomy formation in individuals undergoing colectomy.

41. Transanal endoscopic microsurgery: an institutional experience

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Introduction: The use of TEM has increased significantly since it was first pioneered by Buess in the 1980s. Its role in the local control of rectal adenomas is well documented, as well as its role in the excision of selected T1 tumours. The primary aim of this study was to examine the complication rate associated with TEM at our institution. A secondary aim was to identify the number of rectal adenocarcinomas that were excised.
Materials and methods: A retrospective review was performed of all TEM procedures carried out in Cork University Hospital between 2007 and 2015. Data collected included; basic demographic information, occurrence of postoperative complications, histopathology, submucosal or full thickness resection, distance of the lesion from the anal verge, follow-up and ASA grade. Data were collated in an excel spreadsheet and then exported to SPSS (v20) for statistical analysis.
Results: Overall, 62 patients underwent a TEM procedure between 2007 and 2015. The complication rate was 17.7 % with bleeding accounting for the majority followed by urinary retention. There was one perforation, which was identified at the time of TEM and the patient proceeded to a laparoscopic defunctioning loop colostomy. The rate of cancers in excised specimens was 19.4 %.
Conclusion: TEM offers a significant advantage in avoiding the morbidity and mortality of a major resection, particularly in those either averse or unsuitable for major abdominal surgery. The complication rate of 17.7 % compares favourably with that reported internationally. Also, the rate of cancers in excised specimens is comparable with internationally published data.

SESSION 5 PLENARY SESSION

42. Risk factors for benign anastomotic stricture after oesophagectomy with gastric conduit reconstruction

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Introduction: Benign anastomotic strictures occur frequently after oesophagectomy and impact post-operative recovery, nutritional status and quality of life. This study aimed to identify independent risk factors for benign anastomotic stricture formation post-oesophagectomy in a large consecutive cohort.
Methods: Patients undergoing curative oesophagectomy for cancer with gastric conduit reconstruction between February 2001 and October 2014 were studied. Symptomatic anastomotic stricture was defined as the need for endoscopic dilatation, and refractory strictures as those requiring >2 dilatations. Multivariate logistic regression was performed to determine factors independently associated with stricture development.
Results: 524 patients underwent oesophagectomy [2-stage, n = 328 (62.6 %); 3-stage, n = 129 (23.3 %); transhiatal, n = 74 (14.1 %)] with an in-hospital mortality rate of 2.7 %. The predominant histologic type was ADC [n = 404 (77.1 %); SCC, n = 120 (22.9 %)] and 58.5 % of patients received neoadjuvant therapy [chemotherapy only, n = 119 (22.7 %); chemoradiation, n = 188 (35.9 %)]. Strictures occurred in 125 patients (24.5 %), were refractory in 50 (9.7 %) and required a median of 2 dilatations (range 1–18). On multivariate analysis, ASA grade ($P < 0.05$), operation type ($P < 0.001$) and significant postoperative cardiac event ($P < 0.05$) were independently associated with increased stricture and refractory stricture risk, while histologic type ($P = 0.25$), smoking ($P = 0.91$) atrial fibrillation ($P = 0.82$) and chemoradiation ($P = 0.74$) were not. Both transhiatal ($P < 0.001$) and 3-stage resection ($P = 0.002$) increased stricture risk versus 2-stage resection, with increased refractory stricture risk after transhiatal only ($P < 0.0001$) and with anastomotic leak ($P = 0.01$).
Conclusion: Benign anastomotic stricture occurs more commonly after cervical than thoracic anastomosis, and is associated with impaired baseline performance status, postoperative cardiac events, and anastomotic leakage.

43. Fibrocytes contribute to mesenteric manifestations in Crohn's disease

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Crohn's Disease Collaboration Group

Fibrocytes are a precursor cell type, which can differentiate into fibroblasts or adipocytes [1]. The mesentery in Crohn's disease, frequently displays disease manifestations such as mesenteric thickening and fat wrapping. This study aimed to investigate the contribution of fibrocytes to mesenteric manifestations in Crohn's disease.

Ethical approval and informed consent were obtained from the HSE Mid-Western Regional Hospital Research Ethics Committee. Mesenteric disease was graded based on presence and extent of factors listed in Table 1. Circulating and mesenteric fibrocytes were identified and enumerated by flow cytometric and immunohistochemical analysis. Relationships between these mesenteric and systemic manifestations were determined. Data are presented as mean ± standard error. Statistical analyses were performed in SPSSv22.

Circulating fibrocytes were significantly elevated in Crohn's disease (n = 25) when compared to healthy controls (n = 11) (independent t-test: 7.7 ± 0.97 vs. 2.1 ± 0.34 %; $p < 0.001$). Furthermore, Crohn's disease mesentery displayed a higher number of myofibrocytes than normal tissue. Mesenteric disease activity index directly correlated with the systemic disease manifestations (Pearson's correlation coefficient: $r = 0.80$; $p < 0.05$).

The increase in fibrocytes is directly related to the extent of mesenteric disease.

Table 1 Scoring system for mesenteric disease manifestations

Mesenteric Disease Activity Index				
Description	Severity	Grade	Stage	Score
FW minimal, MT minimal	Early	Mild	One	1
FW <25 %, MT adipovascular pedicle only	Intermediate I	Moderate	Two A	2
FW <25 %, pan-mesenteric MT	Intermediate II	Moderate	Two B	4
FW >25 %, pau-mesenteric MT	Advanced	Severe	Three	6

44. Isolation and characterisation of mesenchymal stem cells from osteoporotic/osteoarthritic patients

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Introduction: Osteoporosis and osteoarthritis are major health problems affecting our ever increasing elderly population. Mesenchymal stem cells (MSC) play a vital role in normal bone metabolism. The goal of this study is to develop a biobank of MSC's isolated from osteoporotic, osteoarthritic and healthy patients. The ability of MSC's to migrate to sites of injury and result in effective bone formation is critical in effective bone formation. TGF-β1 has been demonstrated to influence healthy MSC migratory capacity. Thus we examine the migratory capacity of osteoporotic, osteoarthritic and healthy MSC's in disease and in response to stimulants such as TGF-β1.
Methods: Osteoporotic, osteoarthritic and healthy bone marrow aspirates were obtained intra-operatively in patients undergoing necessary hip surgeries. MSC's were isolated and characterised from each sample as per ISCT criteria (1). Trilineage differentiation was

demonstrated in each sample and quantified. The migratory capacity of MSC's in health and disease were analysed in response to serum free media, 10 % FBS and 0.1 pg TGF-β1. The location of the TGF-β1 machinery was subsequently analysed using ICC.
Results: A total of 10 aspirates were obtained from the exposed acetabulum intra-operatively. MSC's were identified with a total of 109 vials maintained at −80 °C (8×10^5–1×10^6 MSC's per vial). Osteoporotic MSC's had an increased propensity to differentiate along the adipogenic lineage. Both osteoporotic and osteoarthritic MSC's had altered chemokinetic profiles in comparison to healthy controls. Of particular interest, whilst healthy MSC's migrate towards TGF-β1, osteoporotic MSC's failed to migrate towards this important chemoattractant.

45. Differentiated thyroid cancer susceptibility in a western European population: a common variant at a 9q22 locus

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There is increasing evidence that genetic susceptibility to differentiated thyroid cancer (DTC) may be explained by multiple low risk variants. Rs 965513 is a single nucleotide polymorphism (SNP, G>A) located at 9q22.23, near the FOXE1 gene. Dysregulation of this thyroid transcription factor has been associated with thyroid dysgenesis. We aimed to assess the role of this SNP as a risk factor in DTC.

Patients with DTC were recruited from tertiary referral centres in Ireland and France. The control group was comprised of cancer-free individuals over the age of 60. Germline DNA was extracted from whole blood and buccal swabs by ethanol precipitation. Genotyping was performed using Taqman-based PCR. Data was analysed using SPSS v22.

251 DTC cases and 217 controls were genotyped. 217 (86 %) of cases were papillary tumours, while 34 (14 %) were follicular. The minor allele was detected with higher frequency in cases compared to controls (0.45 vs. 0.31, OR = 1.84 (1.4–2.4), $p < 0.0001$). An allele dosage effect was evident, with genotypic odds ratio for heterozygous carriers (AG) compared to wild type homozygotes of 1.99 (1.33–2.97, $p = 0.0007$), increasing to 3.85 (2.04–7.29, $p = 0.000018$) for rare homozygotes (AA).

This study strongly supports the role of FOXE1 as a thyroid cancer susceptibility gene. It is becoming increasingly accepted that the inherited cancer predisposition profile of an individual will need to be incorporated into planning of appropriate surveillance schedules. This variant in particular may merit inclusion into such genetic profiling strategies in patients at increased risk of thyroid cancer.

46. Towards the development of a stratification parameter to predict the mechanical response of atherosclerotic plaque to endovascular treatment

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Predictors of restenosis are required to assess patient suitability for endovascular intervention. Certain mechanical properties of the target lesion have been previously demonstrated to correlate with restenosis. This study compares these mechanical properties in a group of carotid and femoral excised human plaques and develops predictors of these properties based on plaque biological composition to generate surrogate predictors for restenotic response following endovascular intervention. The morphological structure of the plaques is also qualitatively examined to determine if any structural differences exist between the calcified tissue within the two plaque groups that may warrant further quantitative structural analysis.

Mechanical properties were characterised using uniaxial extension tests on 24 carotid and 15 femoral plaque samples. Biological composition was characterised using Fourier transform infrared spectroscopy to identify biological parameters potentially capable of predicting the mechanical properties. Calcified tissue structural morphology was analysed using scanning electron microscopy.

Significantly different mechanical properties were identified between the groups that aid in explaining the increased restenotic response clinically observed in femoral vessels. The ratio of calcified to lipid content is the most effective parameter for predicting mechanical properties. Structural analysis revealed calcification types distinct to each group which suggest that further quantitative analysis is required to improve predictive parameters.

The established parameter could be employed clinically to pre-operatively stratify patients into different treatment strategies ensuring that patients at increased risk of developing restenosis following endovascular intervention, based on the predicted mechanical properties of the atherosclerotic tissue, receive open surgery or a monitoring protocol.

47. Prospective evaluation of the potential to reduce breast cancer risk, through lifestyle modifications in BRCA-mutation carriers

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The lifetime-risk of breast-cancer is greatly increased in women carrying a deleterious mutation in the *BRCA1* or *BRCA2 genes*. Recently there has been increased-penetrance of *BRCA*-mutations which may be due to lifestyle-influences.

There is a need to identify approaches to reduce penetrance of BRCA-mutations. Understanding how lifestyle-factors affect cancer-risk in BRCA-mutation carriers may have implications for risk-reduction. Oxidative-stress is an early-event in cancer-development and may be considered a surrogate-marker of cancer-risk.

The aim of this pilot-study was to objectively measure lifestyle-factors in a cohort of unaffected BRCA-mutation carriers and to assess the impact of these lifestyle-factors on oxidative-stress profiles.

Participants (n = 75) were recruited. Body-composition, metabolic-profiles and physical-activity were measured in participants. Circulating oxidative-stress markers 8-oxo-7,8-dihydro-2′-

deoxyguanosine (8-oxo-DG) and 4-hydroxynonenal (4-HNE) were measured in participants (n = 30) by ELISA.

93 % of participants failed to reach recommended physical-activity levels. The majority of subjects were either overweight (37 %) or obese (34 %) with 72 % exhibiting abdominal-obesity. 80 % presented with at least one feature of the metabolic-syndrome (MetS). Circulating-levels of the lipid-peroxidation marker 4-HNE were significantly-higher in participants with the MetS ($p < 0.0001$). Serum 4-HNE levels directly-correlated with waist-circumference ($p = 0.02$), number of features of MetS ($p = 0.0007$), insulin ($p = 0.02$), insulin-resistance score (HOMA-IR) ($p = 0.01$), HBA1c ($p = 0.006$), glucose ($p = 0.048$) and triglycerides ($p < 0.0001$).

This pilot-work has demonstrated that unhealthy lifestyle-patterns are prevalent in unaffected BRCA-mutation carriers. These results also suggest that the potential may exist to modify pro-carcinogenic processes in this cohort by targeting metabolic-syndrome and its component-features through lifestyle-interventions and/or medication.

48. Lymph node ratio (LNR) in sentinel lymph node biopsy (SLNB) era: are we losing prognostic information?

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Background: The number of involved axillary lymph nodes (LNs) found on pathological assessment is regarded as a significant prognostic factor for patients with early-stage breast cancer (EBC). Recent reports have suggested that LNR may be a better surrogate at predicting cancer-specific outcome than the number of involved LN. This retrospective study investigated the prognostic value of LNR, using earlier published cut-off values, before the introduction of SLNB.
Methods and materials: A population-based study was performed, using data from UHL Oncology Database, including all women diagnosed with node-positive EBC between 01/01/2001 and 31/12/2010 (N = 553). Records were retrospectively evaluated for clinical, demographic and pathologic data. Majority had axillary node clearance (ANC) (548/553; 99.1 %). Patients were divided into 3 LNR risk groups (Low: ≤ 0.20; Intermediate: 0.21–0.65; and High: >0.65). Kaplan–Meier survival analysis was performed. Proportional hazard modelling was undertaken to evaluate whether LNR was associated with overall survival (OS).
Results: Median follow-up: 59.8 months (IQR: 37.1–88.9). LNR distribution: Low: 303/553 (54.8 %), Intermediate: 160/553 (28.9 %) and, High: 90/553 (16.3 %). Kaplan–Meier estimates for OS stratified by LNR risk group, showed Low risk group had better outcome for OS ($p < 0.001$)
5- and 10-year OS survival rates were 63 and 58 %, respectively. The number of positive LNs correlated with 10-year OS (66, 48 and, 48 % for patients with N1, N2 and N3 stage respectively; $p < 0.001$). LNR also correlated with 5-year OS (69, 48 and, 41 % for Low-, Intermediate-, and High-risk groups respectively; $p < 0.001$). Significantly, LNR on multivariate analysis also formed a prognostic model when combined with age, ER status, PgR status and, HER2 status ($p < 0.001$).
Conclusion: Our findings support the use LNR as a predictor for OS for patients with EBC in Mid-Western Ireland. LNR should be considered as an independent prognostic variable to the current prognostic instruments already in use. These findings present a clinical dilemma, in a SLNB and Z0011 era, are we losing potential prognostic information?

49. Does metabolic syndrome affect post operative recovery after aortic valve replacement surgery?

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Objectives: The aim of this study was to determine whether the presence of metabolic syndrome affect the patients' length of stay post operatively.
Method: A retrospective analysis of the cardiothoracic database was performed. Patients who underwent aortic valve replacement surgery from January 2013 to December 2014 were analysed. Patients with hypertension, hypercholesterolemia, diabetes, and increased BMI and waist circumference were identified. Metabolic syndrome is defined using the World Health Organisation Clinical Guidelines. The length of stay of patients with and without metabolic syndrome was compared. Statistical analysis was carried out using SPSS (v) 22 and a p value of less than 0.05 was considered significant.
Results: Represents a summary of the demographics of the patients analysed. Between January 2013 to December 2014, 217 patients underwent aortic valve replacement surgery. Out of those, 30 patients (13.8 %) had metabolic syndrome. The median post-operative length of stay in patients with metabolic syndrome and without metabolic syndrome was similar (9.00). The relationship between the presence of metabolic syndrome and length of hospital stay was not significant ($p = 0.876$). However, the presence of dysplipidemia was associated with an increased postoperative hospital stay ($p = 0.017$).
Conclusion: The incidence of metabolic syndrome in patients with aortic valve disease is low. Similar duration of post operative length of stay was noted in patients with and without metabolic syndrome. However it was found that the presence of dyslipidaemia increases the length of stay of patients post operatively in patients who underwent aortic valve replacement surgery.

50. The effect sacral neuromodulation on anal, perineal and rectal light-touch evoked potentials in the rat

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Anal and/or rectal sensory deficits are common in faecal incontinence. Sacral neuromodulation (SNM), now the first line surgical treatment for faecal incontinence, is known to affect sensory transmission. Human data on SNM afferent effects is limited due to methodical limitations. This study investigated the effect of SNM on cortical evoked potentials (EPs) elicited by selective anal, perineal and rectal mucosal light-touch stimulation in the rat.

In 8 urethane anaesthetized rats, cortical EPs elicited by anorectal electrical and selective anal, perineal and rectal mechanical stimulation were recorded before (baseline), 10 min and 40 min after application of acute SNM. Selective anorectal stimulation was achieved using a novel device consisting of a rotating bush mounted on a stepper motor. For rectal stimulation a shielding device was designed to prevent an accidental anal stimulus. Data are mean ± SEM and criterion for significance was $P < .05$.

Anorectal electrical, anal and perineal mechanical EPs increased significantly by 93 ± 15, 55 ± 10 and 56 ± 10 %, respectively (One-way repeated-measures ANOVA: P = .003, P = .006 and P = .004), while rectal EPs were unchanged (3 ± 6 %, P = .13). A comparison between the locations showed, that the increase in anorectal electrical EP amplitude was larger than in anal mechanical and perineal mechanical EPs, whose potentiation was similar. All three EPs showing potentiation were significantly increased compared to rectal EPs (two-way repeated-measures ANOVA and Bonferroni post-test).

In conclusion, sensation from anal mucosa and perineal skin is augmented by SNM but rectal mucosal input is unaffected in the rat. It remains to be determined if rectal wall mechanoreception is selectively affected by SNM.

51. Prospective validation of neutrophil-to-lymphocyte ratio (NLR) as a diagnostic and management adjunct in acute appendicitis

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Introduction: Neutophil-to-lymphocyte ratio (NLR) is a simple inexpensive marker of inflammation. To date, studies have shown that it is effective in demonstrating degree of inflammation. We have already shown retrospectively that it correlates with diagnosis and severity of acute appendicitis (AA) [1]. This study aimed to prospectively validate NLR as a diagnostic and management adjunct in AA.

Methods: We prospectively evaluated all patients admitted with suspected AA over a 12 month period (Oct 2014–Oct 2015). Age, gender, blood results, imaging, histology and LOS were recorded. Severity of appendicitis (simple inflammation versus severe gangrenous/perforated) was reviewed as per histopathology. Statistical analysis was performed using receiver operating characteristic (ROC) curve analysis to produce cutoff values for diagnosing AA and compared to previously published analysis.

Results: 303 patients were included in the study with suspected appendicitis. 200 of these patients underwent surgery. 182 laparoscopic (91 %) and 18 open (9 %) appendicectomies were performed. 49 % (n = 98) were male; mean patient age was 19.78 years. Histopathological analysis confirmed that 68 % had simple appendicitis, 7 % had severe appendicitis and 12.5 % had a negative appendicectomy. The remaining 12.5 % had other pathologies detected. ROC analysis demonstrated a cutoff NLR value of >6.045(sensitivity 0.60, specificity 0.71) as indicative of a diagnosis of AA (95 % CI 0.516–0.679 $p < 0.0001$). This cutoff value was comparable to previously reported results, matching for sensitivity and specificity [1].

Conclusion: This study prospectively validates NLR as an accurate predictor of AA and therefore is a useful adjunct in diagnosis. Combining NLR value with clinical status of the patient may facilitate a selective policy of conservative management of AA.

52. A quantitative analysis of tumour characteristics in breast cancer patients with extranodal extension in non-sentinel nodes

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The presence of extranodal extension (ENE) is well documented as a predictor of non-sentinel lymph node (NSLN) metastasis. The ACOSOG Z0011 trial (2011) concluded that patients who satisfy criteria including the absence of sentinel lymph node (SLN) ENE can forgo axillary clearance (AC). Currently there are no studies analysing the rate of ENE in NSLN metastasis in which the sentinel node was positive but had no ENE. Determining this incidence will help determine if current paradigms are resulting in residual ENE in NSLN metastasis by forgoing AC based on the Z0011 trial.

This study determined incidence of ENE at NSLN metastasis in patients with a positive SN biopsy without ENE in 162 symptomatic breast cancer patients who underwent AC between 2009 and 2014 at Cork University Hospital Breast Cancer Service.

Of 965 sentinel node biopsies performed 251 were identified as SLN positive, 162 (64.5 %) underwent further AC. Of the 162 patients, 56.8 % (92/162) were positive for ENE at SLN, of these 57.6 % (53/92) had NSLN metastasis versus 17.1 % (12/70) in the ENE-negative group (χ^2 test; $P < 0.001$). On adjusted analysis, ENE at the SLN was a significant predictor of NSLN metastasis [odds ratio (OR) 8.63; 95 % confidence interval (CI) 3.26–22.86; $P < 0.001$]. The incidence of NSLN-ENE in patients without SLN-ENE was 1/70 (1.4 %) compared with 33.7 % (31/92) in patients who had no ENE at the SLN (χ^2 test; $P < 0.001$).

ENE at the SLN is an independent predictor of NSLN involvement, its absence significantly reduces the likelihood of ENE in NSLN metastasis.

53. Early satiety is associated with an exaggerated postprandial satiety gut hormone response early after oesophagectomy with gastric conduit reconstruction

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Introduction: With improved oncologic outcomes for patients with oesophageal cancer there is an increasing focus on functional outcomes and health-related quality-of-life. Early satiety and weight loss are common post-oesophagectomy, but the pathophysiology of these phenomena remains poorly understood. This study aimed to prospectively characterize changes in weight, satiety and gut hormone profiles following oesophagectomy.

Methods: Consecutive patients scheduled to undergo oesophagectomy with gastric conduit reconstruction were studied preoperatively and at 10 days, 6 weeks and 3 months postoperatively. Glucagon-like peptide 1 (GLP-1) immunoreactivity of plasma collected immediately before and 15, 30, 60, 90, 120, 150 and 180 min after a standardized 400 kcal mixed meal was analysed. Gastrointestinal symptom scores were computed using EORTC questionnaires, and body composition determined by bioimpedance analysis.
Results: Among thirteen patients undergoing oesophagectomy, 11.1 ± 2.3 % ($P < 0.001$) and 16.3 ± 2.2 % ($P < 0.0001$) body weight loss was observed at 6 weeks and 3 months postoperatively. Early satiety ($P = 0.043$), gastrointestinal pain and discomfort ($P = 0.01$), altered taste ($P = 0.006$) and diarrhoea ($P = 0.038$) increased at 3 months postoperatively. GLP-1 area under the curve (AUC) increased from postoperative day 10 (2.4 ± 0.2 fold, $P < 0.01$), and GLP-1 peak increased 3.8 ± 0.6, 4.7 ± 0.8 and 4.4 ± 0.5 fold at 10 days, 6 weeks and 3 months post-operatively (all $P < 0.0001$). At 3 months, GLP-1 AUC was associated with eating symptoms ($P = 0.007$, $R^2 = 0.54$), lack of appetite ($P = 0.004$, $R^2 = 0.57$), early satiety ($P = 0.0002$, $R^2 = 0.74$) and trouble enjoying meals ($P = 0.0004$, $R^2 = 0.73$).
Conclusion: Patients post-oesophagectomy with gastric conduit reconstruction demonstrate an exaggerated postprandial satiety gut hormone response, which may mediate changes in satiety, weight loss and gastrointestinal quality-of-life.
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SESSION 6 SCIENTIFIC SESSION

54. An evaluation of multiple novel markers expression on breast cancer recurrence and outcome

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A number of novel biomarkers, NIS, retinoic acid receptors (RARα, RARβ), estrogen receptors (ERα), thyroid hormone receptors (THRα, THRβ), and phosphoinositide-3-kinase (PI3K), have been shown to have tumour suppressing or enhancing effects on breast cancer [1]. No published studies have yet looked at prognosis of these receptors. This study aims to correlate relative expression of these markers with outcome of patients with breast cancer.

85 human breast tissue samples [malignant n = 75, fibroepithelial tumour (FET) n = 10] were analysed by RQ-PCR targeting these markers. Samples were representatively selected based on epithelial subtypes. Those diagnosed with breast malignancies or FETs were included for analysis. Follow-up data was analysed for overall survival (OS), 5 year disease-free survival (5DFS) and 10 year disease free survival (10DFS). Analysis was performed using SPSS.

73 (malignant n = 69, FET n = 4) patients had sufficient follow-up. The mean age was 55.66 ± 11.379 years. There was a significant direct association between expression of NIS and 10DFS (P = 0.031).The 10DFS rates were 13 % for low NIS expressing tumours and 45.5 % for high NIS expressing tumours. PI3K overexpression increased the 5DFS (P = 0.049). The 5 year DFS rates were 46.4 and 68.6 % respectively for low and high PI3K expressing tumours.

Overexpression of NIS and PI3K were associated with improved prognosis in terms of 10DFS and 5DFS respectively. This study has demonstrated for the first time that overexpression of these novel markers improve long term prognosis of breast cancer. These markers may prove promising targets for future stimulating chemotherapeutic agents.

55. Identification of an injury induced skeletal progenitor

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The postnatal skeleton undergoes continual phases of growth, remodeling, and repair. We hypothesized that skeletal progenitor cells active during these disparate phases are genetically and phenotypically distinct. By prospectively isolating osteogenic populations from fracture calluses, we identified a highly potent regenerative cell type that we term the *f*-BCSP (fracture-induced bone, cartilage, stromal progenitor). The *f*-BCSP possesses markedly enhanced skeletogenic potential than BCSP harvested from uninjured bone (*u*-BCSP). Furthermore, the *f*-BCSP recapitulates many skeletogenic gene expression patterns that characterize perinatal BCSPs. Our results indicate that the skeletal progenitor population is functionally stratified, containing distinct subsets responsible for growth, remodeling, and injury-induced regeneration. Furthermore, our findings suggest that injury-induced changes to the skeletal stem and progenitor microenvironment might activate these cells and enhance their regenerative potential.

Here we characterize, for the first time, the injury-induced activation of a specific, highly purified population of multipotent skeletal progenitor cells. These activated progenitor cells exhibit increased cell frequency, proliferation, survival, and enhanced osteogenic potential. They also possess a unique transcriptional profile that distinguishes them from quiescent progenitors found in uninjured bone. We report that these features improve regenerative capacity, suggesting that activated progenitors play a principal role in endochondral bone healing. We hope that a better understanding of stem and progenitor activation will invoke novel clinical therapies that restore impaired skeletal regeneration.

56. Investigation of serum-derived exosome-encapsulated microRNAs as circulating biomarkers of breast cancer

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Introduction: Exosomes are membrane derived vesicles that are actively secreted by cells. They are capable of the transfer of microRNAs between cells. MiRNAs are short sequences of nucleic acid that are dysregulated in a variety of cancers including breast cancer. Previous work identified the presence of miR451a and miR744-5p in exosomes derived from breast cancer cell lines. The aim of this study was to investigate whether these miRNAs were detectable in the circulation of patients with breast cancer.

Methods: Exosomes were isolated from the serum of patients with breast cancer and healthy controls through the process of differential centrifugation, microfiltration and ultracentrifugation. They were characterized using Transmission Electron Microscopy (TEM) and Western Blot analysis. RQ-PCR was carried out on extracted miRNA in order to investigate the presence of miR451a and miR744-5p in isolated exosomes.
Results: Serum-derived exosomes were successfully isolated from patients with breast cancer (n = 55) and healthy controls (n = 9) following informed consent. The exosomes were found to be vesicular in shape and measured 30–100 nm in diameter. The presence of the exosome-associated protein CD63 was confirmed using Western Blot analysis. A range of miRNAs including breast cancer-associated miR451a and miR744-5p were found to be detectable in the serum exosomes of patients with breast cancer and healthy controls.
Conclusion: MiRNAs that had been isolated from breast cancer cell lines in vitro were detected within serum exosomes of patients with breast cancer and healthy volunteers. These data highlight the potential for exosome-derived miRNAs to be used as biomarkers for breast cancer.

57. In silico and in vitro modelling of flow behaviour in lymphatic vessels

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Breast cancer is the most common cancer form in women, and tumour metastasis to regional lymph nodes is a crucial step in its progression. It is not yet known why some cancerous cells metastasize from the lymph nodes and others do not, therefore, a fundamental understanding of the response of cells to the forces in the lymphatics needs to be established. This paper models the fluidic transport behaviour of breast cancer cells through lymph channels by investigating both cell flow (MCF-7s and MDA-MB-231s) and particle flow in a microchannel at low flow rates which are representative of in vivo conditions.

A range of separate particle/cell sizes are exposed to a low Reynolds number flow and their response to the flow in terms of speed and spatial distribution are analysed and compared using both numerical and experimental methods. Numerical simulations were performed using the commercially available computational fluid dynamics (CFD) software Star CCM+ and micro-particle image velocimetry (µPIV) techniques were employed in the experimental set-up. It was found that particles/cells flowing in a microchannel experience drag and lift forces that result in complex behaviour: particle velocities may lag or exceed the undisturbed flow velocity, and migrate to different equilibrium positions. Good correlation between measured and software predicted velocity profiles was seen with the accuracy of the prediction decreasing with radius. Particle sizes (1–32 µm) corresponding to different cell types did affect the results suggesting that cell size, relative to lymph vessel diameter, is an important factor in cell behaviour in the flow.

58. Adipophilin is a prognostic biomarker in colorectal cancer

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Substantial volumes of genetic expression data are archived within functional genomic data archives. There can be difficulty in searching these based on outcome-related parameters; this hampers the development and validation of prognostic biomarkers. This study aimed to generate and test an archive in identification and validation of prognostic biomarkers in colorectal cancer (CRC).

A Colorectal Cancer Archive (CRCA) was established based on data derived from Gene Expression Omnibus (GEO). A software (ROVER) was developed to permit clinically relevant searches using terminology including stage and disease-free survival. Experiments were identified that compared early (Stage I & II) and late stage (Stage III & IV) colorectal cancer and from these, consensus profiles were extracted and adipocyte differentiation related protein (ADFP) identified as the top-most frequently disregulated gene. Datasets annotated with survival information were identified. Using a regression-tree (CRT) based approach a threshold ADFP expression was identified associated with differential disease free survival. Finally, the association with DFS (disease free survival) was validated in silico.

CRT-analyses identified ADFP expression thresholds for early vs late stage CRC (10.5 and 9.76 respectively), around which cancer related survival significantly differed. Kaplan–Meier estimates of time to recurrence were identified and compared in early and again in late CRC. In early CRC, increased ADFP expression >10.5 was associated with adverse DFS ($p = 0.05$). In late stage, increased ADFP expression >9.76 was associated with adverse DFS ($p < 0.001$).

Through a functional genomics archive of gene expression in CRC, ADFP gene expression was identified and validated as a prognostic biomarker in CRC.

59. MUTYH—associated polyposis: the Irish experience

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Introduction: The MYH gene encodes a DNA-glycosylase enzyme, which is involved in base excision repair. Bi-allelic mutations of MYH confer predisposition to polyposis and gastro-intestinal malignancies, and is distinct genetically and clinically from autosomal dominant adenomatous polyposis coli. In Europe, two common mutations (G396D and Y179C) are reported in 90 % of MYH-associated polyposis.
Aim: We aimed to examine the incidence and impact of MYH mutations in an Irish cohort.
Methods: A retrospective cohort study was undertaken. Patients tested for MYH mutations were identified by searching electronic patient databases, held in the department of Clinical Genetics using terms "*MUTYH*" and "MYH" for patients and samples from 1995 to 2015. Patient charts were reviewed for details regarding phenotype and genotype. Irish probands tested abroad were included if family members presented for cascade testing. Patients of non-Irish ethnicity were also included if they resided and were tested in Ireland.
Results: Ninety-four patients from 41 families were tested for MYH mutations. Bi-allelic mutations were confirmed in 25 individuals (16

families), including 16 index cases, and a further nine cases following cascade testing of at-risk family members. Cascade testing also revealed mono-allelic mutations in 28 individuals. A single *MUTYH* mutation was identified in one index patient undergoing cancer genetic predisposition testing using next-generation sequencing. Ten families had bi-allelic status for one/both common European mutations, and at least one common European mutation was detected in another five families. Fifteen (60 %) bi-allelic mutation carriers developed cancer of colon/rectum, of whom six were homozygous for Y179C mutation. Polyposis was reported in 21 (84 %) bi-allelic mutation carriers. Two (6 %) mono-allelic and one obligate mutation carrier were also found to have polyps (<5), of whom two were Y179C mutation carriers. A geographical variation in incidence was noted, with eight of sixteen families originating from two counties in South-West Ireland.

Conclusion: Bi-allelic MYH mutations confer a strong risk of early-onset colorectal cancer, while risk in mono-allelic carriers reflects that of background population. Screening of bi-allelic mutation carriers is strongly recommended, while screening of mono-allelic carriers is not of any extra benefit over routine national screening programs.

60. Towards a better understanding of tumour heterogeneity: a case study examining the expression pattern of protein kinase c in a triple negative metaplastic carcinoma

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Most breast cancers are composed of a heterogeneous population of tumour cells which contribute to the diversity of the tumour. This is a key contributor to tumour aggression, immune evasion and resistance to systemic therapies. Core biopsies are routinely used to sample tumours pre-operatively, but it is well documented that they may not give a correct representation of the biology of the overall tumour.

We were particularly interested in investigating the expression pattern of a group of proteins called PKC's. PKC's have an important role downstream of growth factor and adhesion signalling and have a well established role in cancer progression. Examining this specific and rare tumour which pre-operatively was identified as a triple negative metaplastic (spindle cell) carcinoma and 7 cm in maximum dimension. Six sample areas were taken by a pathologist, identified as middle-anterior, middle-posterior, middle-inferior, middle-superior, mid-medial and mid-lateral. A random core was also obtained along with adjacent normal tissue from the same patient. RNA was extracted, following which cDNA was made, RT qPCR was performed on each of the samples and analyzed using REST software. They were also checked for consistency with stromal epithelial markers VIM and KRT18.

We found that the expression pattern of each of the 9 PKC isoforms varied considerably throughout the tumour with PKC epsilon, zeta and delta being the most dysregulated.

Using the expression pattern of PKC's across this rare tumour, we illustrated that it is highly likely that different biological situations manifest in subsections of tumours at a particular moment in time and supports the idea that novel diagnostic methods and multimodal approaches may benefit the treatment of cancer.

61. The mesocolic hilum: an electron microscopic appraisal of anatomy

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Introduction: The mesocolic hilum is the interface between the mesentery and the gastrointestinal tract (GIT). To date, no studies have been undertaken to formally assess the anatomic appearance of the mesocolic hilum. Scanning electron microscopy (SEM) allows for accurate determination and appraisal of histologic structure and topography. The aim of this study was to determine the microscopic anatomy of the mesocolic hilum.

Methodology: Human cadaveric samples were harvested and all anatomic practice adhered to appropriate national legislation. Thick-section samples were dehydrated accordingly before being mounted to metal studs and sputter-coated in gold. All analysis was conducted using a Hitachi S2600N Variable Pressure Scanning Electron Microscope.

Results: SEM was performed of the mesocolic hilum to characterise its structural topography. This demonstrated a complex and highly vascularised structure. The mesenteric connective tissues were clearly seen to invest the serosa of the GIT. This connective tissue extended into the *muscularis externa* creating radial and circumferential septa within the longitudinal and circular muscle layers respectively. The mesenteric connective tissue is also noted to contribute to the submuscosa and mucosa of the GIT. Arterioles are seen to extend from the mesentery penetrating the serosa of the GIT. Vascular beds surrounded in collagen and elastin fibres are noted in abundance throughout the hilum.

Conclusion: This is the first study to appraise the structural microscopic anatomy of the mesocolic hilum. SEM demonstrates a complex, vascularised margin with significant contributions from the attached mesentery. Improved understanding of surgical anatomy contributes to improved techniques in surgical practice.

SESSION 7 ENT/HEAD & NECK SESSION (ORALS & POSTERS)

62. A novel solo endoscopic nasogastric tube insertion technique

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Introduction: Otorhinolaryngology consultation to assist after an unsuccessful insertion of a nasogastric tube (NGT) via blind technique is a common phenomenon. Insertion under direct vision with a flexible endoscope gives a unique advantage to address difficult anatomy. Common technique involves two operators to visualise and advance the tube. Using equipments commonly available in any otorhinolaryngology treatment suite, we developed a single operator technique.

Objective: To describe and propose a novel solo endoscopic technique for difficult NGT insertion.

Methods and results: 15 patients, whom underwent endoscopic NGT insertion via solo endoscopic technique, were retrospectively reviewed. Each patient's medical charts, radiographs and visual media records were reviewed. The indications, outcomes, length of procedure, and any difficulties encountered during the procedure were recorded. The details of the technique are explicitly described.
Conclusion: This technique is a safe and uncomplicated technique to aid in difficult NGT insertion, which could be performed by a single operator effectively.

63. Nasal corticosteroid sprays: patient knowledge, use and satisfaction

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Introduction: Information regarding patient knowledge, perception, and satisfaction of using nasal corticosteroid sprays is lacking. Instruction provided to patients is often suboptimal and consequently many do not feel they improve symptoms. An assessment of the patient's understanding and practice in using nasal sprays is necessary.
Methods: Prospective, questionnaire based study, assessing patient knowledge, perception, and technique of using nasal corticosteroid spray. SPSS software used to analyze data.
Results: One hundred adult patients returned questionnaires. Their ages range from 16 to 68 years, with an essentially equal sex ratio. More than half of patients did not know their medication contained steroids, and 60 % of patients were not informed how to administer the sprays. 39 % gave up in under 2 weeks, primarily because they reported minimal or no improvement in nasal symptoms. Furthermore, almost all patients complained of one or more unpleasant side effects such as unpleasant taste, nasal irritation, and epistaxis.
Conclusion: Patients currently receiving corticosteroid intranasal spray possess superficial knowledge and awareness of treatment for allergic rhinitis, receive insufficient instruction regarding administering the spray, and subsequently achieve suboptimal satisfaction with their management. This situation could potentially be greatly improved by patient-motivated and clinician-assisted education.

64. Case series of patients diagnosed with cervicogenic disequilibrium—an unfamiliar complaint

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The aim of this study was to conduct a case-series analysis to investigate the existence of cervicogenic disequilibrium (CD) by means of excluding relative negatives and to draw attention to imbalance with no otogenic or vestibular cause but rather dizzy spells arising purely from neck conditions or injury.

A sample of 53 patients were collected. 12 males, 41 females. Age range 8 to 77 years old. Patient demographics such as sex, age, common presenting symptoms, findings from medical tests, consultant ENT surgeon opinion, and specialist vestibular rehabilitation physiotherapist opinion were collected and entered into Statistical Package for Social Sciences (SPSS) to allow for further analysis such as pattern recognition.

We found that physiotherapy treatment does improve symptoms associated with the diagnosis of CD. The results imply that clarification is needed on the diagnostics to cement CD as an independent condition. But when diagnosed correctly, we believe that CD can be successfully treated using a combination of manual therapy and vestibular rehabilitation.

CD is an existing and genuine complaint which is associated with other symptoms requiring promotion to allow for earlier recognition of the signs and symptoms rather than after costly and timely investigative procedures. We acknowledge that it is controversial, however it is more common than we think, treatable, yet underdiagnosed.

Citation analysis of case reports citation classics in otorhinolaryngology—head & neck surgery

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Case reports are becoming increasingly rare in medical journals in spite of attempts to increase their presence [1]. This can be due to perceived poor citation rates and negative effect on journal impact factor. This study aims to determine whether the perception of low citation rates of case reports in otorhinolaryngology is correct, with specific reference to their presence among citation classics. Classics are defined as articles in peer-reviewed journals that have received 100 or more citations from other peer-reviewed publications. The 906 most cited articles in otorhinolaryngology were accessed through Web of Science and a list from Fenton et al. [2]. Four case reports were identified in the list of classics. The highest number of citations received by a case report was 314 and the lowest was 140. The mean number of citations was 222 ± 72. The case reports identified became classics and remain highly cited because they introduced a new technique or tool used in disease treatment or they are the first to describe and name a disease process. The most recent classic case report identified was published in 1968. New guidelines for writing, and the submission of case reports, make publication more difficult. In addition, case reports are not regarded as sufficiently high levels of evidence for publications describing therapeutic interventions. The poor representation of case reports among citation classics in otorhinolaryngology confirms the perception of their low citation rates.

66. Case report: progression of laryngeal dysplasia in a 7 year old boy to laryngeal squamous cell carcinoma 20 years later

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Background: Squamous Cell Carcinoma of the larynx is a cancer traditionally found in elderly patients and associated with prolonged environmental exposure to tobacco, irradiation exposure or chemical carcinogens [1]. Recent research suggests a change in trend towards younger non-smoker HPV positive patients [2].
Aims: This case report highlights a change in patient population susceptible to developing cancer and questions the current approach of female only vaccination against HPV.

Methods: Report of a case of a laryngeal SCC in a young male not associated with classic risk factors.
Results: Patient produced a positive immunohistochemical result for p16.
Conclusion: HPV is a concern for both female and male health.

67. IGG4—the new umbrella for some known conditions

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Background: IgG4-related disease is a relatively new entity, first described some 10 years ago. It is a multi-organ disease that can present with a variety of infectious, malignant and inflammatory signs and symptoms.
Objective: Demonstrate current knowledge of IgG4-related disease in Otorhinolaryngology.
Methods: FNA, repeated MRI and biopsies were also performed. She represented multiple times with persistent symptoms including subsequent ipsilateral focal deficits of ipsilateral vision and hearing loss. These were associated with inner ear inflammation, further swelling in the parotid, swelling of ipsilateral maxilla and submandibular gland. She underwent further imaging and histology. Steroids, antibiotics and anti-histamines all played a role in the medical management of her presentations.
Results: Literature review demonstrates a paucity of literature regarding IgG4 and ENT. Ultimately, following many multi-disciplinary consults and imaging, biopsies, medical and surgical interventions over a nine-month period, IgG4-related disease was suspected and our patient's biopsies were retrospectively found to be strongly positive for IgG4.
Conclusion: IgG4-related disease is a newly described condition with multiple ENT pathologies. We describe the many otorhinolaryngological clinical complications of this novel disease and current guidelines regarding management.

68. Revision cochlear implantation: indications, outcome and predictors

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Objective: To categorise indications for revision cochlear implant surgery, to analyse performance outcomes following re-implantation, and to identify objective measures, which predict cochlear implant failure.
Methods: Centralised database, medical charts, surgical records, integrity tests, and manufacturer's device analysis for all patients who underwent revision surgery in Ireland were retrospectively reviewed. Pre- and post-re-implantation speech and auditory performance indicators were analysed to assess the impact on language development.
Results: 34 children and 16 adult patients, who underwent revision surgery, were identified between March 1995 and January 2015. Commonest indications for explantation surgery were device failure, infection and device migration or extrusion. Analysis of post-revision surgery speech and auditory performance indicators had shown positive impacts.
Conclusion: Revision cochlear implant surgery results in positive impact on language development.

69. Recurrent pleomorphic adenoma: a single surgeons experience over 15 years

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Pleomorphic adenoma is the most common parotid neoplasm, which has a propensity to recur after suboptimal resection. Management of recurrent pleomorphic adenoma can be problematic in terms of technically challenging surgery and increased risk of potential complications. The aim of our study was to assess a single surgeon's experience with the management of such cases and any complications thereafter. A retrospective review of a single surgeon's experience regarding the management of recurrent pleomorphic adenoma from 1999 to 2015. 21 patients with recurrent parotid masses were identified, 12 female and 9 male. 20 were histologically confirmed as pleomorphic adenoma. Of these, 5 patients had an enucleation as their primary surgery. For 2 patients, this was a second recurrence. 6 patients had adjuvant radiotherapy as part of their management, with a low complication rate. 2 patients required temporal bone dissection intraoperatively, and 5 patients developed facial nerve palsy post operatively. 3 of these did not fully resolve. No cases of carcinoma ex-pleo were identified and no patient developed a subsequent recurrence. The mean follow up time was 7 years. Recurrent pleomorphic adenoma represents a challenge to both the patient and the surgeon. Injury to the facial nerve is more common in this cohort of patients [1]. To adequately assess the re-recurrence rate, follow up should be for at least 10 years. The role of radiotherapy remains controversial [2].

70. Tongue-tie classification systems: a review of the literature

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Tongue-tie is a congenital oral abnormality characterized by a short lingual frenulum that may affect the mobility of the tongue [1]. Currently, there is no gold standard on how tongue-tie should be classified. The goal of this paper was to examine the different classification systems used. MEDLINE and Cochrane databases were searched and appropriate articles identified and included if they assessed the reliability of a classification system or if they compared multiple classification systems. Many papers included expert opinion to classify tongue-tie but these were excluded from our paper. Classification systems that are currently being used include: Kotlow's criteria, a morphofunctional evaluation, Hazelbaker Assessment Tool for Lingual Frenulum Function (ATLFF), and Bristol Tongue Assessment Tool (BTAT). Also included was a novel classification currently being developed at the University of Hospital Limerick. These assessment tools vary widely, from simple anatomical measurements (Kotlow's criteria) to assessing 5 different appearance items and 7 functional items (ATLFF). This makes them very heterogenous and the results from studies using these classification systems impossible to compare.

There is also a wide range of training that is required to use different classification systems. The ATLFF requires much more training and assessor competence because it involves a functional component, compared to Kotlow's criteria, which is an anatomical measurement. In the future, a gold-standard classification must be developed for tongue-tie. This will allow research into the suitability of patients, timing and most appropriate intervention for patients with tongue-tie.

71. Can the use of sugammadex during ambulatory microlaryngoscopy procedures decrease theatre operating time and unplanned admission rates

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Microlaryngoscopy is performed as a day procedure facilitated by neuromuscular blockade. Procedure duration varies depending on the patients' co-morbidities, difficulty of surgical access and nature of the lesion. These large variations can lead to delay in theatre exit and unplanned overnight admission. In patients who receive aminosteriod neuromuscular blockers, sugammadex has been shown to provide faster and more reliable reversal of blockade when compared acetylcholinesterase inhibitors. This allows greater doses of muscle relaxation to facilitate surgery, without compromising day-case productivity or the ability to rapidly reverse in an emergency. The audit aims to assess if the introduction of sugammadex has altered theatre operating times and unplanned admissions following microlaryngoscopic procedures. A list of patients, procedures and theatre entry/exit time are recorded in theatre log books. A chart review of each identified patient was performed with specific reference to nature of lesion, technical aspects of the procedure and complications including overnight admission. All data was collated from the charts of a single consultant (JEF) at University Limerick Hospital (UHL). Sugammadex was first introduced for microlaryngoscopic procedures at UHL in 2010. Therefore, all patients who underwent microlaryngoscopy from 2010 to 2015 were included (n = 109). Data was then collected from the same number of patients prior to the introduction of sugammadex. This led to a cohort of data from 2005 to 2015.

With this audit underway we hope to demonstrate that larger doses of muscle relaxation to aid intubation for microlaryngoscopic procedures, facilitated by subsequent reversal with sugammadex, could lead to decreased operating times and unplanned admission.

72. Re-establishing the surgical parathyroidectomy service as the optimal treatment for primary hyperparathyroidism in University Hospital Waterford

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Background: Classical primary hyperparathyroidism—a disease of 'bones, stones, and psychic groans' is still seen in some parts of the world. Most patients with primary hyperparathyroidism are asymptomatic. However if left untreated, patients can develop these pathognomonic sequela of primary hyperparathyroidism. Imaging modality advancements have greatly aided in the diagnosis of primary hyperparathyroidism, a disease that is now successfully treated by surgery in 95 % of cases.

Objective: To retrospectively study and report our experience in re-establishing the surgical parathyroidectomy service in University Hospital Waterford over a 2½ year period from the beginning of 2013.

Methods: Hospital In-patient Enquiry (HIPE) data, NIMIS radiology and theatre logs were used to identify the study cohort of single surgeon between Jan 2013 and June 2015. Demographic data plus pre and post-op calcium and PTH levels were analysed.

Results: Twelve patients were identified over the time period comprising 1 male and 11 females. The average age was 61.5 (SD 14.54). All underwent a thyroid ultrasound and Nuclear Medicine Sestamibi scan in order to localize the pathology. In all cases, surgery successfully identified a single parathyroid adenoma. The average pre-op and post-op calcium levels were 2.8 (SD 0.186) and 2.43 mmol/L (SD 0.156) respectively. The average pre-op and post-op PTH levels were 391 (SD 734) and 179 pg/ml (SD 460) respectively. All patients were discharged on post op day 1 without early or late complications upon 6-week follow up. All histologies supported the diagnosis of parathyroid adenomas.

Conclusion: This study demonstrates the initial success in re-establishing surgical parathyroidectomy as the optimal treatment for primary hyperparathyroidism in University Hospital Waterford. The authors feel that surgery should be offered early in the management of such patients as it offers definitive resolution of high calcium and PTH levels. Furthermore, such surgery can safely be performed as a day case and thus decrease the overall length of hospital stay and overall cost to health care associated with it. The new awareness of University Hospital Waterford clinicians of this surgical parathyroidectomy service should see an increase in referrals into the future.

73. Malignancy risk stratification in multinodular goitre: a retrospective review of ultrasound features, histopathological results and cancer risk

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Purpose: To analyze and stratify the risk of malignancy seen in Multinodular Goitre (MNG) utilizing ultrasound features and histopathology results from Fine Needle Aspiration Biopsy (FNAB).

Materials and method: The Institutional Review Board approved this study. Histopathological records from 2008 to 2012 for thyroid FNAB were cross-referenced with Radiology RIS/PACS system. 567 biopsies were undertaken in a 5-year period, 397 had a pre-biopsy ultrasound and subsequent ultrasound guided FNAB. 289 of these were MNG and were included for analysis. MNG was defined as $\geq$3 nodules and "abnormal cytology" as Thy 5, 4 or 3. Patient demographics (age, gender), Clinical information (thyroid scinitigraphy, lymphadenopathy, local symptoms, previous/concurrent malignancy) and Ultrasound features (maximal nodule diameter, echogenicity, margin, microcalcification) were examined with univariate and multivariate analysis. Binary logistic regression was applied to determine if there was any association between these features and cytology results. Odds Ratios with 95 % CI were also calculated.

Results: Cytology and histology reports of 289 samples showed 27 with abnormal cytology—5 Thy 5 lesions (all malignant, 1.7 %), 1 Thy 4 lesion (malignant, 0.3 %) and 21 Thy 3 lesions (8 malignant, 13

benign MNG, 2.7, 4.5 % respectively). 237 were Thy2 (82 %) and 25 were Thy1 (non diagnostic 8.7 %). Of our sample 9.3 % had abnormal cytology and 4.8 % were cancerous.
In the presence of MNG, heterogeneous echogenicity within the nodules, cystic degeneration and microcalcification were all independently associated with abnormal cytology. Risk of thyroid cancer significantly increased by having 1 and >1 risk factor ($p < 0.001$). Using our model, having no suspicious features in the presence of a MNG conferred an average risk of 0.0339 (95 % CI 0.02831–0.04087) of having abnormal cytology on FNAB. This represents an estimate Absolute Risk Reduction of 6 % and a Relative Risk of 0.37.
Conclusion: Ultrasound features can be used to estimate risk of abnormal cytology in MNG. Abnormal cytology is unusual in the presence of MNG and in the absence of suspicious radiological findings. Follow up with USS rather than FNAB may be appropriate in patients with a low clinical suspicion for malignancy.

74. Inadvertent parathyroidectomy after thyroid surgery

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Introduction: Inadvertent parathyroidectomy is a recognised complication of thyroid surgery. We aimed to investigate the incidence and risk factors of inadvertent parathyroidectomy during thyroidectomy.
Methods: A retrospective review of the records of all patients undergoing thyroid surgery in our institution between January 2012 and December 2014 was performed. Medical records, laboratory investigations and histopathology reports were evaluated. Patient demographics, indication for surgery, surgery performed, final pathology, incidental parathyroidectomy and post-operative hypocalcaemia were recorded. Univariate analysis using the Fisher exact test was performed.
Results: Two hundred and thirty procedures were included: 147 hemi-thyroidectomies and 83 total thyroidectomies. Central neck dissection was also performed in 13 patients. The most common indication for surgery was indeterminate cytology (81 cases). Post-operatively, malignant disease was reported in 52 cases (22.6 %). Inadvertent parathyroidectomy occurred in 40 cases (17.3 %). There was a statistically significant increased risk of inadvertent parathyroidectomy with malignant disease ($p = 0.001$) and after central neck dissection ($p = 0.013$) but no difference was seen between hemi- and total thyroidectomies ($p = 0.47$), gender ($p = 0.52$) or increasing age ($p = 1.00$). Transient hypocalcaemia occurred in 4 patients.
Conclusion: Inadvertent parathyroidectomy is a potential risk following thyroid surgery but post-operative hypocalcaemia as a result is rare. Malignancy and extensive surgery appear to carry an increased risk for this complication.

75. The development of unique gold nano stars to improve SERS and aid in the early diagnosis of squamous cell carcinoma

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Introduction: Recently the application of surface enhanced Raman spectroscopy (SERS) in bio imaging for early cancer diagnosis has attracted much attention. The SERS signal is strongly associated with the localized surface plasmon resonance (LSPR) property of noble metal nanoparticles usually in the form of a gold nanoprobe. Essentially, SERS nanoprobes are conducted by attaching Raman active molecules to the surface of gold nanoparticles.
Method: In this study, we prepared a series of tetrapod gold nanocrystals with tunable LSPR intensity by sequentially adjusting reaction conditions of gold nanocrystals in a buffered acid solution.
Results: Branched gold seeds were grown by a modified solution growth approach using the common Good's buffer EPPS. First forming tiny gold nanocrystals that subsequently branch to tetrapods, documented by transmission electron microscopy showing 75 % uptake. We further report the effect of reaction parameters such as buffer concentration, pH and temperature on the LSPR of branched gold seeds. Our findings report that EPPS concentration volumes between 6 and 11 mls, at a pH between 6 and 9 and at temperatures between 4 and 35 degrees, were capable of tuning the LSPR to the near infrared region. Thereby facilitating SERS bio-imaging applications specifically in the diagnosis of head and neck squamous cell carcinoma
Conclusion: In summary, the presented method can achieve precise modulation of LSPR peaks of tetrapod gold nanocrystals from 650 to 785 nm by using varying reaction parameters. Besides facilitating improved SERS signals, these nanoprobes also demonstrate stability and biocompatibility. Indicating their excellent potential for in vivo bio imaging, aiding cancer diagnostics.

76. A retrospective study of successful Nizoral treatment in thirteen cases of recurrent otitis externa

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Recurrent otitis externa represents a significant cause of morbidity to the patient and its treatment represents a challenge to the otorhinolaryngologist. This study identified and examined the cases of 13 patients with recurrent otitis externa who had failed conventional treatment and who had evidence of seborrhoeic dermatitis who were successfully treated with Nizoral shampoo. Patients were identified by searching the electronically stored clinic letters of a single surgeon for the term Nizoral. Thirteen patients were identified attending over the time period from September 2004 to September 2015. Charts were reviewed where available, demographic data and information about treatment outcomes were recorded. The pattern of clinic attendances prior to and after commencing treatment was examined. Of the 13 patients 11 were female and two were male. Average age was 41 years. All of the patients had recurrent otitis externa refractory to conventional treatment. All of the patients had either a diagnosis of or clinical suspicion of seborrhoeic dermatitis. All of the patients were treated with a course of Nizoral shampoo. All of the patients had resolution of their symptoms. The majority of patients had either one or no further clinic attendances. Chronic otitis externa represents a challenge to the otorhinolaryngologist. Nizoral shampoo should be considered as an option for the treatment of chronic otitis externa in the presence of seborrhoeic dermatitis. Morbidity and outpatient clinic attendances were reduced in our patient series.

SESSION 8 GENERAL SESSION 1

The Movember campaign—great for moustaches but not for men's cancer

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Internet search trends have been used to examine public interest in health topics including cancer screening, kidney stones, breast cancer and erectile dysfunction. The Movember campaign became international in 2007 and encourages men to grow a moustache during the month of November. The aim is to promote awareness of prostate and testicular cancer dubbed "Men's cancer".

We examined internet search activity to see if the Movember campaign successfully generates public interest in "Men's cancer". We reviewed internet search activity for the search terms "prostate cancer", "testicular cancer", "Movember" or "moustache" over a 10 year period which predates the Movember campaign.

Google trends was used to review weekly internet search activity from January 2004 to December 2014. The weeks in November from 2007 to 2014 were examined for changes in search activity for our chosen search terms which could be attributed to the annual Movember campaign. Results are expressed as a percentage of peak search activity.

Average weekly search activity for the period from Jan 2004 to Dec 2014 was prostate cancer 12.03 %, testicular cancer 6.73 %, Movember 3.29 % and Moustache 7.61 %. Average weekly search activity for the weeks of November from 2007 to 2014 were prostate cancer 11.29 %, testicular cancer 5.78 % Movember 31.16 % and Moustache 13.15 %.

We concluded that while the Movember campaign fails in its objective to raise awareness of Men's cancer as there is no increase in search activity for prostate or testicular cancer. However search activity for the term Movember and for moustaches increases significantly during the weeks of the campaign.

78. Assessment of # digital literacy of hospital staff @ UCHG

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Background: Literacy is a prerequisite for healthcare workers. The National Adult Literacy Agency (NALA) (https://www.nala.ie/literacy) defines literacy to reflect modern society and includes reading, writing, numeracy and using everyday technology to communicate and handle information (digital literacy). The aim of this study was to assess the levels of literacy among hospital staff in University College Hospital Galway (UCHG).
Methods: A prospective cohort study was conducted using a bespoke self-completed questionnaire to survey and compare levels of reading, writing, numeracy and digital literacy. Staffs were differentiated by occupation and generation. The KS1 and 2 school curriculum in the UK (http://www.primarycurriculum.me.uk) were used to standardise question complexity. Data was analysed using SPSS; ANOVA and Games Howell post hoc tests were used to assess statistical significance.
Results: 175 hospital staff surveyed exhibited high levels of literacy and numeracy [average 97 (11 %) and 94 (11 %) respectively] and relatively low results for digital literacy [average 52 (25 %)]. Generation was also shown to have no statistically significant effect on scores.
Conclusion: A low level of digital literacy among healthcare workers is concerning for the quality of healthcare delivery in Ireland. We recommend basic digital literacy courses as an integral part of continuous professional development to reduce clinical risk.

79. Horrible handwriting—the quality of handwriting of inpatient prescriptions in an Irish hospital

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Doctors have long been notorious for their bad handwriting. The implications of poor handwriting can be far reaching and tragic—ranging from frustration between multidisciplinary teams to delayed patient management and indeed death. Bad handwriting is an easily preventable cause of needless morbidity and mortality.

Our aim was to examine handwriting legibility in drug kardexes of patients admitted to a busy general hospital in the South-East of Ireland.

A cross-sectional observational study examined prescribing records of 50 inpatients across medical and surgical wards. Drug kardexes were assessed for legibility by a committee consisting of three doctors and a medical student. Legibility was assessed on a 4 point grading scale and mean scores were calculated for each kardex.

A total of 50 medication charts were reviewed consisting of 866 individual prescriptions. 4 % of prescriptions were deemed illegible by the judging panel thus creating an opportunity for medication errors and endangering patients. 70.9 % of the prescriptions failed to provide a legible signature or identifier e.g. medical council registration number. This makes it difficult for nursing and other staff to contact the prescriber should there be a query regarding medications.

Despite the relatively low rates of illegible handwriting, doctors continue to needlessly endanger patients' lives. Bad handwriting is not only confined to kardexes but also to patient charts, histopathology forms, blood requests etc. Improving legibility should be encouraged to help reduce medication error and possible iatrogenic injuries.

80. Audit of day of surgery preoperative waiting times in a peripheral hospital

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The productive operating theatre is an initiative introduced to Irish hospitals by the Royal College of Surgeons in Ireland to promote cost and efficiency in the operating theatres. This initiative primarily focuses on events occurring within the operating theatre itself, with regard to teamwork and planning.

The aim of our study is to investigate the time each day-case surgical patient spends in the waiting area, the preoperative bay and the anaesthesia room in a peripheral hospital in Ireland. Activity in four operating theatres was analysed. The theatres concerned specialised in orthopaedic trauma, elective orthopaedic surgery, ear nose and throat surgery and general surgery. Data collected included the first patient on each daily operating list from Monday to Friday during

a 3 week period. This facilitated collection/analysis of 60 patient-episodes of data.

Data were collected prospectively. Average time in each area was calculated for each theatre and analysed using a statistical software package. The results were then plotted on box plots and bar charts for illustration. The results show the strengths and weaknesses of each operating theatre in the hospital with regard to their timing efficiency. Further studies may analyse the causes of these strengths and weaknesses.

81. The effect of emergency department closures on surrounding hospital workload

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Introduction: The Emergency Department (ED) in Roscommon Hospital closed in 2011 [1]. Understanding the effect on patient numbers attending the nearest ED is vital to maintaining quality of care [2].
Aims: To quantify the increase in workload in Portiuncula Hospital due to the closure of Roscommon ED.
Methods: Data was collected from 2009 to 2014 using the Hospital In-Patient Enquiry Scheme (HIPE). Patients from Roscommon in catchment areas for any other ED were excluded. The number of patients from the Roscommon catchment area attending Portiuncula ED within a 3-year period before and after the closure of Roscommon ED was determined and compared to that of other catchment areas. The number of patient admissions for selected specialities was determined. Statistics were calculated using Minitab Version 18.
Results: There was a 17.6 % increase in the overall number of inpatient admissions in Portiuncula Hospital following the closure of Roscommon ED. There was a 59.29 % increase in General Surgery admissions and a 146.59 % increase in General Medicine admissions. ED presentations from the Roscommon catchment area increased from 7842 before the closure to 14181 after the closure. The number of patients from all other catchment areas was 12,991 prior to the closure and 14080 afterwards. This demonstrates a statistically significant increase in patients from Roscommon ($p < 0.001$).
Conclusion: There was a significant increase in the volume of patients from the Roscommon area presenting to the ED in Portiuncula Hospital, as well as an increase in presentations requiring admission, potentially leading to significant implications on the safety of healthcare provision [2].

82. Implementing a digital streamlined emergency surgical admission and handover system. An audit of the conventional system

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Background: Previous research has shown that non-structured verbal handovers and admission notes have caused disruption in patient's continuity of care leading to significant adverse events [1]. With the increased rate of handover per day, published studies have recommended moving towards a better documented handover and admissions in order to maintain continuity of quality care for patients [2].
Methods: Prospective study audit of the current conventional hand-written admissions and handover compared to a new digital pro-forma that documents standardized set of clinical data as minimum. The study was conducted in the period between 01/09/15 and 30/10/15. Analysis was done using STATA 12.
Results: During the study time period, 100 emergency surgical admissions were included, male: Female ratio 1.6:1; mean age was 43 years (range 12–86 years). None of the admissions were complete compared to minimum requirement of the digital pro-forma. Vital signs were not documented or incomplete in 44 % of admission notes. Anti-coagulation was not documented in 44 %; and no provisional or differential diagnosis was documented in about 19 % of cases. Investigations (bloods and radiology) were missing in 52 % of admissions.
Conclusion: Patients are most vulnerable at transfer of care, and poor or incomplete information may have disastrous effect. However, the digital admission has provided a structured comprehensive admission and handover notes and has insured high uality transfer of clinical information.

83. PATI: patient accessed tailored information: a pilot study to evaluate the effect on preoperative breast cancer patients of information delivered via a mobile application

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Background: The information needs of cancer patients are highly variable. Literature shows improved ability to cope, increased patient involvement with decision making, greater satisfaction with treatment choices and reduced anxiety levels in cancer patients who have access to information. The aim of this project was to evaluate the effects of a mobile application on the anxiety levels of patients undergoing surgery for breast cancer.
Materials and methods: An application was developed for use with Apple iPad containing information on basic breast cancer biology, different treatments used and surgical techniques. Content and face validity studies were performed following consultation with patient and professional representatives. A randomized control trial was set up, with a 1:1 allocation. Data collected include basic demographics and type of surgery. Questionnaires used included: the hospital anxiety and depression scale (HADS), mini-mental adjustment to cancer (Mini-MAC), information technology familiarity and information satisfaction.
Results: To date 39 women have taken part. Thirteen women had access to an iPad containing additional information and 26 women acted as controls. The mean age was 54 and technology familiarity was similar among both groups. Anxiety scores at 7 days were significantly lower in control patients without access to the additional information provided by the mobile application ($p = 0.033$).
Conclusion: Anxiety and depression in breast cancer patients is both multifactorial and significant, with anxiety levels directly correlating with reduced quality of life. Although intuitively information should improve anxiety levels, we have demonstrated that surgical patients

with less information reported significantly reduced anxiety. We advise thoroughly testing and auditing of information initiatives in breast cancer patients.

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84. The five year paradigm shift of primary cutaneous melanoma management by general surgeons, dermatologists, general practioners and specialist melanoma cancers surgeons' in the south east of Ireland

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Introduction: Malignant melanoma accounts for 2/3 of all skin cancer deaths [1], with Ireland ranking fourth in European incidence [2].
Aim: To compare, among the specialities, the type of surgical procedures performed, the surgical interval between biopsy to definitive surgery and the clinico-pathological features.
Method: The South East Cancer Centre's prospectively collected pathology database of patients treated for primary cutaneous melanoma, without metastases between 2010 and 2014 was reviewed. Demographic data, clinico-pathological characteristics and procedures performed, according to medical specialist were collated.
Results: 399 patients underwent surgical treatment. Median age was 65 years (15–101) and 54 % were female. At the end of the 5 years, 32 (29.6 %) patients were treated by specialist melanoma surgeons versus 6 (4.5 %) at study period beginning. Median surgical interval was 53 $\pm$ 66 days. Longest were GP and general surgeons (66 days) then specialist melanoma surgeons (56 days) and dermatology (53 days) $p = 0.0114$. The proportion of patients undergoing definite wide excision of melanoma rather than excision biopsy was highest for specialist melanoma surgeons (45/53, 84.9 %) compared to general surgeons (107/139, 77 %), dermatologists (83/165, 50.3 %) and GP (22/42, 52.4 %), $p < 0.001$. Third interventions (re-excision following previous wider excision) were by specialist melanoma surgeons [16/81 (20 %)], general surgery [35/232 (15 %)], dermatology [16/200 (8 %)] and GP [1/96 (1 %)], $p < 0.001$. 72 patients underwent sentinel lymph node biopsy by one specialist melanoma surgeon, of which 27 (37 %) were positive. Eleven (41 %) of positive sentinel nodes were located in the groin and 16 (59 %) axilla.
Conclusion: Cutaneous melanoma diagnosis is primarily by dermatology and GP, while extensive complex surgeries are increasingly performed by melanoma surgeons in specialised centres. Sentinel node biopsy may guide subsequent surgery and newer adjuvant molecular therapy regimes [3, 4].

85. Laparoscopic repair of caecal perforation

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This case shows identification and repair of a pin-point caecal perforation using intra-corporeal sutures.

A 39 year old lady 4 days post Caesarean for fetal bradycardia was surgically referred in regard to increasingly severe abdominal pain, distension, no passage of flatus and general deterioration of the patient. A chest x-ray was done on day 2 with similar less severe symptoms, for query perforation, which was normal.

On examination, she was unwell, hypoxic, although peripherally warm. Her abdomen was distended, peritonitic and there was surgical emphysema along both flanks. She was alkalotic with a pH of 7.5 secondary to tachypnoea of 40, her white cell and CRP were normal. A non-contrast CT was done prior to urgent laparoscopy, which revealed free air in the subcutaneous tissues and in the abdomen, but no obvious faecal soiling. A laparoscopy was performed where fibrin coated bowel and a pinpoint caecal perforation was identified. This was repaired using intra-corporeal sutures. A thorough washout was performed. A Redivac drain was inserted into the right iliac fossa. Two Penrose drains were inserted sub-cutaneously to drain the surgical emphysema. Triple antibiotic therapy was given peri-operatively and then continued.

She was well post-operatively. Her drains were removed on day 3 and she was discharged well on day 4 post laparoscopy with her baby.

86. Magnitude of non-operative emergency admissions; service implications for surgical and radiological practice

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Department of Surgery, Mayo University Hospital

Introduction: Overspending in the Irish healthcare budget remains problematic and is becoming increasingly unsustainable. Recent attention has been drawn to the burden of non-operative surgical admissions, suggesting that some admissions may be unnecessary [1]. In this study we aim to determine the volume of emergency admissions to Mayo University Hospital (MUH), identify the scale of non-operative admissions and assess implications for hospital services.
Methods: An electronic handover system for emergency admissions was introduced at MUH in September 2014. All surgical admissions from September 1st 2014 to august 31st 2015 were identified from this prospectively maintained database. HIPE data was not used in this study. Theatre logbooks were utilised to identify patients who required operative intervention.
Results: 1466 patients were admitted as emergencies during the study period. 58 % (850) were male and median age was 48 years (0–100). Average length of stay was 5 days (1–125). 327 patients (22.3 %) required operative intervention. The most commonly performed procedure was appendicectomy (52.5 %). 48 (3.3 %) patients were transferred to other hospitals. 131 (8.9 %) admissions related to acute urological conditions. Of the 1466 emergency admissions, 546 underwent a CT scan while 342 patients proceeded to ultrasound.
Conclusion: Almost 80 % of all surgical emergency admissions were discharged without undergoing a formal operative procedure while generating an immense workload for the radiology department. Without access to 24 h specialist investigations, it is impossible to prevent the majority of these admissions. Changes in hospital structure including the introduction of hospital 'generalists', may be required to reduce the burden of non-operative emergency admissions.

SESSION 9 ANAESTHETIC SESSION

87. Model of improvement for ISBAR communication tool utilisation when contacting anaesthesia NCHD's in University Maternity Hospital, Limerick

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ISBAR, the acronym for "identify, situation, background, assessment and recommendation", is a tool for healthcare staff to structure clinical communication.

University Maternity Hospital, Limerick, is a busy maternity hospital with approximately 5000 deliveries per year. Midwifery and nursing staff contact anaesthesia NCHD's in many clinical scenarios. The hospital follows Royal College of Obstetricians and Gynaecologists and HSE recommendations in promoting ISBAR use.

Anaesthesia NCHD's are contacted via telephone, and inadequate communication was identified as an area of concern. It was proposed that increased utilisation of the ISBAR tool would lead to improved communication, with potential reductions in adverse events attributable to poor information handover.

A pilot audit confirmed deficiencies in ISBAR use when contacting anaesthesia services, and a 6-week model of improvement to increase utilisation followed. ISBAR compliance during telephone communication was recorded in a logbook, and data was audited regularly. Interventions were made based on areas of deficit, and included meetings with senior clinical staff, education sessions, handover templates, progress reports and changes in communication pathways.

Interventions were implemented after combined discussions between relevant stakeholders, and this fostered a positive attitude around the project. Marked improvements were achieved in ISBAR tool use, with initial compliance of approximately 20 % increasing to over 90 % by conclusion of the project.

88. Breast cancer intervention and chronic pain

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More patients are surviving breast cancer, however many complain of persistent pain, which significantly impacts on their lives. This review aimed to gain an understanding of chronic pain and it's outcomes in this cohort. It also aimed to compare prospective and retrospective studies, which identify common risk factors in the development of persistent pain. Its objective was to identify alternative ways of understanding chronic pain and its treatment that have not yet been explored such as narrative medicine and accomplishing a positive patient- physician relationship.

Seventeen prospective studies were identified in the literature using databases including (EBSCO Host), PubMed, Science Direct and Google Scholar. Common risk factors and themes were identified in this literature and these were compared with some of the retrospective literature available. Several common themes arose in the chronic pain literature such as common patient demographics, perioperative and post operative management, treatment modalities and psychological factors. The variation in disease severity, treatment mode and symptom progression between participants in the studies made it difficult to draw conclusions from both the prospective and retrospective literature. In researching chronic pain it may be more beneficial to focus on chronic pain mechanisms instead of picking categorical risk factors and applying them to patient outcomes. It may be more helpful to consider the patient's narrative and experience of their illness and how this has impacted on the perception and intensity of persistent pain. A shared understanding between the patient and professional is likely to have more beneficial outcomes.

89. Assessment of patient concerns: a review

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Patient centered communication is the mainstay of the medical consultation. It includes the assessment of patient concerns and is important in building the doctor patient therapeutic relationship [1]. Our aim was to perform a literature review to identify relevance of patient concerns assessment, what concerns are encountered in various clinical settings and to explore the different methodologies used to obtain them.

We found that addressing patient concerns is associated with increased patient satisfaction. Unvoiced concerns are associated with unresolved health issues and poor doctor patient relationships. Different specialities have focused on different aspects of concern assessment. Patient concern assessment studies are mostly qualitative in nature. Not all qualitative methods give similar results. Interviews are more reliable sources of information than questionnaires as no one questionnaire captures all patient concerns. The location where interviews take place is also relevant.

In conclusion assessing patient concerns is associated with positive outcomes. Patient concerns are handled differently by different clinical specialties. Various methodologies have been used for concern assessment. Interviews and questionnaires can often yield different results.

90. A literature review examining the role of a companion attending consultations with the patient

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Our study aim was to review the literature pertaining to communication patterns and dynamics of doctor-patient-companion or 'triadic' medical encounters as identified in both quantitative and qualitative studies. To consider the role of an attending companion in specialist groups using the context of chronic pain as a group example.

Studies were identified via database searches and reference lists. The eligibility of studies and data extracted were cross-checked with inclusion and exclusion criteria.

Of the 1094 titles identified, 20 studies were included for review. Tables were created for patient settings and study outcomes. Results indicated that companions frequently attended consultations, usually with a relative such as their spouse or adult child and were found to influence communicative processes in the encounter. This influence

could either be negative (limiting the exchange of information, particularly relating to sensitive topics) or positive (improvement of self-care management), with study outcomes varying widely. The chronic pain subgroup has not yet been researched in the context of triadic consultations. Triadic communication can be advantageous in medical encounters, however, as differences exist depending on the individual medical setting, caution should be asserted in generalising findings.

91. Exploring the facets of empathy and pain in clinical practice: a review

J. Roche, D. Harmon

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Empathy is an essential element in providing quality patient care [1]. The significance of empathy is even more striking in pain medicine, as chronic pain is notorious for the way it can compromise an individual leaving them isolated and feeling misconceived. This review discusses the role of empathy in pain medicine practice. Current and past literature focusing on empathy and pain was searched for in PubMed, Science Direct, Medline (Ovid), Medline (Ebsco), Research Gate and Google Scholar in July 2015. Search dates were not limited and languages included English only. Search terms were “empathy and pain”, “empathy and chronic pain”, “physician empathy and pain”, “neural mechanisms and empathy”,”empathy in clinical practice” “empathy and stigma”, “empathy and medical students”. To select relevant publications, the title and abstract of every publication were examined, and when in doubt the rest of the publication was read. Four major themes were identified: (1) The neural basis for empathy and pain; (2) The value and challenges of practicing empathy pain medicine; (3) Stigma and empathy for pain; (4) Empathy and physician education and training.

The review reveals that empathy deserves an unchallenged place in medical care especially in pain medicine and medical education. It highlights the need to nurture empathy at all levels of professional expertise from medical student to senior doctors.

92. Role and influence of patient’s accompanist in pain medicine consultations: the patient perspective

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Department of Anaesthesia & Pain Medicine, Limerick University Hospital

Companions often accompany patients to pain clinic consultations and may influence the consultation. This study aimed to determine the patients’ perspective regarding the role and influence of the companion in the pain medicine consultation process. This has not been studied previously in this clinical setting.

Local ethics committee approval followed by written informed consent was obtained. Adult patients with accompanists attending the pain clinic for the first time were included (n = 100). A cross-sectional study was conducted at the pain clinics of University Hospital Limerick. Adult patients accompanied by companions during the consultation were interviewed through a structured questionnaire. Attributes with respect to role and influence of companion on the consultation were assessed. Data was entered and analyzed through IBM Statistical Product and Service Solutions (SPSS) software version 18 using the Chi square test. A total of 100 patients accompanied by companions participated in the study. Majority of companions were present to either provide company (90 %) and/or emotional support (90 %). Immediate relatives had a role in mobility (p = 0.016) and decision making (p = 0.006). Most companions remained passive and did not contribute to the doctor patient relationship (p = 0.058). Male companions were relatively helpful (54 vs. 25 %, p = 0.008) in achieving the expectations from the visit. The companion played a supportive role in 62 % of the consultations. This study signifies a supportive role of companions from the patient perspective in the pain medicine consultation process.

93. Change in model of care and accommodation in a high dependency unit: a comparison

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There is a large body of literature surrounding the effect of different models of care in intensive care units. However, there is little research relating to high dependency units (HDUs), and the influence of different models of care. We examined the demographic profile, burden of illness and mortality rate in both an open and semi-closed HDU models. We conducted a retrospective chart review of patients admitted to a high dependency unit (HDU). It compared two four-month periods, one comprising 89 patients admitted to the old HDU under an open model of care and the other comprising 111 patients admitted to the new HDU under a semi-closed model of care.

There was no statistically significant difference in the actual mortality between the groups, with seven patient deaths (7.9 %) in the open group and 11 (9.9 %) in the semi-closed group (p = .61). The median APACHE II scores were 14 and 12 in the open and semi-closed HDU respectively (p = .108). Predicted mortality was 19.3 % for the open group and 11.2 % for the semi-closed group. (p = .104). The standardized mortality rate was 0.41 in the open unit and 0.88 in the semi-closed unit. There was a statistically significant decrease in HDU acquired infection in the semi-closed vs. the open HDU (4 vs. 10) (p = .03).

94. Training and confidence in providing total intravenous anaesthesia: a national audit of anaesthetists in Ireland

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Introduction: Total Intravenous Anaesthesia (TIVA) is less commonly used than inhalational vapour based anaesthesia (VBA). TIVA is preferred to VBA in those at high risk of postoperative nausea and vomiting, and those susceptible to malignant hyperthermia. TIVA is not a core competency for Irish anaesthesia trainees. The National Audit Project 5 (NAP 5) [1] reported 28 cases of accidental awareness under general anaesthesia (AAGA) involving intravenous anaesthesia, 75 % of which were considered preventable. NAP 5 provided recommendations related to the provision of training and establishing best practice standards for TIVA. We aimed to quantify teaching opportunities for anaesthesia trainees and to ascertain confidence in providing TIVA in both trainees and consultants.
Methods: Online survey circulated to all trainees (262) and consultants (395) in Ireland.

Results: Response rates—Trainees 45 % (95 % C.I. for responses ± 6.7 %); Consultants 16.5 % (95 % C.I. for responses ± 11.1 %), 5.1 % of trainees use TIVA weekly, 69 % of trainees felt they have inadequate consultant teaching (TIVA), 80 % of consultants felt trainees did not receive enough teaching (TIVA); Confidence in using TIVA—25 % trainees, 65 % consultants, 86 % of all felt TIVA should be a core competency for training

Conclusions: As per NAP 5, TIVA is a risk factor for AAGA. Irish trainees do not receive adequate consultant led teaching in TIVA and anaesthetists are not confident in providing TIVA. We recommend that the College of Anaesthetists of Ireland defines competency in TIVA for trainees and increases training opportunities.

95. A Clinical audit of haemodilution in patients undergoing elective intravascular coiling of intracerebral aneurysms

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Purpose: A prospective audit of patients undergoing elective intravascular coiling of intracerebral aneurysms in Cork University Hospital was undertaken to assess the incidence, range and outcomes of iatrogenic haemodilution. This cohort requires interventional radiological procedures that necessitate intravascular irrigation of significant volumes. Their fluid management is rigorously monitored in the pre, intra and post-operative period.

Methods: Data collection of this cohort consisted of patient demographics, pre, intra and post-operative intravenous fluid intake and urine output for 24 h in the post-operative period. Fluid irrigation volumes utilised by the interventional radiologists and the use of anticoagulant medications in the pre, intra and post-operative period was also recorded. Pre-operative and post-operative haemoglobin values; as well as intra-operative activated clotting time values were collected.

Results: A total of 30 patients were included in this cohort. Analysis of the data demonstrates a wide variance in the degree of haemodilution of these patients. All patients experienced a decrease in haemoglobin values post-operatively. Procedural time varied due to the individual nature of cases and thus fluid irrigation volumes varied accordingly. The consequent degree of haemodilution noted demonstrates variability.

Conclusions: In view of the elective nature of this cohort we the authors note the incidence and range of haemodilution and the consequences of haemodilution in these cases require a rigorous approach to fluid management. The findings of this audit would suggest patient outcomes may benefit from the development and implementation of a protocol with regards to fluid management in patients undergoing elective intravascular coiling of intracerebral aneurysms.

96. Medical record weight (MRW): a new reliable predictor of hospital stay, morbidity and mortality in the hip fracture population?

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Objective: To compare the weight of patient's medical records (MRW) to that of standardised surgical risk scoring systems in predicting post-operative hospital stay, morbidity and mortality in patients with hip fracture.

Design: Single centre retrospective comparative study.

Setting: A tertiary Irish trauma and orthopaedic centre in the first 3 months of 2015.

Population: 44 patients for surgical treatment of a newly diagnosed hip fracture.

Main outcome measures: Post-operative length of stay, morbidity and mortality.

Results: Patients with documented morbidity or mortality had significantly heavier medical records. The MRW was equivalent to the age-adjusted Charlson co-morbidity index and better than the American Society of Anesthesiologists physical status score (ASA), the Physiological and Operative Severity Score for the enUmeration of Mortality and Morbidity (POSSUM) and Portsmouth-POSSUM score (P-POSSUM) in correlation with length of hospital admission, $p = .003$, 95 % CI [.15 to .65]. Using logistic regression analysis MRW was as good as, if not better, than the other scoring systems at predicting post-operative morbidity and 90-day mortality.

Conclusions: Medical record weight is as good as, or better than validated surgical risk scoring methods. Larger, multicentre studies are required to validate its use as a surgical risk prediction tool and it may in future be supplanted by a digital measure of electronic record size. Given its ease of use and low cost it could easily be used in trauma units globally.

97. Delayed admissions and discharges from the intensive care unit, the reasons, and the impact on patients

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Intensive Care Unit (ICU) services are expensive, and therefore appropriate utilisation is vital. Delayed discharges impact on the efficiency and effectiveness of ICU. This study examines the prevalence and reasons for delayed admission and discharge to this service.

This is a retrospective study of delayed ICU admissions and discharges between January and July 2015. There were a total of 250 patients, with a 94 % bed occupancy. We looked at the time taken from bed booking, to the patient arriving in ICU. In addition, the time taken from booking to discharge was also recorded.

72 % of patients came to ICU within 1 h of bed booking. Reasons for un-timely admissions in 49 % were due to problems at transferring unit. In these cases, ICU was ready and waiting. However, 46 % of cases involved either ICU being full, waiting for another patient to be transferred out, or cleaning of the room. 5 % of delays were due to a lack of ICU nursing cover.

In addition, only 26 % were discharged within 4 h. Lack of availability of Medical/Surgical ward beds accounted for 58 % of delays. Reasons for bed unavailability, included bed-management practices, unpredictable emergency admissions, ward-discharge processes and unavailability suitable beds.

The literature reflects a link between the number of ICU beds and ICU associated mortality. In a similar study, Robert et al. illustrated a 6 % increase in mortality between patients admitted immediately and those who had a delayed admission [1].

98. Ultrasound guided identification of the crico-thyroid membrane to facilitate front of neck access in obese parturients: a feasibility study

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Background: Cricothyrotomy is recognised as a potentially life saving airway management technique in the Can't Intubate, Can't Oxygenate scenario (CICO). The technique involves rapid and accurate palpation and identification of structures to facilitate Front of Neck Access (FONA). However, identification of these structures is difficult in obese parturients, due to adipose tissue deposition. We hypothesised that the use of ultrasound would facilitate accurate and speedy identification of the key landmarks.
Methods: Following IRB approval, we recruited volunteers from the Complex Obstetric Anaesthesia Clinic at University Maternity Hospital Limerick, with BMI >35 to participate in a double blinded, cross over investigation. Under control conditions, the cricothyroid membrane was identified by the first investigator using both ultrasound and palpation technique. The site was marked with a UV light visible pen. Under test conditions the second investigator marked the site using both techniques, and was timed using both methods.
Results: The Ultrasound technique was positively skewed Median 2 (IQR 1.4) vs Landmark postively skewed Meidan 4 (IQR 2.8) based on controls ($p = 0.001$, wilcoxin signed rank test). Mean time for US was 25.6 s compared to Landmark measures 16.87 ($p = 0.001$).
Conclusions: The Ultrasound technique for identification of the cricothyroid membrane is significantly more accurate than traditional palpation methods in obese parturients, and can be carried out rapidly under clinical conditions. It will improve safety and limit complications and could become part of routine clinical airway examination.

SESSION 10 ORTHOPAEDIC SESSION

99. Quantitative analysis of technological innovation in knee arthroplasty

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Surgery is in a constant continuum of innovation with refinement of technique and instrumentation. Arthroplasty surgery potentially represents an area with highly innovative process. This study highlights key area of innovation in knee arthroplasty over the past 35 years using patent and publication metrics. Growth rates and patterns are analyzed. Patents are correlated to publications as a measure of scientific support.

Electronic patent and publication databases were searched over the interval 1980–2014 for "knee arthroplasty" OR "knee replacement". The resulting patent codes were allocated into technology clusters. Citation analysis was performed to identify any important developments missed on initial analysis. The technology clusters identified were further analyzed, individual repeat searches performed and growth curves plotted.

The initial search revealed 3,574 patents and 16,552 publications. The largest technology clusters identified were Unicompartmental, Patient Specific Instrumentation (PSI), Navigation and Robotic knee replacements. The growth in patent activity correlated strongly with publication activity (Pearson correlation value 0.892 $p < 0.01$), but was growing at a faster rate suggesting a decline in vigilance. PSI, objectively the fastest growing technology in the last 5 years, is currently in a period of exponential growth that began a decade ago. Established technologies in the study have double s-shaped patent curves.

Identifying trends in emerging technologies is possible using patent metrics and is useful information for training and regulatory bodies. The decline in ratio of publications to patents and the uninterrupted growth of PSI are developments that may warrant further investigation.

100. Tomosynthesis: a new radiologic technique for rapid diagnosis of scaphoid fractures

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Scaphoid fractures constitute 71 % of all carpal bone fractures [1]. Early diagnosis and treatment has significant bearing on fracture union rates and better clinical outcomes. While displaced fractures can be readily seen on plain radiograph, undisplaced fractures can require advanced imaging modalities to confirm that diagnosis.

Advanced imaging such as magnetic resonance imaging, computerised tomography (CT) and bone scintigraphy are routinely used for the diagnosis of scaphoid fractures but require significant radiation exposure, increased cost and can be difficult to access [2]. Tomosynthesis is an emerging imaging modality which uses conventional x-ray systems to produce cross-sectional images. There has yet to be extensive research carried out investigating the diagnostic value of tomosynthesis in scaphoid fractures.

The aim of this study is to optimise patient positioning for the diagnosis of scaphoid fractures in a cadaveric model and compare the diagnostic yield of tomography to conventional CT. Using four cadaveric specimens, three limb positions were examined in unfractured and fractured scaphoids to determine the optimal limb positions required for visualisation of the scaphoid.

As a result of this study, the optimal position for visualisation of the scaphoid and diagnosis of scaphoid fractures has been determined. The results demonstrate that tomosynthesis is as effective as CT scanning in identifying scaphoid fractures in both sensitivity and specificity. By comparison to CT, tomosynthesis is cheaper, has lower radiation exposure, requires fewer hospital resources and can be performed quickly. Tomosynthesis is a valid diagnostic tool for the diagnosis of scaphoid fractures.

101. Factors influencing intra-operative fluoroscopy usage during operative treatments of hip fractures

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The use of fluoroscopy is of great importance for operative fixation of fractures. Previous studies have shown an increased fluoroscopy time for intramedullary nails and with junior surgeons in comparison to more experienced surgeons. We examined the impact of operation length on fluoroscopy dose, Cumulative Fluoroscopy time between Consultant and Registrar Surgeons and Cumulative Fluoroscopy time between Dynamic Hip Screw and Intramedullary nailing.

We performed a retrospective cohort study of all patients admitted to our centre over the period of 1 year. Patients who underwent Dynamic Hip Screw (DHS) or Intramedullary (IM) nailing were identified from our in-hospital hip fracture database. Intraoperative fluoroscopy images were then accessed through our hospital's Medical Imaging software. A total of 137 patients were identified. Fluoroscopy reports were not available for 49 patients resulting in a final total of 88 patients.

Patients whose operation lasted longer than 1 h received a statistically significant higher dose of radiation (183.83 cGYM2 vs 368.22 cGYM2; p-value 0.0002). Operations performed by a Consultant resulted in less cumulative fluoroscopy time in comparison to those performed by a Registrar or Specialist Registrar although this was not statistically significant (00:00:53 vs 00:00:45; p-vaue 0.38). Cumulative fluoroscopy time was less in Dynamic Hip Screw compared to Long Intramedullary Nails (00:00:39 vs 00:01:29; p-value <0.001) and Short Intramedullary Nails (00:00:39 vs 00:01:52; p-value 0.387). Studies, which had a cumulative fluoroscopy time exceeding 50 s, delivered a higher radiation dose (434.34cGYM2 vs 150.51cGYM2; p-value <0.001).

We concluded that there is no significant impact in cumulative fluoroscopy time in operations performed by either a Registrar or Consultant. Dynamic Hip Screws have a lower fluoroscopy time in comparison to Long Intramedullary nails.

102. Cyanoacrylate glue for primary wound skin closure in total hip replacement

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Cyanoacrylate glues can be used for topical skin closure in a variety of surgical specialties. Studies on these adhesives have shown that they are a safe method of skin closure [1] that will not interfere with skin healing and may even reduce the incidence of wound infection [2].

We trialled a topical *Dermabond* glue combined with a subcuticular suture in a small sample of patients undergoing total hip replacement and compared results with the traditional skin staple technique in a similar patient demographic.

In a 2 month period we used *Dermabond* glue on 5 patients. 5 patients operated on during the same time period using staple closure were used as a comparison. These patients were followed in the usual manner of at initial dressing change and 6 week outpatient appointment. All glue patients reported to be very happy with their wound healing. None reported any infection or ooze and none required addition reviews in clinic or with their GP. Similar results were found in the skin staple group.

Other factors considered include cost of *Dermabond* glue versus skin staples and time taken in theatre to complete wound closure.

103. Subtrochanteric femur fractures in an Irish trauma centre over 8 years—how incorrect data collection causes inaccurate incidence rates

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Introduction: Incidence of subtrochanteric fractures is increasing with an advancing aging population. Hospital coding of fractures allows us assess incidence of fracture types within a population. Hospital based coding is not always reliable in distinguishing between different fracture types. Classification systems used in diagnosing subtrochanteric fractures leads to inaccurate data accumulation. Classification of subtrochanteric fractures varies depending on classification system used.
Aim: To determine actual incidence of subtrochanteric fractures in a population group.
Method: Retrospective data was collected of all hip fractures in an Irish trauma centre from January 2005 to February 2014. Subtrochanteric, intertrochanteric and trochanteric fractures have been coded based on ICD-10 classification. A revision of all fractures coded subtrochanteric, intertrochanteric and trochanteric was performed. Clinical notes and radiological images were reviewed with reassessment of the fracture coding based on the AO/OTA classification system for subtrochanteric fractures.
Results: 1,701 patients were admitted to Tallaght Hospital from January 2005 to February 2014 with hip fractures. 48 fractures (2.82 %) were coded with the diagnosis subtrochanteric femur fractures. 36 fractures (2.12 %) were coded as trochanteric fractures of the femur and 450 (26.46 %) fractures coded as intertrochanteric fractures. Only 7 fractures were classified as subtrochanteric after full review.
Conclusion: Hospital coding of subtrochanteric fractures needs to be accurate to assess this class of fracture. Using AO/OTA classification for diagnosing subtrochanteric fractures, incorrect coding can mislead incidence for this type of fracture and give incorrect diagnosis. Coding improvements are essential to improve population studies and epidemiology of subtrochanteric fractures.

104. Exploring the impact of a 5-day full service working week on hip fracture patients length of hospital stay

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Issues deterermining a patient's length of hospital stay are multifactorial. At the weekend, a hospital is run by a on-call medical service providing a skeleton staff. We examined the impact of the time of patient admission on their length of stay in a population who has suffered a hip fracture.

We performed a retrospective cohort study utilizing our in-hospital hip fracture database. All Patients admitted to our centre with a hip fracture from the 4th of December 2012 to the 21st of December 2014 were included in the study. This resulted in a total of 576 patients being included.

Patients who were admitted on a Friday or Saturday had a median length of stay of 11 days in comparison to those admitted from Sunday to Thursday, who's median Length of stay was 12 days. Median Length of Stay was lowest in those admitted during the week who underwent Dynamic Hip Screw Fixation (10.5) and longest in those who underwent Intramedullary Nailing and were admitted during the week (14 days).

Patients admitted to our unit during the weekend do not have a longer length of stay. On call facilities are sufficient to ensure prompt discharge after undergoing surgical fixation.

105. Early postoperative pain is a reliable prognostic indicator in arthroscopic tibiotalar arthrodesis

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Introduction: Arthroscopic ankle arthrodesis has shown high rates of union and less postoperative morbidity comparable to those with open arthrodesis. The most recent literature suggests a nonunion rate of 10 %. Our aim was to determine whether postoperative pain was an early prognostic indicator of nonunion.
Methods: 75 patients underwent arthroscopic ankle arthrodesis from 2012 to 2015. Patients were routinely examined and radiographed at 2, 6, 12 and 24 weeks postoperatively. The time to arthrodesis was determined by radiographic and clinical examinations. Radiographic evidence of fusion was determined by trabeculation across the joint space. Clinical examination consistent with a fused ankle joint was absence of pain and motion with attempted movement of the joint, and no warmth or swelling of the joint. Analgesic requirements were monitored postoperatively. Functional ability was evaluated both pre- and postoperatively with the self-reported foot and ankle score (SEFAS).
Results: Fusion occurred in 71 of 75 ankles with an overall rate of 94.7 %. 68 of the 71 (95.8 %) fused ankles had no pain and required no analgesia at 1 week postoperatively. All 4 ankles that did not fuse continued to have pain similar to their preoperative state at 12 weeks postoperatively. The mean time to union was 9.8 weeks and the mean age was 60.2 (28–85).
Conclusions: Pain in the early postoperative period is a simple and reliable method predicting fusion in arthroscopic ankle arthrodesis.

106. Seeing is believing—what patients learn on youtube about ACL reconstruction

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Background: YouTube is one of the internet's most visited websites and contributes to the growing amount of health-related information on the internet. Ninety-five percent of people between the ages of 18–44 in the US used YouTube in March 2015. Seventy percent of ACL ruptures occur between the ages of 18–44. We assessed the quality of videos related to ACL surgery on YouTube.
Methods: A systemic search of YouTube was performed on the 26/07/2015. The search terms used were "ACL", "Anterior Cruciate Ligament" "ACL injury", "Anterior Cruciate Ligament injury" "ACL reconstruction", "Anterior Cruciate Ligament reconstruction", "ACL surgery" & "Anterior Cruciate Ligament surgery" & ordered according to relevance. Duplicate videos, adverts, non-surgical related, non-English, videos dealing with animals and videos with less than 10,000 views were not considered. Forty videos were identified overall. Videos were independently analysed by two authors. If discrepancy occurred the senior author evaluated the video. Video statistics, such as views, likes and upload date were recorded. The quality of information provided was assessed using three separate tools: the modified DISCERN score, the JAMA benchmark and a YouTube specific ACL content score.
Results: YouTube videos pertaining to the surgical management of ACL injuries are sizeable in number but were of overall poor quality. Video views did not correlate to video quality.
Conclusions: The quality of information regarding ACL reconstruction on YouTube is poor. Clinicians should familiarise themselves with videos of adequate quality to which they may refer their patient cohorts.

107. A review of intertan nailing utilisation and complication's analysis

Houlihan Lena Mary, O Connor Conleth, O'Neill Barry, Harty James

Department of Orthopaedics, Cork University Hospital

Introduction: INTERTAN intramedullary nails are becoming the device of choice for surgical fixation of trochanteric fractures due to their minimally invasive approach, satisfactory clinical outcomes, low complication rates and interlocking screw construct which permits intra-operative compression and rotational stability. This study aimed to review the performance of INTERTAN nails since the introduction of their use.
Methods: This review is compiled from Cork University Hospital's prospectively collected database compiling all INTERTAN intramedullary nails used for operative management of femur fractures from May 2012 to May 2015. This series describes the demographic distribution of patients treated with INTERTAN nails, the most common fracture type for which INTERTAN nailing was utilised, and a detailed description of post-operative complications associated with INTERTAN nails, which necessitated further surgical intervention. We also compared INTERTAN complications with significant variables identified throughout our analysis.
Results: INTERTAN nailing has been used for 189 cases in the surgical management of femur fractures, the majority consisting of subtrochanteric (43.4 %) and intertrochanteric (25.4 %) fractures. 68.3 % of INTERTANs were used in female patients, with 80–90 year old patients encompassing the demographic most likely to be treated with this device. INTERTAN implants had a gross complication rate of 3.6 %, with INTERTAN failure (2.6 %) standing as the most common post-operative complication. 1.6 % of all complications occurred after 6 months and removal of metal with open reduction/internal fixation was the most common surgical action taken.
Conclusion: INTERTAN nails are being more frequently used for multiple variant femur fractures. Although this device is known for accelerated patient recovery and positive clinical outcome, this review does highlight the incidence of post-operative complications associated with INTERTAN, the most common of which is failure of the device itself.

108. Malrotation of a total knee replacement prosthesis—a simple approach to investigation

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Malrotation is a cause of persistent pain and poor functioning post-operatively in those who undergo a total knee replacement (TKR). Accurate measurement of malrotation is not routinely available in most hospital settings due to an absence of three dimensional (3D) computed tomography (CT) software. An accessible, uncomplicated technique to demonstrate TKR prosthesis malrotation would be of benefit to orthopaedic surgeons worldwide.

A patient was reviewed in the outpatient department with persistent post-operative pain, having undergone a right TKR 3 years previously for progressive osteoarthritis. Post-operative prosthetic infection, instability, loosening and fracture were out ruled as causes for the persistent pain. A 2D CT scan was obtained of the patient's affected right knee. Adhesive pieces of paper (Post-it® notes) were used to highlight the posterior tibial prosthesis axis, the tibial tuberosity axis, the posterior condylar axis of the femoral prosthesis and the femoral surgical transepicondylar axis, as per the technique described by Berger et al. A protractor was used to assess the degree of malrotation of the tibial and femoral prostheses.

Allowing for human error and that of parallax, an immediate assessment was made of the patient's prosthesis using a readily available imaging modality, and malrotation was quickly identified using accessible, affordable everyday stationary equipment. This approach to the assessment of the rotationary profile of a TKR prosthesis can provide a diagnosis of malrotation in hospital settings where there is an absence of 3D CT software.

SESSION 11 GENERAL SESSION II

109. Audit: correlation between dermoscopy score and final histology in skin lesions

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Background: Melanoma is the 5th most common type of cancer diagnosis in Ireland. Early diagnosis is important and dermoscopy aids in selecting lesions for biopsy. A prior audit showed a positive correlation between dermoscopic score and final histological result. We aimed to re-audit this correlation and assess if a higher 'cut-off' point for recommending biopsy could be used.
Methods: A retrospective review of the records of patients undergoing excisional biopsy following mole mapping from October 2014 to October 2015 in our institution was undertaken. Lesions were excised if suspicious following a combined dermoscopic and clinical assessment. Information on patient demographics, dermoscopic score and final pathology were recorded. Statistical analysis was performed using the fisher exact test and Pearson correlation coefficient.
Results: 139 lesions were excised from 85 patients in the study period. 31 patients were male and 54 female with an average age of 39.5 years (range 15–76). Final histology revealed: 35 benign lesions, 101 dysplastic naevi, 3 malignant/in situ disease. There was a statistically significant correlation between rising dermoscopy scores and degree of atypia in the lesions $r = 0.2816$, $p < 0.01$. A score of 70 or greater was found to be a more accurate "cut off" score ($p = 0.006$) than a score of 80 ($p = 0.130$) in predicting a dysplastic/malignant diagnosis.
Conclusion: Dermoscopy is a useful aid in the diagnosis of premalignant and dysplastic lesions. Rising dermoscopy scores are positively correlated with worsening degrees of atypia. A 'cut-off' score of 70 appears to be more accurate for use as a predictor for excision.

110. A randomised controlled trial of negative pressure wound therapy at primary closure of midline laparotomy wounds

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Introduction: There is some evidence to show reduced wound complications following application of negative pressure wound therapy dressings to primarily closed wounds at the time of surgery. A randomised controlled trial was conducted in University of Limerick hospitals to evaluate efficacy of NPWT (PICO dressing,) in reducing surgical site infection of midline laparotomy wounds in the general and gynaecological surgery population.
Methods: Following ethical approval of the study methology, 45 patients attending for midline laparotomy between February 2013 and November 2015 were recruited and then randomised intraoperatively to PICO dressing or standard dressing (Op-Site) following primary closure. The patients were assessed at day 5 and day 30 post-operatively for presence of SSI. Data were statistically analysed using Minitab Version 17.
Results: 22 patients received PICO dressing and 23 patients received standard simple dressings. At day 5 post-operatively, 5 of 23 patients in the control group (21.7 %) developed a surgical site infection and 1 of 21 (4.8 %) of patients in the treatment group developed an SSI, though this difference was not statistically significant ($p = 0.187$, Fisher's exact test). At day 30 post-operatively a total of 3 of 19 (15.7 %) of the treatment group followed up had developed SSI while SSI incidence in the control group was 7 out of 21 (33.3 %) cases followed up, the difference between the groups again was not significant ($p = 0.16$, Fisher's exact test).
Conclusion: A smaller percentage of patients treated with NPWT developed surgical site infection but this difference was not statistically significant compared to standard wound dressing.

111. Colonoscopy following diverticulitis; cost-effectiveness versus safety

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Department of Surgery, Beaumont Hospital Dublin

Diverticulitis is a common surgical condition. Patients with suspected diverticulitis are usually investigated with cross-sectional imaging such as computed tomography (CT) to confirm the diagnosis and assess for complications. Following treatment with antibiotics these patients are traditionally investigated with outpatient colonoscopy.

Although this practice is advocated by the association of coloproctology of Great Britain and Ireland [1], recent data suggests that this may not be necessary, given the low incidence of occult malignancy at the time of follow-up.

The aim of this study was to review the current management of diverticulitis in a single Irish teaching hospital and compare it to recent evidence and guidelines.

A hospital inpatient enquiry (HIPE) search was performed to identify the number of cases coded as diverticulitis of the large intestine over 2013 and 2014. Data, including patient demographics, radiological investigations and follow-up endoscopic procedures, was then collected from both electronic records and medical charts.

A total number of 158 cases of diverticulitis were identified. CT was carried out for 85 % of patients in order to diagnose acute diverticulitis. Follow-up colonoscopy was performed on 60 % of patients. A total of 7 patients had neither CT nor endoscopy. No colonic malignancies were identified on follow-up colonoscopy.

Our data supports current evidence that the risk of colonic malignancy following an episode of uncomplicated diverticulitis is low. However follow-up colonoscopies remain routine. There remains uncertainty as regards to the cost-effectiveness of a colonoscopy following an episode of acute diverticulitis, but the safety of omitting it remains a concern.

There are no conflicts of interest to disclose.

112. The outcomes of patients presenting with acute diverticultis: a need for national consensus?

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Background: The optimum use of computed tomography (CT) scanning of clinically diagnosed uncomplicated acute diverticulitis (UAD) is not well defined. Limited access and a focus on costs, result in empirical clinical treatment of UAD with potential delays in intervention for complicated acute diverticulitis (CAD). This study evaluated outcomes of patients admitted in a level-four hospital with diverticulitis.

Methods: A HIPE review of consecutive patients admitted through the emergency department with a clinical diagnosis of diverticulitis was performed. Patient demographics, use of CT scanning, classification of diverticulitis (UAD/CAD) and subsequent interventional radiology (IR) or surgical procedure were evaluated.

Results: There were 199 surgical admissions for clinically diagnosed diverticulitis (involving 164 patients). Male gender was more common (53 %, n = 87). Mean age was 59.3 years (27–95). CT scan was performed at least once in 81 % (n = 161) of admissions. Clinically, 134 patients (67.3 %) and 65 patients (32.7 %) had UAD and CAD respectively. 105 patients had CT-confirmed UAD, while 56 patients had CAD. 27 patients (42 %) with CAD required intervention (23 surgical and 4 IR procedures). Median length of stay for CT-confirmed UAD was 5 days versus 9 days for the CAD group ($p < 0.05$).

Conclusion: This study highlights the heterogeneity in the management of AD. Our results reflect international practices; with the majority of patients having early CT and intervention if required. However, there is the need for National consensus on the use of outpatient management of UAD, focusing in-hospital resources on CAD.

113. Appendicitis: have we improved in the management of acute appendicitis?

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Department of Surgery, University Hospital Limerick

Introduction: Since the reconfiguration of surgical services in the Mid-West region in 2009, the number of appendicectomies has hugely increased and its management is a good marker of surgical care. This study analyses trends in diagnosis and management of suspected acute appendicitis since this subject was first studied in this unit in 2007.

Method: This is a retrospective study using the data from the histopathology department, medical notes, NIMIS (the National Integrated Medical Imaging System) and theatre registry book. SPSS software was used for statistical analysis.

Results: Total of 270 appendicectomies were performed from October 2014 to March 2015, which compared to 319 in 2011 and 125 in 2007. 78 % of cases were operated between 9 am and 5 pm, 19 % between 5 pm and midnight and 3 % after midnight. This compares to 56.8, 38, and 5.3 % in 2011 and 39.2, 51.2, and 9.6 % in 2007. 22.6 % of the recent patients had ultrasound of pelvis and 13 % had CT scan pre operatively. Both modalities showed 100 % specificity, however sensitivity of CT was 90.32 % and that of USS was 26.32 %. The rate of negative histology results were 18.8 % in comparison to 19.4 % in 2011 and 25.6 % in 2007.

Conclusion: Despite the recent surge in numbers of acute hospital admissions, the study showed improved time management. However, negative appendicectomy rate was only marginally improved despite the increased use of radiology. Pre op imagings, particularly with CT, can certainly be helpful in those patients where diagnosis is unclear.

114. RIF pain in females of reproductive age: is ultrasound abdomen pelvis the optimal imaging modality

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Kerry General Hospital, Department of Surgery, St Luke's General Hospital Kilkenny, Department of Surgery and Radiology, University Hospital Waterford, Department of Surgery

Right iliac fossa (RIF) pain is a common surgical emergency. In females of reproductive age, ultrasound (US) remains the imaging modality of choice, with well established criteria for visualising the appendix sonographically. In patients with RIF pain, there are no published guidelines on how an US should be performed, with many centres opting to practice untargeted abdominal and pelvic US, including organs such as the liver and spleen, which are unlikely to contribute to RIF pain.

This multicentre study describes 501 females between the ages of 12 and 50, over a 3 year period from three institutions, presenting acutely with RIF pain and investigated with US abdomen and pelvis. Positive findings consistent with appendicitis were confirmed 5.9 % of cases, and a normal appendix visualised in a further 0.2 %. Over one tenth identified positive gynaecological findings, 41 % of which were right ovarian pathologies. There were 10.4 % incidental extra-pelvic findings, none which explained the clinical presentation, and

only 0.7 % of all patients had extra-pelvic findings which required further follow up.

These results reflect findings in three busy surgical departments and demonstrate that unfocussed abdominal and pelvic US may not be the most appropriate use of resources in females with RIF pain. Extra-pelvic US findings of clinical relevance account for less than 1 %, and rarely contribute to the acute presentation. Worryingly, the appendix was only visualised in 6 % of patients, and this suggests that time should be spent rather on a focussed appendiceal and pelvic US, potentially yielding more concrete and specific results.

115. Clinical and histopathological appraisal of *negative* appendectomies: two year retrospective single centre study with follow up

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Introduction: Despite laboratory, radiological and various scoring systems, the diagnosis of appendicitis can be elusive. The aim of this study was to determine the rate of histopathological *negative* appendicitis and to interrogate factors affecting diagnosis and outcome.
Methods: All appendectomies performed on patients >7 years were retrospectively studied between January 2012-December 2013 in St. Luke's Hospital, Kilkenny. Paper and electronic charts were interrogated to gather demographic and histopathological data including age, gender, presenting complaints, laboratory, radiologic, and histological reports. The rate of histological *negative* appendectomy rate was determined and followed up by a telephone questionnaire.
Results: 392 appendectomies were performed during the study period. The histopathological *negative* appendectomy rate was 6.12 % (N = 24). The majority of these patients were female (N = 17) and were operated during the index admission by a consultant surgeon. In patients who underwent pre-op ultrasound, the majority were reported normal (N = 19) or revealed free fluid in the pelvis (N = 5). Seven patients were excluded from the telephone questionnaire. 88.23 % of patients reported resolution of their symptoms post operatively. External influencing patient factors included having had a close relative who had an appendicectomy in the past, having a relative working in healthcare, and being told of the diagnosis by an external medical practitioner prior to attending the emergency department.
Conclusions: The diagnosis of appendicitis remains clinical in the majority of cases. Although there was complete resolution of symptoms in the majority of histological *negative* appendicectomy cohort, our data sheds light into several important subjective factors influencing the diagnosis and management of patients presenting with right iliac fossa pain.

116. Diverticular disease is a risk factor for the development of post operative incisional hernias

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Galway Clinic, RCSI and Penn State Hershey Medical Centre

Introduction: Recent data suggests that there is a genetic cause of diverticular disease (DV) related to poor wound healing and some connective tissue disorders. We have therefore evaluated the correlation of postoperative incisional hernia (IH) in a large cohort of patients undergoing surgery for colorectal cancer and complicated DV.
Methods: We have reviewed the data from a prospective database involving major colorectal surgery from a single surgeon's department over 11 consecutive years. This involved 370 consecutive patients from 2004 to 2015 (to date). The ratio of colo-rectal cancer resections to resections for complicated diverticular disease was 2:1. All patients were reviewed for a minimum of 1 year (range: 1–11 years). All relevant postoperative CTs were also reviewed for incidence of incisional hernia.
Results: Overall incidence of IH in both groups was 18 %. In patients who had resections for complicated diverticular disease the rate of IH was 20.9 %. The overall incidence in patients undergoing resections for colorectal cancer or non-diverticular benign disease was 12.2 %. This gives an odds ratio of 1.89 (95 % CI 0.923–3.87, p = 0.08) for the development of an incisional hernia following resection for diverticular disease vs colorectal cancer. The incidence of incisional hernia in patients undergoing non-diverticular resections with an incidental finding of diverticular disease on CT or colonoscopy was 19 %.
Conclusion: The data presented suggests a significant link between the presence of DV and the development of a post op IH. This may well influence developing specific wound strategies in patients undergoing surgery for major complicated diverticular disease.

117. Predicting the course: is neutrophil to lymphocyte ratio the key in acute diverticulitis?

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Acute diverticulitis is a common condition with wide variation in its clinical presentation. Repeated admissions and development of complications dictate the need for surgical intervention in these patients. There remains a paucity of predictive biomarkers in this cohort to guide expectant clinical decision-making. The aim of this study was to analyze three serum biomarkers: C-reactive protein, white cell count and neutrophil to lymphocyte ratio along with their predictive accuracy for complicated diverticulitis and necessity for intervention. All patients that presented to Mayo General Hospital from 1 July 2014–30 June 2015 were eligible for inclusion. Only patients with CT confirmed diverticulitis were analyzed with respect to age, sex and haematological markers of interest. Data were analyzed using receiver operating characteristic curve analysis on GraphPad Prism version 6. 63 patients were included in the study. Day 1 CRP, WCC and NLR are poor at predicting those with complicated diverticulitis having areas under the curve of 0.62 (P = 0.11), 0.56 (P = 0.46) and 0.51 (P = 0.88) respectively. Similarly these 3 biomarkers are poor at predicting the need for radiological or surgical intervention when analyzed on day 1 having areas under the curve of 0.63 (P = 0.22), 0.51 (p = 0.93) and 0.68 (P = 0.10) respectively. Diverticulitis is a heterogeneous disease with few tools to predict the severity of its clinical course. This data demonstrates that haematological markers are poor predictors of disease progression. A high index of suspicion combined with early computed tomography scanning is important when treating this patient cohort.

118. University Hospital Waterford: a four-year experience of cutaneous melanoma

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Department of Surgery, University Hospital Waterford

Background: Despite significant advances in melanoma molecular therapy, surgery remains the mainstay of treatment for cutaneous melanoma. Prognosis depends on tumour size, Clarke's level, Breslow thickness, location, ulceration, mitosis and other factors. The study aim was to examine the incidence and clinical pathological features of malignant melanoma over a 4-year period in patients attending the South East Cancer Centre.
Method: This study was registered with University Hospital Waterford Clinical Audit Register. Data was retrospectively obtained from a central electronic pathology and radiology repository augmented by HIPE data and theatre registry. Data collected included patient demographics and clinicopathological characteristics, specimen number, size, anatomical location, melanoma type, Breslow thickness, Clarkes Level, ulceration and mitosis. TNM was used to record final tumour stage. The number of procedures/patients was recorded and when performed sentinel lymph node procedures were recorded.
Results: 351 (186 female; mean age 60.78 ± 19.5 years) patients were treated without evidence of metastases at time of surgery between Jan 2011 and Dec 2014. The lower limb was affected in 94 cases (26 %), upper limb in 69 cases (19 %) and back in 67 cases (19 %). Each specimen measured an average of 29.83 ± 40.78 mm × 16.03 ± 12.71 mm × 9.4 ± 7.44 mm. Each patient underwent an average of 2.82 ± 2.0 surgeries. The commonest melanoma subtype was superficial spreading, followed by lentigo maligna and nodular malignant melanoma. Mean Breslow depth was 2.20 ± 2.7 mm and Clarkes level III the commonest. pT1a was the most common TNM stage. 72 patients underwent sentinel lymph node biopsy by one specialist melanoma surgeon, of which 27 (37 %) were positive. Eleven (41 %) of positive sentinel nodes were located in the groin and 16 (59 %) axilla.
Conclusion: There has been a steady increase in the number of cutaneous melanoma presentations over the past 4 years to the South East Cancer Centre. Patients are managed best by prompt surgical excision and multidisciplinary management. Our results are in keeping with international standards and work continues in determining overall 5-year survival and recurrence rates.

SESSION 12 ORTHOPAEDIC SESSION II

119. Cementless total hip arthroplasty in octogenarians—an Irish study

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Primary cementless total hip arthroplasty (THA) is now the most common choice of prosthesis in younger patients. Despite data showing higher revisions rates in older patients, cementless THA continue to be used. Figures from the United Kingdom in 2014 show 14 % of all primary THA were performed in octogenarians, with 21 % undergoing cementless THA [1].

The aim of this study was assess the clinical and radiological outcome of cementless THA in octogenarians in the Irish setting.

132 cementless primary THA were performed on 128 patients between the ages of 80 and 89 (median age 82, female 67.2 %) between 2003 and 2015. Clinical outcomes were determined using Harris Hip Score (HHS) preoperatively, at 3 months and at 5 years (27 patients). Radiological evaluation examined cup wear and status of the fixation of acetabular and femoral components.

Comparison of HHS preoperatively with HHS at 3 months showed a mean improvement of 35 points. Mean HHS at 3 months was 89 points and 94 at 5 years 29. 14.3 % experienced perioperative medical complications. 4 patients experienced periprosthetic fractures and 1 patient required revision hip surgery. All acetabular components were stable with osseous integration. 6.8 % of femoral components showed lucency in zone 1.

While cemented THA has been the treatment of choice in the elderly, cementless THA is increasing in popularity due to reduced operative time and blood loss [2]. This study demonstrates cementless THAs are associated with improvements in pain, function and prosthesis fixation allowing octogenarians to lead more active lifestyles.

120. Clinical outcomes in ankylosing spondylitis patients following traumatic spinal

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Mater Misericordiae University Hospital, Dublin

Patients with ankylosing spondylitis have a significantly increased risk of spinal injury when compared to the general population. Due to the pathogenesis of this condition, they are prone to spinal fractures even with low-energy mechanisms of injury. In this study, we reviewed fractures in patients with ankylosing spondylitis to better define the mechanism of injury, associated neurological deficit, predisposing factors, management strategies, and clinical outcomes.

Between January 2005 and September 2015, 28 patients with fractures were treated in the National Spinal Unit. Imaging evaluation was obtained in all patients by using plain radiography, CT scan, and MRI. The ASIA Impairment Scale was used in order to evaluate the neurologic status of the patients. Management was based on the presence or absence of spinal instability. A retrospective chart review was performed to determine patient factors, mechanism of injury, preoperative status, management, and post-operative course.

Of 28 patients reviewed, 21 cervical fractures and 8 thoracic fractures were identified. 14 cases were caused by minor trauma. Post-traumatic neurological deficits demonstrated by ASIA assessment in 15 patients with neurological improvement seen in 8 of these cases.

In conclusion, patients with ankylosing spondylitis are highly susceptible to spinal fracture and spinal cord injury even after only mild trauma. Initial CT or MR imaging of the whole spine is recommended even if the patient's symptoms are mild. The patient should also have early surgical stabilization to correct spinal deformity and avoid worsening of the patient's neurological status.

121. Trends in discharge location of hip fractures from a tertiary referral centre—a 10 year experience

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Introduction: With the introduction of the Irish governments Nursing Home Support Scheme in 2009, there was an increase in patients discharged to nursing homes from hospital. We set out to assess if there has been a decrease in patients being discharged to nursing homes after hip fractures and compare our rates with national rates.
Aim: Assess trends in discharge destination for all hip fractures over a 10 year period and compare with national trends.
Methods: Data acquisition from hospital registry for all hip fractures presenting to our institution from 2005 to 2015. Data collection from the national hip fracture database from 2013. Patients were categorised by age, sex, preadmission location and length of inpatient stay. Annual rates of patient being discharge to nursing homes was accumulated and comparison made with national rates.
Results: A total of 4,395 patients were admitted with or who subsequently developed a hip fracture, from January 2005 until September 2015. 2,445 were admitted from home, 570 were nursing home residents. 1648 of patients were discharged home. 1019 were discharged to nursing homes and long stay facilities. Annual figures show that there has been a decline in patients being transferred to LTC.
Conclusion: Since inception of Nursing Home Support Scheme, there are annually, fewer patients transferring to nursing home care. Future projections should further invest in rehabilitation and home support services for patients.

122. Musculoskeletal infection management via outpatient parenteral antibiotic administration

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Outpatient parenteral antibiotic therapy (OPAT) was introduced for the treatment of orthopaedic infections in 1978. Musculoskeletal infections can be troublesome, with septic arthritis and osteomyelitis requiring extended periods of antibiotics of at least 6 weeks. Tightened hospital budgets and increased demand for hospital beds has lead to the introduction of OPAT in our hospital.

Our aim is to analyse how effectively OPAT is utilised by the Orthopedic Surgery Department in our institution. The goal is to establish an OPAT-specific clinic, to streamline the service.

All patients with musculoskeletal infections, treated under our Trauma and Orthopaedic Surgery Department in 2013 and 2014, were retrospectively identified from the prospectively maintained online OPAT database. Patient data was collected and analysed, which included that of demographics, diagnosis, antimicrobial agents administered and complications encountered.

There were 46 referrals to the service in 34 patients. The mean age was 54 (range 19–82). The mean length of treatment was 21 (range 3–61) days, which led to 964 hospital days being saved (over 28 days per patient). The most common diagnosis was septic arthritis (52 %), followed by osteomyelitis (22 %). Three patients experienced adverse outcomes, which were indentified early in the outpatient department, and managemed appropriately. The OPAT service was utilized to a great effect over the 18 month period. The number of hospital days saved allowed for improved facilitation of surgical admissions. Three complications of treatment were identified in the outpatient department. The need for a designated OPAT clinic has been highlighted, to provide a more streamlined service.

123. Management of pregnancy and lactation associated osteoporotic spine fractures

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Purpose: To review and propose an algorithm for the management of pregnancy and lactation associated osteoporotic (PLO) spinal fractures using an illustrative case.
Materials and methods: A literature review was carried out using Pubmed and EMBASE to identify publications relating to the pathophysiology and medical and surgical management of PLO spinal fractures. A case from our institution highlights the potential difficulties in managing such fractures.
Results: We describe the clinical presentation and management of a 26-year-old who presented in the final month of pregnancy with severe back pain. Plain radiographs and magnetic resonance imaging revealed multiple low thoracic and lumbar wedge fractures consistent with osteoporotic fractures. Aggressive medical management for osteoporosis was initiated. Pain management and bracing were used for management of her spinal condition.

Literature is scant with regard to quality information on acute or long term (operative) management of PLO spinal fractures. Treating osteoporotic fractures in the young in a conservative manner as we do for elderly patients may not be appropriate and it has been well-established that maintenance or restoration of sagittal balance is associated with a better quality of life.
Conclusions: In this illustrative case we see that spinopelvic malalignment as a result of multiple PLO fractures can be significant with sustained disability. Surgeons managing patients with spinal pathology need to be aware of the potential complications of this disease process and understand the treatment options available. Appropriate management involves a multidisciplinary approach with optimisation of bone health, non-operative and operative strategies.

124. A cost-effective alternative to DEXA scanning in detecting patients at risk of hip fractures due to osteoporosis

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Osteoporosis and related fractures constitute a significant burden in modern healthcare. The standard method of diagnosing osteoporosis; by dual energy x-ray absorptiometry (DEXA) scan, is limited by accessibility and expense. The thickness of the cortex of the proximal femur on plain radiographs has been suggested as an alternative method for indicating osteoporosis and as a risk factor of hip fractures in the elderly.

A retrospective study of plain radiographs was undertaken, with the primary objective of assessing the usefulness of the canal-diaphysis ratio (CDR) as a risk factor for hip fractures. The secondary objective was to assess whether there is any difference in the utility of measuring the CDR across fracture types.

The CDR was measured in 50 neck of femur fractures, 50 intertrochanteric hip fractures and 50 patients who had a second hip fracture. These were compared to the CDR of 50 patients without a hip fracture.

In comparision to those without a hip fracture, there was a significant difference in the CDR of patients with a neck of femur fracture ($p = 0.016$) or an intertrochanteric fracture ($p \leq 0.001$). Additionally, we found a significant difference in patients with non-simultaneous bilateral hip fractures ($p < 0.001$).

In summary, we concluded that a CDR of >0.66 was a risk factor for neck of femur fractures, and a CDR >0.69 was a risk factor for intertrochanteric fractures. Measuring the CDR can hence be considered as a simple, inexpensive method of identifying elderly patients at risk of hip fractures.

125. Indications to operate: spinal deformities in Hurler's syndrome

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Our Lady's Children's Hospital Crumlin

Introduction: Gargoylism, aka mucopolysaccharoidois is a consequnce of the deficiency of 1 alpha iuduronidase and the subsequent accumulation of dermatan & heparan sulphates in tissues. It manifests in a variety of ways. The single most common orthopedic feature of severe MPS I is the Gibbus deformity. Gibbus deformity is a short-segment structural thoracolumbar kyphosis resulting in sharp angulation.
Objective: To analyse the characterics of an Irish population of Hurlers patients attending OLCHC who who required non operative and operative intervention for spinal deformity between 1989 and 2015.
Methods: 51 Irish patients with mucopolysaccharoidosis type 1 H (MPS1) were evaluated. After exclusion, 31 patients with whole spine x-ray and MRI spine were reviewed. Thoracic (T5–T12) kyphosis, lumbar (L1–S1) lordosis and Gibbus kyphosis were measured at the mean ages of 1, 5, 10 & 13.5 years. Only of these 6 patients had orthopaedic intervention to prevent progression.
Results: 100 % of patients exhibit a Gibbus with a mean Gibbus Cobb angle at MA 1, 5, 10 and 13.5 were 27, 35, 30 and 40 degrees. Incidence of concomitant spinal pathology is high: cervical spine pathology (29 %), retrolisthesis (19 %), scoliosis (48 %), platyspondyly (9.6 %). 16 % of patients underwent non operative & operative intervention. 4 patients are currently being braced and 5 patients have had instrumentation. Methods include Growing Rods, VEPTR, and HALO using anterior and posterior approaches.
Conclusion: Despite the increasing longevity of this cohort of patients non-operative and operative intervention rates remain low. Specific features that may lend treatment were not apparent in this small sample size. A conomitant spinal and non spinal other bone pathology is very prevalent we recommend these patients are looked after in centres with expertise of this orphan disease.

126. Predicting acute post-operative outcome in frail hip fracture patients

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Hip fractures place a significant burden on both patients and health systems yearly. Pre-operative morbidity has been shown to reliably predict 30 day [1] and 1 year [2] mortality in this cohort of patients. Frailty has also been shown to independently influence length of stay post hip fracture [3]. However little research has been done on predicting acute post-operative complications among hip fracture patients.

We conducted a prospective observational study to assess if post-operative outcomes could be predicted based on either the pre-morbid status of hip fracture patients, including frailty, or the standard of care received by the patient.

Premorbid status was assessed via various questionnaire based tools (Mini Nutritional Assessment, MMSE, AMTS and SHARE-Frailty Index). Social history, co-morbidities, medications and standard of care were obtained from admission notes.

50 patients have been enrolled so far in this trial. We estimate that we will obtain data on over 100 patients by the end of the trial. Preliminary results show that age ($p = 0.012$, $r = 0.551$), cognition ($p = 00.006$, $r = -0.625$), nutritional status ($p = 0.042$, $r = -0.459$) and time to surgery correlates with increased length of stay. Furthermore, time in surgery ($p < 0.001$, $r = 0.71$), age ($p = 0.053$, $r = 0.439$), frailty ($p = 0.015$, $r = 0.535$) and nutritional status ($p = 0.007$, $r = -0.581$) are associated with increased complications. Anaemia and lower respiratory tract infections were the most common acute post-operative complications seen.

Further analysis is warranted once full data set is available.

127. Ventral rod migration of posteriorly applied growing rod technology for early onset scoliosis

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We present a patient in whom posteriorly inserted growing rods showed evidence of ventral rod migration. This is a hitherto undescribed complication of the insertion of growing rods.
Study design: Longitudinal prospective case series of the posterior growing rod patient cohort treated for early onset scoliosis (EOS).
Objective: To review all radiographic evidence for patients treated with posterior inserted growing rods and assess for evidence of ventral rod migration- a hitherto undescribed complication (in the existing body of literature).
Methods: We reviewed the plain film, CT and MR imaging for all consecutively treated EOS patients in whom growing rods were posteriorly inserted as standard from 2007 to 2015. Images were examined post operatively from the index lengthening procedure to date. We sought to assess for radiographic evidence of ventral rod migration and defined this as ventral movement >2 mm at the convex/kyphotic apex, the distance of migration plotted from the posterior dorsal cortex of the apical lamina. Patients were corrected surgically using: (A) distractive forces, (B) compressive forces (C) lateral forces (sublaminar/interspinous); spine to spine, spine to rib, pelvis to spine. Statistical analyses were performed to evaluate the relationship of age, Cobb angle & pre-operative apical kyphosis in patients who had demonstrable radiographic evidence of ventral rod migration.
Results: 90 patients were treated with growing rods for early onset scoliosis between 2007 and 2015. Mean age at initial implantation was 8.62 years; mean follow-up was months 36 months. CT imaging was available for 30 patients. There was evidence of ventral rod migration in 12 %. This did not reach statistical significance ($p > 0.05$). With the exception of the patient described within our case report there have been no clinical sequelae of this migration.
Conclusion: To our knowledge, this is the first study reporting ventral rod migration as a potential serious complication of posteriorly

applied growing rods with assessment for both radiographic and clinical evidence of same.

128. Hip resurfacing: five-year outcomes comparing Birmingham hip resurfacing and articular surface replacement systems using matched joint registry data

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Purpose: We aim with this study to compare the performance of the ASR Hip Resurfacing System (ASR) and the Birmingham Hip Resurfacing System (BHR) at our centre in terms of revision rates and functional outcomes. We aim to optimise this comparison by matching patients in both groups by preoperative demographics and preoperative function.
Methods: 87 hips in 86 patients treated with ASR are compared with 87 hips in 85 patients treated with BHR. Each patient who was treated with ASR resurfacing was individually matched with a patient who was treated with BHR resurfacing using joint registry data collected prospectively. This individual matching was done by gender, diagnosis, age at time of surgery (within 5 years), BMI (within 5 kg/m^2), ASA score and Western Ontario and McMaster Universities Osteoarthritis Index (within 5 points).
Results: Both the ASR and BHR groups demonstrate significant improvements in functional outcomes post procedure. At 5 years the cumulative revision rate for the ASR resurfacing group is 21.8 % and the cumulative revision rate for the BHR resurfacing group is 4.6 %. Aseptic loosening was the most common cause for revision in the ASR group at 37 %. Unexplained pain was the second most common reason.
Conclusions: We conclude that patient selection is not responsible for differences between the ASR group and the BHR group in terms of revision rates and functional outcomes. The 5-year rates for revision of the ASR are significantly higher than the BHR. The rate of revision for BHR was acceptable by standards published elsewhere.

GENERAL POSTERS SESSION

1. Education and training at an Irish tertiary referral centre—a tale of two specialties?

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Introduction: In recent years the Medical council (IMC) has overseen significant developments in medical education and training in Ireland. It has accredited graduate entry programmes, reformed the intern year and is currently focused on postgraduate training. As part of an accreditation initiative for centres responsible for NCHD (non consultant hospital doctor) training and education, IMC is now evaluating the quality of NCHD education and training across 18 specific domains. We used these criteria to survey all surgical and non-surgical NCHDs in the UL hospitals, on their education and training and assess for any inter-speciality variations in responses. Non-surgical specialities included medicine, anaesthesia and paediatrics.
Methods: We developed and delivered a 37-item questionnaire to all relevant NCHDs at UL Hospitals (n = 217) in May/June 2015. The questionnaire covered the range of domains of education and training as identified by the Medical Council.
Results: We received 96 responses, a response rate of 44 %. 31 (32 %) were surgical trainees and 65 (67 %) were non-surgical trainees. The majority of both surgical (74 %) and non-surgical trainees (84 %) in UL hospitals were happy or very happy with their education and training environment.
Conclusions: This study shows that most trainees at UL Hospitals are either happy or very happy with their education and training. It is clear there is scope for improvement and the survey indicated the areas were improvement is most needed. There doesn't appear to be significant inter-speciality differences in satisfaction levels however not all disciplines have identical requirements and formal evaluation of all disciplines should be carried out.

2. Effect of the anti-microbial drug taurolidine on human breast cancer cell lines

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Background: Breast cancer represents approximately 12 % of new cancer cases worldwide. Taurolidine, an antimicrobial substance derived from the aminosulfoacid Taurin induces cell death in a variety of malignant cell lines [1]. It has been shown to reduce tumour burden in murine breast cancer models [2]. Its potential antineoplastic effects on human cells require further investigation.
Aims: We aimed to determine if Taurolidine inhibits cell survival in an in vitro human breast cancer model.
Methods: The human breast cancer cell lines MCF7 and MDA MB 231 were examined. 3×10^3 cells/well were seeded in 96 well plates. Following seeding, cells were treated with Taurolidine at concentrations of 5, 15 and 25 μg/ml. Culture medium treated cells and DMSO treated cells were used as controls. Cell proliferation was measured at 24 and 48 h time points by a MTT colorimetric assay.
Results: Taurolidine treated cells demonstrated reduced proliferation when compared to DMSO vehicle controls. A significant reduction in proliferation was seen in MCF7 cells treated with 25ug/ml Taurolidine versus vehicle control at 24 h (mean optical density/well = 0.376 versus 0.746, p = 0.007. MDA MB 231 cells treated with 25ug/ml Taurolidine showed significant reduction in proliferation when compared with vehicle control at 24 h (mean OD/well = 0.146 versus 0.392, p = 0.01).The effect on breast cancer cells was both dose and time dependent.
Conclusion: The antimicrobial drug Taurolidine reduces the proliferation of MCF7 and MDA MB 231 human cell lines in a dose and time dependent manner. Further research regarding the potential role for Taurolidine in breast cancer treatment is merited.

3. Redefining segmentation of human visceral adipose tissue in computed axial tomographic images: a proof of concept

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Previous segmentation of abdominal axial computed tomographic (CT) images separated visceral fat into intraperitoneal and retroperitoneal compartments. A recent publication demonstrated the ability to differentiate components of intraperitoneal adipose tissue into mesenteric, retroperitoneal and omental compartments [1]. The aim of this study is to generate a technique for segmentation of visceral fat components. Patients (n = 5) who underwent abdominopelvic CT imaging at University Hospital Limerick and had normal scans were retrospectively identified. Image segmentation was performed using OsiriX© (Pixmeo SARL, Bernex, Switzerland), an open-source software for DICOM image analysis. Adipose tissue was segmented into the following: subcutaneous, right mesocolon, left mesocolon, small bowel mesentery, omentum, and retroperitoneum. Independent t-tests were used to compare differences between the left mesocolon, right mesocolon, small bowel mesentery and omentum. Segmentation was compared at multiple levels. The optimal level was the L5 vertebral body where segmentation of all fatty compartments was possible (Table 1). The average area of total visceral adipose tissue was 198.97 ± 103.74 cm^2. The largest compartment was the small bowel mesentery (97.56 ± 62.45 cm^2). The smallest compartment was the left mesocolon (9.30 ± 4.71 cm^2). Independent t-test analysis showed a significant difference between the areas of the left mesocolon ($p = 0.034$), right mesocolon ($p = 0.040$) and omentum ($p = 0.037$) when compared with the small bowel mesentery. Visceral adiposity can be segmented into mesenteric, mesocolic, omental and retroperitoneal compartments. This level of resolution should now be rigorously applied when evaluating the correlation between visceral fat and disease processes. This will aid in characterising relative contributions of localised visceral fat bioactivity in the pathogenesis of disease.

4. Innovation for the future of Irish medtech industry: retrospective qualitative review of impact of clinical fellows

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> "We cannot solve our problems with the same thinking we used when we created them".
> Albert Einstein

Throughout history, medical practitioners have played an integral part in innovation in medicine. Irish physicians and surgeons have been no exception throughout the 20th century. However, in an increasingly complex healthcare system the "innovative" doctor is often left behind. The transition from idea-to-bedside now comes with significant stumbling blocks which often go unrecognised at the outset-particularly true for first time inventors. The BioInnnovate process, based on the Stanford University Biodesign programme aims to streamline the process of innovation within the MedTech sector, enabling multidisciplinary groups to collaborate to innovate in a more succinct manner.

In our study we aimed to quantify the impact that 5 years of BioInnovate Ireland has had on the clinicians involved and validate the collaborative process. To date thirteen fellows with a background in clinical medicine have participated. Three of these are currently engaged in the fellowship. During our study we discovered that seventy percent of the alumni are actively pursuing business opportunities relating to the innovations fostered by the programme. Of these, a number also remain engaged in clinical practice on a full or part-time basis. The remaining three have used the process of the programme to influence their individual clinical areas and actively seek innovative solutions.

This programme facilitates the opportunity for clinician involvement in needs innovation, which identifies and solves unmet clinical needs that have a significant market opportunity and a strong business case.

5. Comparative analysis of adipose derived stem cells from breast tissue and mesenchymal stem cells by immunophenotyping

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Introduction: The ability of Adipose Derived Stem Cells (ADSCs) to generate mature adipose tissue offers exciting potential as a novel regenerative tool for breast reconstruction in patients undergoing mastectomy. However, their use in this setting raises questions regarding the suitability of stem cells derived from patients with breast cancer for clinical use.
Aims: To characterize and compare ADSCs from breast cancer patients and healthy controls.
Methods: ADSCs were isolated and expanded from the stromal vascular fraction of adipose tissue from healthy controls and breast cancer patients. Cell morphology and immunophenotype were assessed using flow cytometry for stem cell markers. Adipogenic differentiation was performed using specific adipogenic medium and confirmed by oil Red-O staining. Human Mesenchymal stem cells were used as a positive control for immunophenotype and adipogenic differentiation.
Results: ADSCs were successfully isolated from adipose tissue of healthy donors (n = 6) and breast cancer (n = 6).ADSCs derived from all sources exhibited similar morphology and immunophenotype showing the characteristic pattern of mesenchymal stem cell markers (positive for CD105, CD90, CD73, negative CD31, CD45, CD34, MUC1).A functional assay confirmed adipogenic differentiation in cells isolated from both normal and breast cancer patients.
Conclusion: ADSCs with similar characteristics can be isolated from various sites and donors. Further study to elucidate the differentiation capability of cells from breast cancer patients, particularly those who have received cytotoxic therapy will be important to assessing their suitability for regenerative therapy.

6. The appropriateness of endoscopy referrals: a clinical audit

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Both upper and lower gastrointestinal (GI) endoscopies are important diagnostic and therapeutic modalities for many GI disorders. The main source of referral for endoscopy is primary care physicians. The appropriateness of these referrals to the University hospital Limerick was not studied before. Thus, we conducted this audit to assess if referring doctors are adhering to guidelines.

This prospective audit included patients who underwent endoscopy, under a single surgical team, in the period between the 21st of September and 9th of November 2015 at the University Hospital Limerick. All referral letters were reviewed. The British societies of gastroenterology (BSG) guidelines were used as our audit standard.

A total of 46 patients were included. Males comprised 60.9 % of the study population. The mean age was 62 years. The main source of referral was general practitioners (50 %), followed by outpatient clinics (47.8 %) and inpatients (2.2 %). The majority of patients were referred for colonoscopy (80.4 %). Indications for referrals were appropriate in 95.6 % of cases, and main indications outlined were: surveillance for cancer and polyps (32.6 %), rectal bleeding (28.3 %), alter bowel habit (13 %) and dyspepsia (10.9 %). Inappropriate referrals (4.4 %) were: family history for ovarian cancer (2.2 %) and faecal incontinence (2.2 %). pathology detection rate on those patients who referred from clinics was 30.4 and was 13 % for those who referred from general practitioners. This audit demonstrates that despite most referrals to GI endoscopy were appropriate and in-line with international guidelines, pathology detection rate was higher when patients were seen in clinics. Thus, the referral process should be kept under continuous scrutiny to ensure that highest standards of care continue to be delivered.

7. Circulating fibrocytes represent a key biomarker in diagnosis of acute appendicitis

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Acute appendicitis is the most common abdominal emergency. Circulating fibrocytes play a pivotal role in the aetiology of both primary and secondary mesenteropathy [1]. They also provide valuable diagnostic information [2]. However their role in diagnosis of acute appendicitis, where an accurate biomarker continues to be lacking, has yet to be established. Thus this study aimed to establish if circulating fibrocytes represent a useful biomarker in the diagnosis of acute appendicitis.

A prospective cohort study of adult patients (age $\geq$16) with suspected acute appendicitis in the period between the 1st June and the 13th November 2015. Ethical approval was obtained. A blood sample was taken from patients after obtaining an informed consent. Circulating fibrocytes were measured preoperatively together with White Cell Count (WCC). CD4 and collagen were used to identify circulating fibrocytes using flow cytometric analysis. The final diagnosis of appendicitis was confirmed by histopathology in patients who underwent appendectomy.

A total of 40 patients were included (mean age = 36). Fifteen patients underwent appendectomy. Twelve had a final diagnosis of appendicitis, 11/12 fibrocytes were significantly raised compared to the 3/15 that had a normal appendix (P value = 0.02). The sensitivity for fibrocytes was 91.6 % and specificity was 42.8 %. Positive predictive value for fibrocytes was 73.3 % and the negative predictive value was 75 %. Interestingly 6 out of the 11 patients with appendicitis had a normal WCC.

These preliminary results demonstrate that circulating fibrocytes represent a useful biomarker for acute appendicitis. Further studies are required to evaluate their diagnostic utility to ultimately prevent patients with suspected appendicitis being exposed to unnecessary radiation and unwarranted operations.

8. Endocolonic ultrasound mapping of the mesocolon and its mesenteric attachments: a prospective observational study

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Recent advances in surgical and anatomic appraisals of the mesocolon have shown that the structure of the mesentery is different to what was previously thought, and that it is in fact a contiguous organ extending from the duodenojejunal flexure to level of the distal mesorectum [1]. No previous studies have characterized these advances in mesocolic anatomy using portable ultrasonography on ex vivo specimens.

The aim of this study is to formally delineate and map the anatomical mesocolon and its mesenteric attachments using cadaveric specimens and ultrasonography.

An ultrasound scan was performed postoperatively on a cadaveric specimen obtained from an ileocolic resection for Crohn's disease. A high-resolution portable ultrasound machine (SonoSite M-Turbo; SonoSite, Bothell, WA) with a linear array transducer probe was used for the ultrasound scan. Orientation was achieved with needle insertion at macroscopic landmarks.

Ultrasonography was performed on the endocolonic surface of the cadaveric specimen. The colonic wall and its structural architecture were visualized. The serosa was clearly represented by a hyperechogenic band orientated at the external surface of the colon. The mesentery and its interface with the colon was similarly identified by its hyperechogenicity and subsequently mapped by transducer manipulation along the endocolonic surface of the specimen in the distribution of the mesentery.

We have demonstrated the feasibility of accurately delineating the anatomical mesocolon using portable ultrasonography. Moreover, the identification of the mesentery and its mesenteric attachments has scope for translation to the use of ultrasonography during colonoscopy. These findings hold potential for novel diagnostic technologies in colorectal disease.

9. Study on colorectal cancer presentation, treatment and follow up

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Background: Colorectal carcinoma is the second most common cancer in women and men affecting 9.7 % population worldwide. Although CRC mortality has been progressively declining since 1990 at a rate of about 3 percent per year, it still remains the third most common cause of cancer deaths.

Objective: To evaluate pattern of clinical presentation, treatment options and follow up of colorectal carcinoma.

Methodology: Medical records of patients with colorectal carcinoma admitted at St. Luke's Hospital, Kilkenny from January 2009 to December 2014 were included in the study.

Results: Out of 113, 57 were males, 28 were 75 years or older. 67 % presented in outpatient clinic. Main presentation symptom has been bleeding per rectum (40 %), followed by abdominal pain, altered bowel

habits, bowel obstruction, weight loss, anorexia and fatigue. Mean time delay has been 4.79, 6.20 and 4.83 weeks for SOPD, colonoscopy and surgery respectively. 98 %patients got their preoperative, staging CTTAP and 78 % got preop.CEA. 61 % were discussed in MDTs preoperatively and 97 % post operatively. 34 % cancers had already metastasized to distant organs. 25 % had right hemicolectomy and 24 % underwent sigmoid resection. 78 % got primary anastomosis, 95 % achieved R0 resection. 62 % got adjuvant chemotherapy. 76 % got surgery follow up.57 % got exellent follow up in terms of CTTAP annually. Cancer recurred in 1 patient after 1 year. And 30 days mortality has been 2 %.
Conclusion: Our study shows that the mean age group at risk for colorectal cancer is 65 years (54–75) which should be focussed for screening programmes. Still 33 % of patients present to acute surgical assessment units/emergency wards with advanced disease. Though our unit did well in terms of operative resections, proper follow up still remains a challenge.
Keywords: Colorectal carcinoma presentation, Cancer follow up.

10. Familial breast cancer clinic: high risk, high yield

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Introduction: 25 % of women diagnosed with breast cancer have a family history and a genetic predisposition accounts for 5–10 % of all breast cancers. The identification and screening of women at increased risk may allow early detection of breast cancer and improve prognosis. The familial breast cancer clinic (FABCAR) at St James's Hospital (SJH) offers a comprehensive counselling and referral service for individuals with a family history of breast cancer and initiates surveillance offers risk-reducing strategies for selected high-risk patients.
Methods: This is a retrospective review of a prospectively maintained data base of the FABCAR clinic at SJH. All patients who attended the Family Risk Assessment Clinic in St. James's Hospital from 1st January 2010 to 31st October 2015 were identified. Patients at medium or high risk of developing breast cancer according to a combination of NICE guidelines and IBIS scores were accepted. Family history was determined by structured questionnaire and interview. Risk of carrying a breast cancer-related gene mutation was calculated using the Manchester scoring system.
Results: From 2010 to 2014 2,610 patients were reviewed in the FABCAR clinic in SJH. 46 cancers were identified and of these 14 were BRCA carriers. Cancer detection rate per 1000 patients was 17.6. 34 (74 %) of these cancers were stage 0 or stage I.
Conclusions: This data indicates that there is a significant demand for a dedicated breast cancer family risk clinic. Cancer detection rates far exceed those of the national screening program. Most cancers are identified at an early stage allowing timely treatment and ensuring an excellent prognosis for these patients. Any future policy and health planning strategies should provide for dedicated resources to manage this patient cohort.

11. Related malignancy in patient presenting with acute diverticulitis—is early colonoscopy mandatory in all patients?

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Introduction: Colonic diverticulae are a common finding at colonoscopy and prevalent in a large proportion of the general population. It is routine that acute surgical admissions with a diagnosis of diverticulitis undergo full colonoscopy following initial treatment. Some authors believe that interval colorectal malignancies share a relationship with the presence of diverticulosis; however, the exact nature of that relationship is uncertain.
Aim: To characterise the cohort of patients with synchronous diagnoses of diverticulosis and colorectal neoplasm at time of colonoscopy in a tertiary referral centre.
Methods: All cases of diverticulosis, diverticulitis and colorectal malignancy diagnosed at time of endoscopy were identified from an electronic endoscopy reporting database over a 3 year period. Patient characteristics were noted and subsequent radiology findings were reviewed.
Results: In the endoscopy unit of a tertiary referral centre, 1145 cases of diverticulosis were identified at the time of colonoscopy. Of these, 15 cases (1.3 %) had a synchronous diagnosis of colorectal neoplasm. Median age for patients with both diagnoses was 73 (range 63–90) among 12 males and 3 females. Subsequent radiology demonstrated luminal or mucosal abnormalities in 4 cases, definitive neoplasm in 6 cases, no abnormality was identified in 3 cases and imaging on 2 cases was not available for analysis.
Conclusion: This data does not demonstrate an increase in endoscopic diagnosis of malignancy in cases with diverticulosis over that of the general population. Use of radiological investigations reliably demonstrated abnormalities in the majority of cases with neoplasm. This suggests that a younger cohort of patients may be saved the morbidity associated with colonoscopy in the setting of diverticular disease.

12. Acute cellulitis: a 3 month prospective study

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Background: Acute bacterial cellulitis comprises approximately 3 % of overall emergency surgical admissions worldwide. This potentially serious infection of the dermis and subcutaneous fat is associated with a significant burden on hospital resources and overall cost to the health care system. The aim of this research was to ascertain potential avenues in reducing the overall hospital burden secondary to acute bacterial cellulitis admissions in a prospective fashion.
Study design: All patients with a diagnosis of acute bacterial cellulitis that were surgically admitted from the emergency department over a 3-month period were prospectively studied. Patient demographics including age, gender, anatomical site affected, ERON classification (class I–IV), CRP levels on admission and upon discharge, total number of days of IV antibiotic used, length of stay (LOS) and average hospital costs were recorded.
Results: 29 patients were admitted with acute bacterial cellulitis during the study period. The mean age $\pm$ SD was 69 ± 18 years. The most common anatomical site affected was the lower limb 20 (69 %). The majority of the patients admitted were ERON class II (79 %), followed by class I (17 %) and class III (3.5 %). The mean CRP $\pm$ SD (mg/L) on admission was 117.12 ± 81.9 and upon discharge was 57.93 ± 57.08. Average time of IV antibiotics (days) $\pm$ SD was 6.09 days $\pm$ 3.50 and average LOS was 7.8 days. The average hospital bed cost (900 euro per night) was 7,020 euro.
Conclusions: It is clear that acute bacterial cellulitis is associated with a significant burden to the health service. Segregation of patients based on the ERON classification and CRP levels could potentially

aid in surgical decision-making regarding hospital admittance and timing of discharge respectively. Further research into the precise cut off point for inflammatory markers are warranted.

13. Open appendicectomy—no longer a realistic training requirement

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Introduction: The popularisation of laparoscopy has resulted in the decline of the open appendicectomy, historically a core learning procedure for junior surgical trainees. In this study we examine the trend of laparoscopic and open appendicectomy rates in a university teaching hospital [1].
Methods: The Hospital Inpatient Enquiry (HIPE) database was used to identify laparoscopic and open appendicectomy procedures performed during a 6-year period, from January 2009 to December 2014. The rates of laparoscopic and open appendicectomy performed during the first 3 years (2009–2011) were compared with those in the second 3 years (2012–2014). The demographic characteristics and clinical outcomes of patients were analysed.
Results: Of 1072 appendicectomies performed over the 6-year period, 62 % were laparoscopic. The median patient age, length of hospital stay, and the male to female ratio did not differ between the two time periods studied. The open appendicectomy rate fell from 54 % during the first half of the study to 22.5 % during the second half ($p < 0.001$). A significant increase in laparoscopic appendicectomy rates were noted in both male and female patients, as well as in paediatric (<16 years) and adult (≥16 years) patients. Only 25 (14.1 %) open appendicectomies were performed in 2014.
Conclusions: With significant advancements and access to in laparoscopic training, laparoscopic appendicectomy rates have risen sharply in the adult and the pediatric population. Open appendicectomy rates are insufficient to meet current training requirements and should be reconsidered as a criterion for surgical training [2, 3].

14. Assessment of virtual reality colonoscopy in the surgical planning of stage IV penetrating colorectal endometriosis

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Background: Colorectal involvement with stage IV endometriosis occurs in between 3.8 and 37 % of all cases. Unlike many colorectal pathologies penetrating disease invades from the serosa surface inwards often resulting in normal mucosal appearances despite the presence of significant disease. The evaluation of the disease process and subsequent surgical planning is via a multidisciplinary team approach. The aim of our study was to evaluate and compare the accuracy of colonoscopy vs virtual colonoscopy for the prediction of intestinal involvement in stage IV endometriosis.
Methods: Data was collated from theatre records, MDT outcomes, clinical records, HIPE system and postoperative pathological findings. This was a prospective observational study. Inclusion criteria were those with documented clinical and imaging diagnosis of deep pelvic endometriosis. Subjective and objective outcomes from colonoscopy and virtual colonoscopy and histological findings were analysed. We compared with findings of colonoscopy and virtual colonoscopy with the surgical findings to assess the sensitivity and specificity of colonoscopy vs virtual colonoscopy.
Results: A total of 8 women with diagnosis of stage IV endometriosis who underwent colonoscopy, virtual colonoscopy and surgical intervention were included in our analysis. The mean age was 29.6 ± 18.3. All cases had a laparoscopic resectional surgery with half undergoing low anterior resections for rectal disease. Conventional colonoscopy had a very poor sensitivity (33 %) and poor specificity for the disease process (55 %). The positive predictive value of colonoscopy was also very poor at 0.66. Only in 3/8 cases did colonoscopy demonstrate visible disease. VR colonography however had a positive predictive value of 1.0 and specificity of 100 %. The sensitivity of VR colonography was poor at 0.66. In 6/8 cases VR assessment demonstrated disease.
Conclusion: VR colonoscopy is more sensitive and specific than colonoscopy in the diagnostic work-up of colonic endometriosis. We recommend that VR colonography should be part of the surgical planning for stage IV endometriosis reflecting its extra mucosal aetiology.

15. Change management within the Irish healthcare system—a doctor's conundrum

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Consultants are one of the key implementors of change within the Irish Healthcare System. With the advent of a major restructuring of the HSE and ever emerging clinical and technological advances consultants and SPRs need to be equipped with the necessary skill set to implement these changes.
Methods: Following a comprehensive literature review and focus group analysis, we completed online surveys on Surgical and Medical SPRs and Structured interviews on consultants and clinical directors.
Results: 71 % strongly believe change is required, 70 % want to have an active role in implementing change, 71.3 % strongly believe it is their responsibility to implement change, 85 % don't feel empowered to implement change. Biggest barriers to implementing change were bureaucracy and demotivated staff. No formal training was provided as part of the SPR programme, 64.29 % felt it would be beneficial at this stage. Restructuring of the Irish Healthcare system was perceived as the biggest driver of change while 62 % did not understand the structure of the system. 7.14 % felt confident they could implement a change in their department.
Conclusion: Irish SPRs are motivated to drive change but are not equipped with the necessary skills or knowledge to do so. We suggest a method to educate SPRs as part of their training.

16. An analysis of performance correlating breast volume excision and margin status

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Introduction: Breast Centre Northwest's policy is to achieve primary cancer clearance on index breast conserving surgery (BCS) and have positive margins in <10 % of patients. Breast volumes greater than

15 % may be associated with a poor cosmetic outcome. This study evaluated the tumour and breast volume excision in patient undergoing (BCS).
Methods: An ethically approved retrospective study analyses all breast conserving surgery at Letterkenny University Hospital between January 2015 and October 2015. Tumour volume was obtained from the histopathology report of the excision specimen. The breast volume (BV) was measured digitally from patient's mammogram. The percent BV was calculated. Values are expressed as mean and standard deviation.
Results: 45 patients mean age 61 years (34–84), mean BMI 26.8 kg/m^2 (range 18.6–38.4) were studied. The distribution of patients who had T1, T2, T3 and carcinoma in situ were 34.8, 47.8, 8.7, and 6.7 % respectively. The mean tumour size was 25.2 ± 13.8 mm. The mean tumour volume was 5.6 ± 7.9 cm^3. The mean breast volume was 1216 ± 708 cm^3 (range 310–4013 cm^3). The mean BV excised was 6.6 ± 3.0 % (range 1.7–14.7 %). 5 patients have positive margin. Mean BV excised with positive margin was 7.9 % compared to mean BV excised with negative margin of 6.5 %, $p = 0.38$.
Conclusion: This study identified that even with low margin positivity rates, breast volume excision were relatively small compared to international norms.

17. Predictive value of CRP/albumin ratio in major abdominal surgery

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Hypoalbuminaemia is predictive of surgical site infection, while CRP is an established marker of an acute inflammatory process. Ranzani [1] demonstrated CRP/albumin ratio is predictive of 90 day surgical mortality in septic patients. The aim of our study was to evaluate whether CRP/albumin ratio at 24 h post-operatively was predictive of surgical site infection.

A propspectively maintained surgical site infection database with nurse led 30 day follow up was retrospectively analysed to determine the predictive value of CRP/albumin ratio at 24 h post-operatively on surgical site infection. Only patients undergoing emergency abdominal surgery were included, and who had pre op, 24 and 48-h albumin and CRP values. Fischer's exact test was used for statistical analysis using SPSS 20.

67 patients were included in the study period, who underwent emergency abdominal surgery from 2010 to 2012. Thirty patients had a 24 h post-operative CRP/albumin ratio of ten or greater. CRP/albumin ratio of 10 or greater is associated with an increased risk of SSI compared to 9 or less in emergency abdominal surgery (69 % SSI rate versus 33 %, $p < 0.004$).

In conclusion, CRP/albumin ratio is predictive of surgical site infection in abdominal surgery.

18. Community outreach clinics reduce OPD non-attendance

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Introduction: In addition to costing the HSE in excess of €30 m per annum, non-attendance (DNA) at outpatient clinics is a common problem, leading to a disruption to practice work-flow and unnecessary increases in waiting times. In an effort to improve attendance at surgical outpatient clinics in KGH, a single consultant surgeon has been running outreach clinics in three satellite locations in Kerry since 2009, alongside outpatient services in KGH. The aim of this study was to determine if there was a reduction in DNAs at outreach clinics, and examine whether the distance to OPD was significantly reduced for outreach clinics.
Methods: A retrospective analysis of clinic appointments was performed from 1st July 2014 to 30th June 2015. The outcome of each appointment was logged. The distance to OPD for each patient was calculated using Google Maps© software. Categorical and continous variables were analysed using GraphPad Prism.
Results: In total, 3,837 outpatient appointments were offered. Overall, the DNA rate was 9.34 %. For new patients, the DNA rate was significantly lower in the outreach clinics as compared with KGH (7.7 vs 10.9 %, $p = 0.05$). There was no significant difference in DNAs between outreach clinics and KGH for follow-up patients. Overall, new patients attending outreach services had a shorter average distance to their appointment (17.2 vs 20.7 km, $p = 0.02$).
Conclusions: Outreach clinics reduce DNA rates among new referrals to our service. The average journey to outreach clinics is significantly shorter for our patient population. Outreach clinics improve patient flow and should be routinely used in rural settings.

19. Two cases of popliteal artery systic adventitial disease treated with excision and primary bypass graft: review of outcomes using this and other methods

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Cystic adventitial disease (CAD) is a rare vascular pathology which predominantly affects peripheral vessels of young, otherwise healthy males and causes rapidly progressive calf claudication. Debate persists regarding its precise aetiology. It is characterised by a collection of mucinous material within the adventitial wall layer of the affected vessel.

We report two cases of popliteal artery CAD treated successfully with primary excision and bypass grafting and to review previously published data to determine a consensus on an appropriate treatment algorithm.

Two cases of patients with a diagnosis of CAD were reviewed. A vast literature review was completed, focusing on demographics, diagnosis and treatment options.

Both patients were males under 50 years, presenting with progressive calf claudication and underwent CT angiograms demonstrating severe stenosis of the popliteal artery. Both underwent excision of the cysts and primary bypass graft. Follow up angiography showed a healthy popliteal artery and bypass with good runoff, without recurrence of cysts.

From the literature review, CAD primarily affects young males, is diagnosed with arteriography and the three treatment options are aspiration of the cyst, excision of the cyst and resection of the cyst with bypass graft.

CAD should always be suspected in a healthy individual presenting with intermittent claudication in the absence of risk factors for peripheral vascular disease. As there have not been any clinical trials to ascertain the best treatment for CAD, we conclude from our cases and the literature review, that excision and primary bypass graft is the treatment of choice.

20. Vascular obstructive jaundice

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Introduction: The aetiology of obstructive jaundice is well described. This case presents a rare cause of obstructive jaundice, which posed both diagnostic and therapeutic challenges.
Case presentation: A 77-year-old male presented to the Emergency Department with a 4-week history of painless jaundice. This was associated with passing dark urine, fever and rigors. He had no significant past medical history. He drinks 50 units of alcohol a week. Aside from jaundice, clinical examination was unremarkable.
Management and outcome: Liver function tests were deranged. An abdominal ultrasound showed cholelithiasis but no evidence of cholecystitis or choledocholithiasis. Magnetic resonance cholangiopacreaticography (MRCP) revealed a 5 cm pancreatic head lesion. Staging computerized tomography (CT) instead demonstrated this to be a 5 cm pseudoaneurysm of the gastroduodenal artery obstructing both common bile duct and pancreatic ducts. This was managed endovascularly and follow-up was uneventful.
Conclusion: Gastroduodenal artery pseudoaneurysms are usually secondary to trauma or pancreatitis. Diagnosis is made by CT and the mainstay of treatment is endovascular. This will be the sixth reported case of obstructive jaundice secondary to a gastroduodenal artery pseudoaneurysm.

21. Initial serum lactate is a biomarker for risk of mortality in acute mesenteric ischaemia

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Background: Acute mesenteric ischaemia (AMI), is associated with a mortality rate (MR) exceeding 50 % and requires early diagnosis and management for successful treatment. The study aims were to describe the presentation, management and outcomes of AMI in our institution, and to correlate patient MR with the degree of hyperlactataemia.
Methods: A retrospective cohort study of consecutive patients with a diagnosis of occlusive, non-occlusive and venous AMI admitted to Beaumont Hospital from 2010 to 2014 was performed. Demographic, clinical and laboratory data from multiple databases were cross-checked for inclusion and exclusion criteria, and extracted using a standardised patient collection proforma. Standard descriptive statistics was performed.
Results: Of 144 patients identified, 58 were included of whom 34 were female (mean age 67.2 years). Occlusive AMI was seen in 32 cases (54 %), non-occlusive in 18 (31 %), venous in 5 (8.6 %), and 3 were of indeterminate cause. Heart rate at first presentation was higher in patients with occlusive (mean 90.8) versus non-occlusive (86.3) ischaemia. Surgical intervention occurred in 42 (72 %), and radiological stenting in 7 (12 %). Nineteen patients died (32 %). Patients with non-occlusive AMI had the highest MR [$n = 10$ (55 %); $p < 0.05$]. Arterial lactate was measured in 45 patients. A linear relationship was observed between lactate level and MR (lactate <3 mmol/l: 19 % MR; 21.2 %; lactate 3–7 mmol/l: 58.3 % MR; lactate >7 mmol/l: 100 % MR, $p < 0.05$).
Conclusion: AMI, especially when non-occlusive was associated with a significant MR in our institution. The degree of hyperlactataemia was associated with a linear increase in MR.

22. Informed consent: audit of practice with implication to patient satisfaction and cost-effectiveness

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Introduction: Though consent was implicated in medicine back in 1973. To date healthcare personals still recieve negative feedbacks from the patients or the family members, suggesting insufficient explanation or understading to the treatmnet. Lack of simple and clear information at times results in undue cancellations or repetition of the intervention with increasing cost implication. The aim of this study is to audit our recent introduction of patient information leaf-let to enhance patient satisfaction and cost-effectiveness.
Methods: An information leaflet explaing in detail the preperation, sedation, procedure, risks, potential outcomes and the process of explaning the results was launched on 1st April 2015 at St. Luke's General Hospital, Kilkenny. Patients were divided into two groups: Pre-leaflet period (April–June 2014) and post-leaflet period (April–June 2015). Clinical notes and HIPE system were reviewed for patients' experience, compliance and attendance to the given dates.
Results: Total of 661 elective endoscopies were performed during the study period (302 vs 359). DNAs drastically decreased (77–23 %) and sudden increase in cancellation (37–62 %) suggests increasing patient awareness and significant improving cost containment. Patients undergoing the procedure for the first time rated information leaflet to satisfaction (56–76 %). Patients for repeat procedures claimed better knowledge regarding their condition and outcome (56–72 %). One hundred thirty six patients were excluded from the telephone questionnaire.
Conclusions: Audit demonstrates the importance of patient information; a well informed patient is likely to be a satisfactory patient. A written clear and simple explanation of the intervention provides sufficient time for the patient to think, manage and to act accordingly. Resulting in increasing patient compliance and cost-effectiveness.

23. Science or popular media: what drives breast cancer online activity?

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Background: Google Trends, first established in 2004, has been analyzing meta-data from online searches to provide comparative trends reflective of global interest on topical issues. Our aim was to evaluate whether scientific reports/breakthroughs versus popular media reports had the highest impact on online Breast Cancer searches.
Methods: This comparative analysis examines the impact of ten major reports (five scientific, five mainstream media) had on online search activity specific to breast cancer. Each event is scaled from 0 to 100 in terms of online search volume. This allows comparative analysis of relative and absolute spikes in volume of online searches based on time and demographics.

Results: Since 2004, eight of top ten Breast Cancer searches were in October. There is an average 30 % spike in online-searches during this month, highlighting the success of having a month exclusive to the awareness of one cancer. Excluding October, Kylie Minogue's breast cancer diagnosis in May-2005 generated the largest volume in online breast cancer searches (76 %). Angelina Jolie's double mastectomy announcement caused a 65 % spike, which also coincided with an 8 % spike in other breast-related searches. The greatest increase following a scientific publication was November-2011 after a Lancet publication on radiotherapy after Wide Local Excision. Interestingly, over 10-year period (2004–2014) there has been a substantial rise in online breast cancer searches in the developing world.
Conclusion: This study observed that popular media reports increase global awareness online more than scientific publications. Moreover, it highlights the usefulness of Google Trends as a useful adjunct in assessing the effectiveness of awareness/charity campaigns.

24. Defining unique features of breast cancer in women under the age of 35 to inform clinical, radiological and oncological assessment and treatments

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Introduction: Breast cancer was the second leading cause of cancer death in women during the period 2007–2009 [1]. Women younger than age of 35 years are particularly at risk of delayed presentation and diagnosis due to reduced sensitivity of mammograms in this age group [2] and lack of screening tool. The aim of this study was to characterise and study the clinical presentation and triple assessment of these patients.
Methods: This is a retrospective analysis of a prospectively updated clinical database in the breast unit of University College Hospital Galway between 2009 and 2015. Data obtained was analysed using SPSS.
Results: During that period, 51 patients of a total of 1836 were diagnosed with breast cancer at or younger than 35 years old. 90 % were invasive ductal carcinoma (IDC), and 42 % of these had an associated ductal carcinoma in situ (DCIS). 54 % of tumours were high grade and 52 % presented in advanced stage (stage $\geq$3). The main radiological tool used was ultrasound, which had a sensitivity of 96 %. Mammogram sensitivity in our cohort of patients was 87 %. MRI was used in 45 % of cases, with a sensitivity of 100 %.
Conclusion: Females under 35 were diagnosed with more aggressive tumours and at advanced stage on presentation. Ultrasound was the radiological test of choice in our patients, and mammogram demonstrated a relatively high sensitivity. Tripple assessment of all lumps and asymmetrical nodularity is critical in order not to miss or delay a cancer diagnosis in this age group.

25. Granulomatous mastitis: a review of 3 cases

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Introduction: Granulomatous mastitis (GM) is a rare inflammatory disease of the breast that clinically mimics carcinoma. Limited understanding of the disease makes diagnosis and management of these cases exceptionally difficult. We would like to present 3 cases of GM with variable presentation.
Methods: This is a retrospective study of 3 cases of GM that presented to our breast service in St. James's Hospital in Dublin from January 2014 to February 2015. A review of its clinical presentation, radiographic features, management, and clinical course was conducted through study of medical records, mammogram and ultrasound findings, and follow up details.
Results: Painful ill-defined swelling was the symptom of all patients. Heterogenous hypoechoic lesion and axillary lymphadenopathy were the findings on imaging and were suspicious. Diagnosis of GM was confirmed histopathologically. One patient had positive TB cultures while no known cause was identified in the other two patients. All patients responded well to antibiotics but one required incision and drainage of the abscess and a short course of steroids for a complicated course.
Conclusion: GM can be mistaken for carcinoma of the breast due to its clinical and radiological features. As such, histopathological confirmation is mandatory. Treatment is often difficult and multidisciplinary, but a high index of suspicion and early diagnosis of GM may reduce the patient's morbidity and burden from the disease.

26. To design, develop and test the effect of an educational initiative to improve risk perception amongst women at the high-risk breast clinic

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Breast cancer is the most commonly diagnosed cancer that affects women. Patients overestimate their risk of developing breast cancer despite counselling at high-risk centres. This leads to increased stress and anxiety for the patient and challenges for delivering focused surveillance. The research aim was met via three objectives—to identify a method of presenting data, to build an application and to test if the application would be successful.

A mobile application was developed specifically for this project, using best practice methods for displaying risk information. Patients were randomly allocated into either 'control' or 'treatment'. Both groups underwent the normal counselling process while the application was employed in the 'treatment' group. The patients were surveyed before counselling, immediately after and 6 weeks later.

Four questions were asked relating to personal and population risk in their lifetime and over 10-years. The results were analysed using a Chi square. Risk accuracy improved to a greater extent in the 'treatment' group for all questions, with 'personal 10 year risk' resulting in a statistically significant improvement between the two groups, ($p = 0.003$). When the baseline differences were analysed using mixed effects regression modeling, there were no statistically significant differences between either group.

Risk misperception in breast cancer is a multifactorial problem. This project demonstrated trends towards improved risk perception, however it was unable to show a 30 % difference between the groups. A smaller difference may be detectable but would require a larger sample size. Numeracy was identified as an issue. Overestimating risk remains an issue amongst patients.

27. Invasion of the anterior abdominal wall—a case report of a desmoid tumour

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Introduction: Desmoid fibromatosis (DF) are rare, benign musculoaponeurotic tumours. DF have no potential for metastatic spread but are locally aggressive, leading to extensive patient morbidity. While germline adenomatous polyposis coli (APC) mutations are associated with DF, it can also occur sporadically. Debate regarding the most appropriate treatment options exists in literature.
Case summary: A 38 year old lady presented with a left hypochondrial swelling, night sweats and weight loss to the General Surgical Outpatients Department at our institution. This was noticed after the birth of her second child. No relevant family history was noted. A pre-operative ultrasound demonstrated a fusiform nodule within the left anterior abdominal transversalis oblique muscle, which had a focal hypervascular nidus. Surgical excision was performed under general anaesthetic and histologically the tumour had spindled myofibroblastic cells arranged in fascicles with perivascular lymphoid infiltrates. The diagnosis was DF with a positive margin status. Given the high risk of recurrence of this tumour type, the decision was made to undertake a further resection.
Conclusion: DF is known to be a locally aggressive benign tumour of mesenchymal origin. Treatment options are debated within literature. Similar local control rates at 5 years have been reported for surgery and combined surgery with radiotherapy, 69 and 72 % respectively [1]. However radiation related complications have been reported at 17 % [2]. Given that DF is known to be locally aggressive, affecting young people and with a female preponderance, we believe that surgical excision with clear margins is the most appropriate treatment of choice.

28. Squamous cell carcinoma (SCC) of the penis in Ireland—moving towards phallus preserving strategies. A case series

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Introduction: The incidence of penile cancer varies worldwide but is reported to be <1/100,000 in the western world [1]. There are approximately 50–60 new penis cancers per year in Ireland. Human papilloma virus (HPV) has been identified as an important risk factor. Historically, radical penectomy, has been the surgical treatment available, however in recent years there has been a move internationally towards phallus preserving strategies in specialist centres.
Summary of case series: Three cases of penile cancer that were referred to the Urology Outpatients clinic in University Hospital Waterford are described. All were managed with phallus preserving strategies. One case required further surgery due to a local recurrence. The diagnosis was confirmed in all cases to be squamous cell carcinoma of the penis, with two reported to be T1a and one as T1b. Nodal management has been performed as per European Association of Urology guidelines. Early follow up demonstrates excellent cosmesis, functional erections and excellent patient satisfaction.
Conclusion: The treatment of penile cancer aims to maximise functional organ preservation and hence quality of life without compromising oncological outcomes [2]. Ireland is moving towards centralisation of this rare disease to institutions that can provide these strategies.

29. Perforated jejunal diverticulum: a rare case of acute abdomen

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Background: Jejunal diverticulosis is a rare entity with a reported clinical incidence of 0.5 %. They are asymptomatic in the majority of cases however when symptomatic they present with nonspecific symptoms that can lead to a delay in making a definitive diagnosis. This can lead to the development of several serious complications such as diverticulitis, intestinal obstruction, gastrointestinal haemorrhage and perforation. We report a rare case of perforated jejunal diverticulum presenting as an acute abdomen requiring emergency laparotomy and small bowel resection.
Case report: An 83-year-old male with a background of hypertension, chronic obstructive pulmonary disease, sleep apneoa, and dementia presented to the emergency department with a 2-day history of acute onset lower abdominal pain. On examination he was locally peritonitic in the central and hypogastric region of the abdomen. The CRP was 183.4 and WBC 15.9. An urgent CT scan of the abdomen/pelvis revealed free intra-abdominal air and high likelihood of a perforated viscus. The patient was adequately resuscitated and was taken to the operating theater for an exploratory laparotomy. Intra-operative findings revealed multiple mid-jejunal diverticulosis with a perforation of a single diverticula at the mesenteric border. There was no gross contamination of the abdomen. A small bowel segmental resection was conducted with standard side-to-side stapled anastomosis fashioned. The abdomen was washed out and standard mass closure performed.
Conclusion: Our case highlights the importance of considering perforated jejunal diverticulum as part of the differential diagnosis in patients presenting with an acute abdomen.

30. Hereditary pancreatitis—a case report

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A female patient with hereditary pancreatitis R1 due to H-mutation of PRSSI is described. She presented initially at the age of 31 years with abdominal pain due to acute pancreatitis. Investigations failed to show any of the demonstrable causes of pancreatitis. During the years she had recurrent episodes of abdominal pain due to chronic pancreatitis. She has a strong family history with her father and paternal grandfather along with a brother, nephew and niece all having hereditary pancreatitis. Her father died of pancreatic cancer and her brother has diabetes mellitus. None of the affected patients showed the signs of aminoaciduria or hyperparathyroidism. She is at risk of developing pancreatic cancer and needs yearly surveillance with MRI/MRCPs. She is also advised to undergo pancreas juice collection by ERCP as this can help to predict early cancer or precancerous changes. The patient was discussed at HP-MDT meeting and it was recommended to proceed directly to a duodenum preserving spleen preserving total pancreatectomy, due to significantly increased risk of developing pancreatic adenocarcinoma.
Conflict of interest: Should the patients with hereditary pancreatitis be continued with non-operative surveillance therapy or is the operative approach with total pancreatectomy the best option.
Disclosure: Surgical therapy for patients with hereditary pancreatitis is safe, efficacious and probably the best option as it provides prolonged symptomatic relief.

31. Surgical management of perianal fistulas: a systematic review and meta-analysis

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Introduction: Perianal fistula is one of the most common colorectal conditions with a reported incidence of 9 per 100,000. Many surgical treatments exist, all aiming to eliminate symptoms with minimal risk of recurrence and least impact on faecal continence. Despite extensive evaluation of the therapeutic modalities no clear consensus exists as to what is the gold standard therapeutic approach.

This systematic review aims to examine all available evidence pertaining to the surgical management of perianal fistulas to ascertain the optimal treatment. Primary outcomes examined are recurrence and incontinence.

Methods: Study was conducted according to PRISMA guidelines. A comprehensive search strategy was applied to electronic databases (PubMed, Embase, Cochrane Central Register of Controlled Trials and Web of Science) to identify all relevant studies. Eligibility criteria are applied and included full text manuscripts were evaluated. Primary outcomes were analysed for each comparative group and expressed as pooled odds ratio with confidence intervals of 95 %.

Results: 687 studies were identified from which 28 relevant studies were included. We found that fistula plugs have significantly higher recurrence than advancement flaps with pooled data giving odds ratio of 4.22 (95 % CI 1.76–10.13, $p = 0.03$) and glue has a higher recurrence rate with OR of 6.00 (95 % CI 1.17–30.72, $p = 0.03$) when compared to flaps. We showed no significant difference in recurrence between the other treatment types. There was no significant difference in rates of incontinence identified between all interventions.

Conclusions: Based on current best evidence, our analysis revealed no difference in recurrence and faecal incontinence rates between many of surgical interventions for perianal fistulas. Glues and plugs show higher recurrence rates. There is insufficient evidence to recommend a single best treatment option for perianal fistulas.

32. Large symptomatic splenic cyst in a young woman: case report and assessment of literature for this uncommon condition

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Introduction: Splenic cysts are true or pseudocysts secondary to trauma, with only 800 reported cases and the optimal management option is still unclear. There are no guidelines and they have a high risk of recurrence. Surgical options include drainage, splenectomy, partial splenectomy, cystectomy and partial cystectomy.

Case report: A 24 year old female sports enthusiast presented with a right sided abdominal ache which was painful when lying on her side and was preventing her from playing intercounty football. CT revealed a 9 × 7 cm splenic pseudocyst secondary to trauma and folowong discussion with the patient she underwent laparoscopic subtotal cystectomy using mutiple EndoGIA staples and at 3 month follow-up was asymptomatic and had returned to sport.

Discussion: There are more than 70 case series evaluating management options for splenic cysts. Treatment choice must weigh up patient age and fitness for surgery while balancing the risk of recurrence versus surgical complications. Average recurrence rates for cyst drainage were 73.2 %, splenectomy 0 %, partial splenectomy 0 %, cystectomy 13 % and partial cystectomy 35 %. Total splenectomy is preferably avoided due to the significant long term complications with partial splenectomy having a risk of conversion to total splenectomy of 11 % [1]. Total cystectomy has a high risk of intraoperative bleeding. Partial cystectomy recurrence rates vary by choice of surgical tool with the use of universal stapling systems such as EndoGIA reducing asymptomatic recurrences to less than 17 % [2].

Conclusion: Stapled sub-total cystectomy was carried out safely with excellent cosmesis, giving complete resolution of symptoms in this young female with a large symptomatic cyst.

33. An analysis of the use of short message services (SMS) by on-call services in a tertiary hospital

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Introduction: Advancing technology provides alternative forms of communication to the traditional paging system. Text messaging (SMS) are an effective and unobtrusive method of non-urgent communication. Our aim is to objectively establish if SMS is being used by hospital doctors as a means of communication. Our objectives are to analyze messages sent from on-call phones in Cork University Hospital to assess the volume, and reasons they are being sent.

Methods: SMS from on call phones were analysed to identify to whom they were being sent. They were grouped into work related and other. Work related messages were sub-grouped into patient related, staff related and other. The data were entered into a spreadsheet for analysis.

Results: A total of 138 messages were sent from six on-call phones between July and October 2015. Forty seven (34 %) of these were sent to another on-call phone and 91 (66 %) were sent to private phones. Of the 91, all were sent to another hospital doctor. A total of 135 (97.8 %) of messages were work related. 81 (60 %) of these were patient related, 29 (21.5 %) were staff related and 21 (15.5 %) were neither patient nor staff related. Four messages (2.2 %) were non-work related.

Conclusion: The above results illustrate that text messaging is used as a form of communication between hospital doctors with the vast majority work related. Health services need to embrace technology to enhance communication. Educating doctors in the safe and appropriate use of text messaging must be considered.

34. Appendiceal intussusception: a rare presentation with a previously unreported cause

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Introduction: Intussusception of the alimentary tract is rare, even rarer is intussusception of the appendix. Some cases have previously been diagnosed after presenting with abdominal pain and undergoing surgery for suspected appendicitis.

Case report: We present a 64 year old female with a history of intermittent right iliac fossa pain and a complex background of vascular disease with symptoms suggestive of mesenteric ischemia. Regular blood investigations were normal. CT imaging initally

reported as normal; on subsequent review hinted at a possible appendiceal intussusception. This was confirmed with diagnostic laparoscopy and the patient underwent a laparoscopic limited right hemicolectomy. Histopathology showed an appendiceal intussusception with the lead point being a nidus of dense secretions adherent to a hyper secretory mucosa forming a polypoid lesion.

Discussion: First reported by McKid in 1858, appendix intussusception is a rare event with an incidence of 0.01 % in patients undergoing an appendicectomy [1]. McSwain classified intussusception of the appendix into five different types [1]. The clinical picture is usually atypical with vague recurrent abdominal pain or with bleeding or mucus in the stool. It is commonly associated with benign or malignant lesions which act as the intussusception lead point [2].

Conclusion: Appendiceal intussusception should be considered in patients with chronic abdominal pain. Adult patients should undergo a wide surgical resection due to the risk of a malignant lesion.

35. On the variable quality of breast cancer related information on the internet

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On the variable quality of breast cancer related information on the internet.

Patients increasingly turn to the internet for healthcare information. Breast cancer attracts a large volume of search queries on the most common search engines. However, the quality, accuracy, accessibility and reliability of the results are variable. We assessed quality of the results from several of the main search engines.

We performed searches using the terms “breast cancer” on six leading internet search engines (Google, Bing, Yahoo, Ask, AOL and Duckduckgo). The first ten returned non-sponsored webpages were analysed. All sponsored advertisements were also recorded. The returned pages were assessed for readability, quality and accuracy using open source online tools. The origin of each page was also recorded (charity, government body/educational/medical institution, news, commercial).

60 pages were returned. Average reading grade across six indices (Flesch-Kincaid reading ease, Flesch-Kincaid grade level, Gunning-Fog score, Coleman-Liau index, SMOG index, Automated Readability index) did not vary significantly (range 7.3–8.7). The highest number of paid advertisements was via AOL (16). The lowest number of adverts was via Duckduckgo (2). Commercial links were provided by “Ask” (2). The distribution of charity and institutional web pages was similar across engines.

Whilst search engines may provide breast cancer related health information of similar readability and accessibility, patients using these resources may be faced with a large number of paid advertisements linking to material of variable quality before they find quality non-commercial patient information. Patients should be made aware of the limitations of search engine derived health information.

36. Management of traumatic head injuries in patients presenting to an acute surgical assessment unit (ASAU)

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Traumatic head injuries affect 1–2 % of the population per annum and represent the most common cause of morbidity and mortality in patients less than 45 years of age [1]. Prompt assessment of these injuries remains paramount to addressing early pathology and prevention of secondary brain injury, which can have a devastating effect on potential outcomes.

St. Luke’s General Hospital, Kilkenny, provides a 24-h service where patients with an acute head injury are rapidly triaged before direct review by the Surgical SHO in the ASAU. This in theory facilitates a streamlined pathway for patients onto radiological assessment, inpatient monitoring or discharge with head injury advice as appropriate. In total 144 patients presented with acute head injuries over 100 days from July to October 2015. The presenting complaint, mechanism of injury, contributing past medical history and examination findings were compared to the NICE Guidelines (CG176) in the management of these patients.

Traumatic head injuries account for 9.1 % of presentations to the ASAU. 31 children and 91 adults were admitted for 24-h observation with 51 % having a CT brain following admission. 5 patients were imaged once stable in ASAU with immediate transfer to a neurological centre. 10 patients left against advice and 7 were non-surgical admissions. When comparing ASAU management with the NICE Guidelines it was found that appropriate care was achieved with no adverse outcomes reported. However, the availability of out of hours imaging represents a barrier to timely compliance with the highest standards of management.

37. True incidence & prevalence of anal fistulae from UK and Irish national databases

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Background: Anal fistulas can be complex and provide a challenge for the surgeon. There are many new surgical t echniques appearing in the literature. Most papers quote unsubstantiated figures for incidence & prevalence. The true prevalence of anal fistulas in our population remains unknown. The quoted incidence of anal fistula developing from an anal abscess ranges from 26 to 38 percent.

Aims: We aimed to accurately calculate the incidence and prevalence of anal fistula in the UK and Irish population.

Methods: We extracted comprehensive data from the UK hospital episode statistics (HES) online database & from the Irish hospital inpatient enquiry (HIPE) national database for the years 2005–2014.

Results: The recorded incidence in the UK was 18.52 per 100,000 total population 64,000,000. The total recorded number of fistulae was 108,309. The number of perianal abscess without mention of a fistula was 148,889. The male to female ratio for fistula formation was 2.5:1 with 71.6 % overall occurring in males & 28.4 % in females. The overall mean age of occurrence was 46 years. The total number of procedures performed was 83,007. The commonest procedure performed was laying open of fistula 48,424 followed by seton insertion 28,381 and plugs 949. The average hospital stay was 3.2 days. The HIPE data showed similar patterns.

Conclusion: Analysis of the available national data for the first time provides accurate demographic data regarding anal fistulae which can help guide future resource utilization and allocation in this common clinical problem.

38. Tailor made hernia repair: one size does not fit all

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Complex incisional hernia repair are surgically challenging where large and the surrounding fascia/tissue is poor. Innovative techniques and tailor made repair is often required to achieve adequate surgical repair.

A 53-year-old gentleman underwent elective open incisional hernia repair for a paramedian defect measuring approximately 11 × 13 cm and containing colon. He had an extended Kocher scar, following exploratory surgery for a chronic sub-phrenic abscess whereby a retained biliary stone was found.

Using an upper midline incision, the hernial sac was first reduced and dissected. After extensive adhesiolysis and mobilization of the falciform ligament a Covidien Symbotex® pre-peritoneal composite mesh 20 × 15 cm was inserted intra-abdominally and fixed trans-fascially initially strategically using an endoclose, and further secured to the fascia in triple crown fashion using a similar suture 0 Prolene. Extreme care was taken not to injure the diaphragm or pericardium. A defect of at least 10 cm cm in diameter remained in the central fascia, this was re-enforced using an on-lay mesh by Parietec® 15 × 15 cm placed diagonally. A Redivac 6 mm drain remained in the wound for 72 h.

In this case, an atrophic right rectus muscle contributed to the formation of the hernia, probably as a result of previous nerve cutting incision. The defect was too large to allow for closure of the linea alba without tension and placement of an additional on-lay mesh provided additional re-enforcement in the mid-line.

Innovative use of multiple mesh types can be used in combination to achieve hernia repair and functional abdominal wall status.

39. Large incarcerated spigelian hernia

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Introduction: Spigelian hernias are uncommon and result from a defect in the linea semilunaris. Clinical diagnosis may be difficult or unreliable, particularly in the early stages of development, and imaging in the form of ultrasound or computerised tomography (CT) is usually required to confirm the diagnosis and characterise. Repair can be open or laparoscopic. We report a case of a very large incarcerated spigelian hernia containing small bowel and its mesentary.

Presentation of case: An 85 year old man presented with a 1 day history of right sided abdominal pain and associated large lump in the region of the spigelian aponeurosis, nausea but no vomiting. This was on a background of the previous intermittent presence of the lump, chronic constipation and diverticulosis. An incarcerated spigelian hernia was suspected, which and was confirmed by CT examination which revealed such a hernia containing small bowel and mesentery, measuring approximately 20 × 20 cm. An open hernial repair was performed under spinal anesthetic. The sac contained small bowel loops which were oedematous but viable, were returned safely into the abdomen. The fascial defect was using 2/0 PDS and continuous mesh laid down over the suture line and anchored in order to reinforce the defect.

Discussion: Spigelian hernias were first described in 1764 by Josef Klinkosch, however, the name is derived from Adriaan van der Spieghel, who described the semi-lunar line. They are uncommon and represent <1 % of all hernias and mostly reported in the literature as case reports of which there are approximately 1000. They are considered to be both acquired and congenital, but may be multifactorial. Contributing factors are thought to include ageing, abdominal obesity, rapid weight loss, collagen disorders, multiple pregnancies, chronic pulmonary disease, trauma including surgery, and congenital abnormality. Large spigelian hernias, are even more uncommon and can contain structures such as the omentum, appendix, stomach, and intestine. Because of the high risk of strangulation, operative management is indicated and open repair is still the gold standard approach, with mesh to reinforce, placed either in pre-peritoneal space or above the fascia as used in our case.

40. Neglected gallbladder disease in Ireland

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Laparoscopic cholecystectomy is the standard of care for all patients with gallbladder disease and the mortality for acute cholecystitis even in severe disease is less than 1 %. However, the mortality of acute cholangitis although improved, since 2000, still approaches 10 %. According to updated Tokyo guideline 2013 the recurrence rate of acute cholecystitis for those who were treated conservatively or awaiting cholecystectomy was 19–36 %, which also included other complications apart from acute cholecystits, such as bile duct stones, and pancreatitis compared with no recurrence following cholecystectomy.

Irish hospitals continue to ignore the evidence based medicine regarding the recommendation to perform cholecystectomy in acute cholecystits, adding to patient morbidity, mortality and economic burden of our health service, by delaying surgical management to an elective setting.

To illustrate, we describe our experience of gallbladder surgery since July 2014 to October 2015. 147 cholecystectomies were performed. Ten patients had Mirizzi syndrome, 8 patients required CBD exploration, 3 cholecystectomies were performed open due to the presence of intra-hepatic and peri-cholecystic abscess, gallbladder perforation and one emphysematous gallbladder. One conversion to open was done as a critical view of safety could not be achieved. Fifty patients had complex anatomy or features of acute inflammation noted inta-operatively.

There were seven gallbladder perforations during dissection, some with stone spillage, however, no CBD injuries occurred despite disease severity. One conversion was because the critical view of safety was not seen. Three patients were re-operated due to two bile leaks and one for bleeding from an accidental liver laceration.

41. Illumination—near infra-red intra-operative imaging using indocyangreen

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Near infra-red imaging (NIR) using Indocyangreen (ICG) has been in use for over 50 years as an adjunct to standard imaging. A recent explosion of this technology has occurred in surgery, which has become more widely available and affordable. It's precision for demonstrating anatomy and pathology exceed other intra-operative techniques such as ultrasound and high-resolution laparoscopic imaging and is non-ionizing, does not distort the surgical field and does not require vessel/duct cannulation.

We present a video case series of NIR imaging using ICG during routine and complex hepato-biliary diseases and complex colorectal diseases at our institution.

Using the Chroma filter approximately 30 min after intravenous administration of ICG, the extra-hepatic bile ducts could be clearly identified allowing for mapping of the surgery and avoid injuries for

safer dissection of Calot's and the hepato-cystic triangle and to check for bile leak. Inter-operative admission of ICG can be used for surgical mapping or for perfusion status of the colon prior to anastamosis. ICG is also used at our institution during surgical training to delineate anatomy more clearly for trainees.

Near infrared imaging using ICG is an excellent tool in laparoscopic surgery to map surgery, indentify difficult structures and assess perfusion prior to anastamosis. It can define anatomy more precisely achieving a greater safety during surgery.

42. Laparoscopic management of colo-vesical fistula

L. Silvio, C.T. Cronin

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Laparoscopic surgery for complicated diverticular disease is sometimes more difficult than colorectal cancer surgery due to presence of inflammatory tissue and unclear tissue planes, and conversion rate is high due to technical difficulty. The largest laparoscopic case series to manage colo-vesical fistula to date involves only 15 cases with a 33 % conversion rate. We present two cases of laparoscopic management of colo-vesical fistula, where we also used indocyangreen (ICG) to confirm perfusion prior to primary colorectal anastamosis.

A 44 year old gentleman with pneumaturia and recurrent diverticulits underwent elective laparascopic and sigmoid colectomy for colovesical fistula. Inter-operatively methylene blue was injected into the bladder and there was no leak and a primary color-rectal anastamosis was achieved after mobilisation of the left colon. A suprapubic cystostomy was placed inter-operatively.

A 41 year old gentleman with recurrent diverticulitis was undergoing an elective laparoscopic sigmoid colectomy. Inter-operatively a colo-vesical fistula was detected. There was no resection plane between the bladder and colon, which were densely adherent, and he required a partial bladder resection, with 2 layer intercorporeal bladder suture. The patient subsequently reported a history of pneumaturia. Vascularisation of the anastamosis was confirmed by ICG prior to circular stapling of end-to-end anastamosis.

Both patients did not have any major complications.

Safe tissue dissection can be achieved laparoscopically using energy devices and hydrodissection despite inflammatory tissue, where planes remain. Laparoscopic management of colo-vesical fistula with primary anastamosis is an advanced procedure and is appropriate and feasible in the setting of adequate surgical expertise.

43. Audit of hospital recovery and complications of breast reconstruction patients: an overview for implementing an enhanced recovery protocol—pilot study

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Background: Enhanced recovery after surgery (ERAS) is an evidence-based system of strategies implemented before, during and after surgery whereby the goal is to minimise patient length of stay, morbidity and mortality. ERAS has been studied extensively in abdominal surgery, particularly with regards to colorectal procedures, yet the domain of breast tissue reconstruction surgery has been left relatively untouched. We aim to highlight current standards of care in breast tissue reconstruction with a view to comparing it to and prospectively implementing ERAS protocols.
Methodology: A retrospective analysis of a prospectively kept database of two breast services in UHG from the period of 2010-2014. A descriptive analysis using SPSS 22 was performed, looking at variables of length of stay, discharge arrangements, antibiotic use, post-op analgesia, post-op morbidity and re-admission rates.
Results: In this period of study 153 patients underwent post-mastectomy reconstruction; the age range was 21-82yrs. 98 patients (64 %) underwent immediate reconstruction, 36 % were delayed. 45 % had pedicle tissue-based reconstruction, 55 % had implant-based. Average length of stay was 7.5 days (range 5–22 days); 7.7 % of patients were discharged with drains in situ. Overall complication rate was 21; 16 % had revision surgery.
Conclusions: Although these figures are compliant with the NCCP KPI, we aim to reduce the hospital length of stay to 4–5 days in conjunction with ERAS expectations. We anticipate that by implementing an ERAS protocol we can improve the overall patient experience and expedite their recovery while aiming to maintain a low morbidity and mortality.

44. Achalasia in pregnancy—a case series

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Achalasia is a disease of unknown aetiology in which there is uncoordinated peristalsis of oesophageal smooth muscle and failure of the lower oesophageal sphincter to relax, manifesting clinically as dysphagia, regurgitation of food, and often chest pain. While it is a well-studied condition, data on outcomes of achalasia in pregnancy is scarce. Two small studies (n = 30), and several case series, report adverse pregnancy outcomes in association with achalasia [1, 2].

Achalasia can have adverse effects on an otherwise normal pregnancy, and pregnancy may affect the normal course of achalasia. Achalasia can cause dysphagia to the point of severe nutritional compromise (demonstrated in our series), and there are case reports in the literature of intrauterine death due to maternal malnourishment caused by achalasia [2].

In recent times in our institution, 4 women have presented with achalasia for the first time during pregnancy, or had clinical deterioration in their achalasia during pregnancy, each requiring intense multidisciplinary input. Three had a good outcome from their pregnancy, although two delivered prematurely by caesarean section. The fourth woman suffered a miscarriage at 12 weeks, having lost 20 kg in weight in the preceding 6 months.

These cases demonstrate the need for MDT input and specialist care for the successful management of women who suffer from achalasia while they are pregnant, to ensure that the condition does not have adverse consequences for both mother and baby. Due to the lack of consensus data on the best practices in the management of these patients, a case by case approach is advocated.

45. An analysis of LCIS in fibroadenomas: should we excise them all?

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Background: Lobular carcinoma in situ (LCIS) and atypical lobular hyperplasia (ALH) remain two of the highest risk lesions identified on core needle biopsy. However current data suggests that LCIS and ALH represent an increased global risk of breast cancer rather than specific precursor lesions. A lack of consensus makes the management of these entities challenging, particularly when they are associated with a radiological mass lesion. The aim of this study was to evaluate whether excision biopsy is warranted in cases of lobular neoplasia associated with fibroadenoma (FA) on Core Needle Biopsy (CNB) when the imaging target is a mass concordant with a FA.
Materials and methods: A retrospective case control design was employed at a single large academic centre with a combined screening and symptomatic service. All cases of CNB confirmed FA with ALH or classical LCIS were identified over a 3 year period. Cases with coexistent DCIS, invasive carcinoma, papilloma, radial scar, atypical ductal hyperplasia or flat epithelial atypia and non classical LCIS were excluded as were cases where the radiologic target was discordant with a FA.
Results: A total of 2878 consecutive radiologically guided CNB with a diagnosis of FA were identified. Twenty one cases met the selection criteria of concomitant ALH or classical LCIS. All cases underwent surgical excision. CNB diagnosis was LCIS and FA in 16 cases and ALH and FA in 5 cases. Average size of fibroadenoma was 1.9 cm (range 0.5–2.4 cm). Sixteen cases had residual LCIS or ALH on excision. One of the 21 cases (4.8 %) was upgraded on excision to invasive ductal carcinoma, grade 2, 0.2 cm in dimension.
Conclusion: This represents the only study to specifically addressing radiologically concordant cases with a diagnosis of classical LCIS/ALH and FA on CNB. We conclude that when strict pathological and radiological correlation is achieved excision biopsy is not necessary.

46. Is mesenteric based surgery associated with more complications than non-mesenteric based surgery for the curative treatment of lower or middle rectal carcinomas?—a systematic review and meta-analysis

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Total mesorectal excision (TME) has become the gold standard for rectal cancer surgery due in large part to its favourable rates of recurrence. However, because of the extended nature of TME many of its critics have associated it with increased rates of intra and postoperative complications. The aim of this study is to compare the complication rates of TME and conventional surgical approaches in the curative treatment of rectal cancer of the lower or middle rectum. A systematic search of PubMed of both randomized and non-randomized clinical trials comparing TME with conventional surgery identified 5 eligible studies. A meta-analysis was performed using a random effects model, for which the primary outcome measures were mortality, anastomotic leakage, and intraoperative blood loss. There was a no significant difference in the 30 day mortality between the two groups [OR 0.52 (0.26, 1.03), $p = 0.06$]. A trend towards increased anastomotic leakage rates was noted in the TME group [OR 1.76 (1.05, 2.97), $p = 0.093$]. No significant difference was noted amongst the groups for intraoperative blood loss [WMD −0.50 (−1.88, 0.88), $p = 0.48$]. Odds ratio for bowel dysfunction after TME in comparison to conventional surgery for rectal cancer was 2.31 (1.69–3.16). In summary, while there was an increased rate of anastomotic leakage following TME this was not significant. Bowel dysfunction was increased following TME but otherwise complication rates were comparable with conventional surgery.

47. Is sedation really needed for OGD?

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Mayo University Hospital & Saolta University Hospital Group

The use of sedation for Oesophagogastroduodenoscopy (OGD) is variable. The aim of this study was to examine the factors that influence the patient decision on whether to undergo this procedure with or without sedation and to assess their post-procedural level of satisfaction.

A prospective audit of patients undergoing OGD over a two-week period was performed. All participating patients were contacted by phone within 48-h post procedure to complete a survey. Recorded details included; patient demographics, whether or not sedation was administered and post-procedure satisfaction level.

During the study period, 86 patients were recruited. Female gender was more common ($n = 56$). 80.2 % ($n = 69$) of participants opted to have no sedation. The overwhelming majority (4.3 %, $n = 3$) was satisfied with their decision post-procedure. Despite all receiving an information leaflet in advance there was poor awareness amongst patients regarding sedation practices. 53.5 % ($n = 46$) had made no advanced decision regarding sedation choice. Interestingly, 27.5 % ($n = 19$) that opted for no sedation were influenced by other patients who were post-procedure rather than by a healthcare professional (60.9 %, $n = 42$).

Patient understanding of sedation practices in endoscopy is sub-optimal. Despite sedation status there was a high post-procedure satisfaction rate amongst all participants. However, this study highlights the need for improved patient education prior to OGD to ensure a better-informed decision process. Additionally, it observed that OGD without sedation is achievable with good satisfaction rates in the majority of patients.

48. A meta-analysis: nipple discharge probabilities and diagnostic accuracy of investigations

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Introduction: Nipple discharge accounts for 5 % of referrals to breast units, and the incidence of breast cancer in image negative nipple discharge patients varies from 0 to 21 %. This systematic review and meta-analysis determined variability in breast cancer rates in nipple discharge patients, diagnostic accuracy of modalities and surgery rates.
Methods: An ethically approved meta-analysis was conducted using the databases PubMed, EMBASE, and The Cochrane library from

January 2000 to July 2015. In reviewing breast cancer incidence and rate of surgery only consecutive studies with clinical follow-up data were included. For the diagnostic accuracy meta-analysis, studies were excluded if the number of true and false positives and negatives were not known.
Results: The average risk of breast cancer is 10.2 % and increases above 50 years old. The pooled sensitivities of ultrasound, mammogram, mammogram and ultrasound, breast MRI, conventional galactography, smear cytology, ductal lavage cytology and ductoscopy were 0.64, 0.34, 0.65, 0.81, 0.75, 0.37, 0.49 and 0.82 respectively. 43.4 % underwent surgery (range 24–83 %).
Conclusions: Management of nipple discharge poses a challenge of significant clinical importance due to a malignancy rate of over 10 %. Tailored personalised approaches to investigation are required especially given the variable sensitivity of the investigations. Mammography alone will miss 66 % of cancers. Agreed consensus guidelines may help especially in higher risk subgroups.

49. A preliminary analysis of sentinel lymph node biopsy following neoadjuvant chemotherapy; accounting for the missing positive nodes

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Acknowledgement: Aid Cancer Research for funding support.
Background: Approximately 30 % of sentinel lymph node biopsies (SLNB) will harbour metastatic tumour. However, following neoadjuvant chemotherapy it is anticipated that this figure is less. We aimed to determine the difference in nodal positivity rate between matched neoadjuvant chemotherapy (NAC) and non neoadjuvant chemotherapy (NNAC) patients.
Materials and methods: A retrospective case control study was carried out between 2010 and 2015. NAC patients were matched for age, number of nodes sampled, grade and stage of tumour and hormone receptor status with NNAC patients. The rate of positive SLNB was compared between the two groups. Post NAC sentinel nodes were histopathologically assessed for treatment effect.
Results: During the 5-year period, fifty-four patients who were clinically and radiologically node negative had dual agent identified SLNB post NAC. Forty-seven of them were matched to NNAC patients. Eleven NAC patients (23 %) were macroscopically node positive, compared to 15 (32 %) NNAC patients demonstrating a 9 % difference. Histopathological analysis of the node negative NAC group demonstrated just one node (3 %) with features of a treatment effect.
Conclusions: NAC results in a reduction in the rate of nodal positivity in previously clinically and radiologically node negative patients. However, a treatment effect is only demonstrated in a small percentage of patients. The exact reason for this remains unclear.

50. Variability of breast implant loss from implant-based reconstruction surgery

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Introduction: Implant based reconstruction remains the most common reconstructive option in ladies undergoing mastectomy in breast cancer. Implant loss may have significant adverse outcomes, both psychological and in terms of adjuvant or neoadjuvant therapy. To understand the reason for breast implant loss and removal is important in patient care. This study assessed the variation in implant loss in the early loss following mastectomy and reconstruction.
Methods: An ethically approved extensive search of databases, included PubMed, Scopus and Cochrane library was performed to identify studies on complications of implant-based reconstruction in breast cancer published between January 2005 and June 2015. 18 articles were included in this study and the complications from breast implant reconstruction were extracted.
Results: The 18 articles consisted of 15 retrospective studies and 3 prospective studies with 8303 breast implants reported. The mean implant loss rate was 8.4 %. There was a large variation in the rate of implant loss ranging from 2.2 to 72.4 %. The most common reason for implant removal is due to infection, 36.1 %. The other causes of implant loss were wound dehiscence, capsular contracture, haematoma, seroma and etc. Patients undergoing radiotherapy treatment are more likely to lose their breast implant.
Conclusion: This review has identified significant variability in implant loss. New strategies are urgently required to reduce implant loss, be they related to patient factors or operative approaches and peri- and intra-operative management. Reductions in practice variation by introduction of consensus guidelines are required urgently to improve outcomes.

ANAESTHESIA POSTER SESSION

1. Medical student feedback from an undergraduate ultrasound pilot project at the University of Limerick

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Background: Point of care ultrasound (POCUS) is bedside ultrasonography by a skilled healthcare professional [1]. Undergraduate ultrasound education is becoming increasingly important to medical student training [2].
Introduction: Eighty four second year graduate entry medical students participated in the 2015 undergraduate ultrasound pilot project held at the University of Limerick, Ireland. The primary aim of this project was to provide the student with a unique opportunity to look at anatomical structures in real time using ultrasound machines. The students also had a chance to practice ultrasound acquisition skills on standardised patients with expert supervisors.
Method: Two optional 30-min tutorials for students focusing on cardiac and musculoskeletal sonoanatomy were organised. They were timed so that the students had already completed problem based learning modules incorporating cardiac and musculoskeletal anatomy. Eight small group teaching sessions (4 students to each tutor) were run simultaneously. Sixteen tutors taught over a 4 h period. Feedback forms akin to those developped during the 2013/2014 undergraduate ultrasound courses in the University of Toronto (UofT) [3], Canada were used. Feedback focussed on five parameters of the tutor; preparation, enthusiasm, facilitation of positive learning environment, effective questioning and explaining; and three parameters of the seminar; clear objectives; materials used; objectives achieved. A likert scale was used.

Results: One hundred and forty five feedback forms were returned. The feedback for the performance of the 16 tutors was tremendously positive. Mean likert scores ranged from 4.3/5 to 4.8/5 for the parameters outlined.

Discussion: Feedback is an important aspect of the learning and teaching process for the organisers, tutors and students. This positive feedback has facilitated funding for the continuation of this program in 2016. Similar positive student feedback has been observed during the U of T programme, which is now in its fourth year.

2. Ultrasound guided pectoral blocks for chronic post-sternotomy pain

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Chronic post-sternotomy pain following cardiac surgery is a significant problem, affecting 17–56 % of patients. Adequate pain relief in this patient group remains challenging due to the destructive nature of the surgery itself, in addition to the extensive innervation of the hemithorax.

A 63 year old man presented 5 weeks post sternotomy for three vessel coronary artery bypass grafting. Background history included ischemic heart disease, atrial fibrillation, depression and recent diagnosis of a vestibular Schwannoma. His initial post-operative course was complicated by pericarditis and pericardial effusions. He described bilateral pain in the area of the pectoral muscles, left side worse than right. Pain score was 8/10 with no exacerbating or relieving factors identified. His analgesics on presentation included slow release oxycodone, topical lidocaine patch and a non-steroidal anti-inflammatory agent. On examination, there was infraclavicular fullness and tenderness. Range of motion at the left shoulder joint was painful. Stretching of the pectoral muscles was restricted and painful.

Bilateral pectoral nerve blocks (modified PECS II block) were performed using ultrasound guidance. Beginning with the ultrasound transducer at the mid-clavicular level and angled inferolaterally, pectorals major, minor and serratus anterior were identified. Local anaesthetic (Chirocaine 0.25 %) and triamcinolone were injected between pectoralis major and minor, and a second deposition injected between pectoralis minor and serrateus anterior.

The patient's range of movement at the shoulder joint improved immediately post injection. His pain score four hours post procedure reduced to 4/10. Oral analgesic therapy was tapered and the patient was discharged 3 days later. His pain relief remained persistent at 4 weeks.

Pectoral blocks offer a new approach to the management of post-sternotomy pain.

3. Practice of preoperative fluid prescription in paediatric surgical patients

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Perioperative fluid therapy is a medical prescription of both volume and composition of fluid. Children are susceptible to fluid deficits in the periopreative period due to prolonged fasting hours, insensible loss and the disease process. The main goal of intravenous (IV) fluids is to maintain correct fluid and electrolytes balance to maintain cardiovascular stability. Recently controversies have been raised regarding the use of glucose containing hypotonic maintenance crystalloid solutions for perioperative fluid therapy in children. They increase the risk of hyponatraemia and hyperglycemia perioperatively. Many studies have studied fluid administration in the intra and post operative period but few have looked at the preoperative period. In this study we looked at the preoperative fluid prescription in 40 sequential paediatric patients undergoing emergency operations in Limerick University Hospital. Patients included were hospitalized for more than 10 h and fasting for more than 8 h preoperatively. More than half of those patients were not prescribed any IV fluids preoperatively. Sixty per cent of those who received IV fluids in the preoperative period were prescribed dextrose 5 % with 0.45 % normal saline. Recent studies have shown that use of hypotonic solutions along with stress related ADH secretion in the perioperative period can lead to hyponatraemic status, so the hydrating solution should contain high sodium and chloride level like Ringer's lactate or normal saline. The routine administration of glucose is not recommended in paediatric patient's perioperatively unless they are at significant risk of hypoglycaemia and then serum glucose levels should confirm and be monitored.

4. Concerns of patient's attending a chronic pain clinic consultation

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Patient concerns and preferences should be incorporated into decision making processes and management plans of patients care. Concerns of patient's attending chronic pain clinic consultations has not been studied previously. Local ethics committee approval followed by written informed consent was obtained. Patients attending a pain clinic consultation for the first time were included (n = 100) in a prospective study. The most common concerns were the illness itself (65 %), inability to do things (36 %), the future (31 %) and physical symptoms (28 %). Concerns about the illness itself, the future, job, finances and personal relationships were distributed evenly across different pain presentations. Patients with four or more concerns had significantly more anxiety or depression. Identifying concerns of patients attending chronic pain clinics is important for management of these patients and effective communication.

5. Pre-operative assessment of anaemia in elective surgical patients

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Objective: To determine if patients are being pre assessed in a minimum of 28 days before surgery as recommended by NICE guidelines (2003) and if there is an attempt to correct subnormal haemoglobin levels prior to surgery in accordance with WHO blood safety guidelines (2011).

Method: 150 adult patients were randomly selected from the elective surgical theatre lists over the period of 7 days. Data collected included date of pre-assessment, date of surgery, haemoglobin levels, attempt to correct anaemia and if a transfusion was required.
Results: Of the 150 patients sampled 29 were assessed within 28 days as recommended. 34 patients were found to be anaemic and 11 received treatment in an attempt to correct deficiencies.
Conclusion: The majority of patients are not assessed and treated in accordance with the guidelines.

6. A six month audit of critical care inter-hospital transfers involving University Hospital Limerick

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In association with centralisation of critical care services there has evolved an increasing necessity for the transfer of critically ill patients between institutions. In the United States one in twenty patients requiring ICU care is transferred to another hospital [1]. In Ireland there is no published national study providing data on the scope or extent of this essential process. This audit is a sample segment of an ongoing prospective study of critical care transfers carried out by the UHL, in association with the National Transport Medicine Program (NTMP). All patients transferred out of and into the intensive care unit ICU of UHL in the period from June to November 2015, were studied. Demographic, clinical and transfer details including inter-hospital transfer complications were recorded. The total number of transfers were 25 patients with 56 % of patients transferred into UHL ICU from different hospitals. Forty four per cent of the transfers were conducted by the National Ambulance Service (NAS), while only one transfer was conducted by a specialized retrieval team. Transfers were accompanied by an anaesthetist in training in 44 % of cases and by consultant in 4 %. Forty per cent of patients were transferred for the purpose of seeking speciality care in other centres, while 20 % were transferred for repatriation and 8 % for bed capacity issues. Given a catchment area of 400,000 population, the transfer rate for the study period was 1.25 per 100,000 population per month. This study did not include patients transferred through the emergency department. Completion of the study period is awaited but early recommendations include standardisation of documentation and transfer processes, in addition to the development of a national critical care retrieval service, incorporating ongoing training, audit and research.

7. Using ultra sound for peripheral central venous access

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Background: Increasing demand for peripheral inserted central lines. A prospective audit was conducted for 3 consecutive months to include all non-tunnelled peripheral inserted central lines (PICC lines).
Objectives: Quantify, analyse the documentation process, analyse the post insertion care, identify complications and issues.
Results: 19 PICC line requests, 18 insertions, success 100 % (75–95 % normal), 16 patients, 2 patients had 2 PICC lines (reinsertion post infection, reinsertion post removal), M:F = 4:12, AGE average 58 (range 26–92), 5 patients on OPAT. Post insertion care oncology: structured service, local guidelines, experience and educated staff, excellent follow up and documentation. Surgical/ medical and orthopaedic lack of all above. Complications local infection x1, thrombosis x2, bleeding from site x1, line blockage x1.
Conclusions: Successful insertion 100 % using ultrasound. Inadequate documentation of line insertion and removal. Excellent care of line on oncology ward. Inadequate care of line on general wards.
Implications: Multidisciplinary team anaesthesia, clinical teams, infection control, radiology and OPAT liaison agreed care bundle published on hospital home page. New PICC insertion pack, new PICC lines single and double lumen lines purchased. Dedicated theatre time anaesthetic and nursing staff for PICC line insertion.

8. Regional anaesthesia to aid weaning from mechanical ventilation: a successful case report

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Many post-operative and trauma patients in intensive care have significant analgesia requirements. First line analgesia remains intravenous medication in the fasting patient but high requirements and prolonged use are associated with the development of delirium, prolonged mechanical ventilation (MV) and withdrawal upon cessation [1].

Pain is reported as the leading stressor in the critically ill and leads to increased ventilator associated difficulties and complications such as nosocomial pneumonia and atelactasis [2]. Regional anaesthesia may play a role in improved patient outcomes in the critically ill population.

We present a case of failed weaning from MV following emergency surgery to treat an abdominal aortic aneurysm in a 78 year old male. Due to coagulopathy and the emergent nature of the surgery an epidural was not possible in the pre-operative phase. Analgesia was initially provided with intravenous opioids and paracetamol. Agitation and delirium were significant factors in preventing liberation from MV despite use of alpha-2 receptor agonist medications. The ongoing high opioid requirement was felt to be both a limit to adequate spontaneous respiration and a co-factor in causing delirium. In attempt to limit opioid use, bilateral transverse abdominal plane (TAP) block catheters under ultrasound guidance with a continuous infusion of local anaesthetic were introduced. The analgesic effect was immediate and effective, allowing weaning from MV at the first attempt and successful extubation. We believe regional anaesthesia has an increasing potential role in the intensive care unit to aid liberation from MV.

9. Bone cement implantation syndrome—its implications in anaesthesia

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Introduction: Bone implantation syndrome is poorly understood and clinical features may vary from transient hypoxia, hypotension, cardiac arrhythmias to cardiac arrest. It is an important cause of intra-operative morbidity and mortality. Clinical presentation can be at any

time from cementation to deflation of the tourniquet. The underlying pathophysiology is poorly understood and the proposed aetiology includes a monomer mediated model or the embolus mediated model.
Case description: This case describes an 88 year old lady undergoing a hip revision under spinal anaesthetic. Patient was given 2.5 mls of bupivacaine 0.5 % with fentanyl 25 mcg. Patient had arterial line inserted prior to spinal and was haemodynamically stable during the procedure initially and with O2 saturations >98 %. Shortly after cementation patient underwent cardiac arrest and was resuscitated with CPR and IV adrenaline 1 mg before being started on an IV adrenaline infusion. Patient was intubated and subsequently transferred to ICU where the patient passed away. This was an important case to highlight the sudden presentation of severe bone implantation syndrome resulting in cardiovascular collapse and the mortality of a patient. It is significant as we increase the number of hip arthroplasties in the elderly population that we can identify higher risk patient to try and minimize this occurrence.

10. Audit of preoperative fasting in emergency general surgical patients

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Background: The European Society of Anaesthesiology, among other governing bodies, affirms that patients scheduled for elective surgery should fast from solids and liquids beginning 6 h and 2 h prior to surgery, respectively [1]. Furthermore, these patients are encouraged to drink clear fluids up to, but not beyond, 2 h before surgery. Although emergency surgical patients are at a higher risk of aspiration than elective surgical patients, it is widely accepted that patients listed for emergency surgery may follow the normal fasting guidelines [2]. Noncompliance with these aforementioned guidelines results in unnecessarily prolonged preoperative fasting times, avoidable early initiation of intravenous fluid administration, and adverse effects on patient satisfaction.
Aims: To identify the mean duration of preoperative fasting from solids and liquids, separately, in general surgical patients listed for emergency surgery in an Irish public regional hospital. To identify the percentage of these patients initiated on preoperative IV fluids more than two hours before transfer to the operating theatre (OT). To assess patients' satisfaction regarding duration of fasting.
Methods: 40 general surgical patients listed for emergency surgery, comprised of 33 adults and 7 children, were used in this audit. The duration each individual patient fasted from solids and fluids, respectively, was identified by obtaining the time they were instructed to begin fasting and then the time they were transferred from the ward/ED to the OT. This conservatively underestimates the fasting interval as it does not account for the time between transfer to the OT and initiation of GA. Patients receiving IV fluid infusion for greater than 2 h before surgery were identified by obtaining the time they were initiated on IV fluids and comparing it with the time they were transferred to the OT. Each individual patient's satisfaction level regarding their respective duration of fasting was assessed via a survey in which he/she was asked to grade their level of satisfaction by choosing from one of the following categories: very satisfied, satisfied, indifferent, unsatisfied, or very unsatisfied.
Results: The audit identified a mean preoperative fasting time of 14.845 and 14.27 h for solids and liquids, respectively. Furthermore, all patients were fasting from both solids and liquids for more than 6 h before surgery. 60 % were initiated on IV fluids more than 2 h before being transferred to the OT. Regarding their individual duration of preoperative fasting, 0 % were very satisfied, 42.5 % were satisfied, 45 % were indifferent, 12.5 % were unsatisfied, and 0 % were very unsatisfied.
Conclusion: Emergency general surgical patients in Irish public regional hospitals are fasting for several hours in excess of what is advised by international medical governing bodies. It causes up to 60 % of these patients to be initiated on IV maintenance fluids earlier than would otherwise be required. However, the adverse effects of this prolonged fasting duration on patient's satisfaction appears minor with only 12.5 % claiming to be unsatisfied with their instructed fasting duration.

11. Perioperative fasting of elective adult patients

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Background: Perioperative fasting reduces the risk of regurgitation and aspiration of gastric contents. This risk is weighed against the risk of intraoperative hypotension and insulin resistance postoperatively. Guidelines have varied from the "nil-by-mouth-from-midnight" regime to the more liberal "2-4-6" regime, as per the Association of Anaesthetists of Great Britain and Ireland (AAGBI) guidelines, whereby unlimited clear fluids are allowed up to 2 h preoperatively.
Aim: To compare current fasting times for elective adult patients at the Mercy University Hospital (MUH) with AAGBI guidelines.
Method: 50 random adult patients were recruited prior to theatre on their day of surgery. Fasting times were calculated using a verbal questionnaire and noting the first time on the anaesthetic sheet in theatre.
Results: All patients (30) thus far exceed the AAGBI fasting guidelines. Final data will be collated by December 2015.
Discussion: Patients, irrespective of whether they arrive on the day of surgery or are current inpatients, generally fast for similar times, all longer than the AAGBI guidelines. Theatre and ward staff should be aware of current AAGBI guidelines and current protocols should be adjusted to enhance compliance. This will improve the safety of patient care.

12. An audit of the potential for abuse of opioids in the theatre setting

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Introduction: Anaesthetists and theatre staff have access to drugs with a potential for abuse on a daily basis. Steps are taken to reduce the potential for abuse of these drugs, such as locking them away and signing for them. Once signed for, however, the trail stops. There is no monitoring of what is unused at the end of a case. Our aim is to assess the quantity of opioids unaccounted for on the main theatre corridor in CUH. Our objective was to record what was used and what was brought to recovery with the patient.
Methods: We recorded whether fentanyl and morphine were used intraoperatively and the quantities, if any, that were brought to recovery on two separate days. The anaesthetic records were reviewed to see if the numbers recorded added up.

Results: Results were collected from 34 patients over two non-consecutive days. A total of 280 mg of morphine was signed for. Of this, 52.5 mg (18.6 %) was unaccounted for in recovery. 3,000 mcg of fentanyl were used, of which 150 mcg (5 %) was unaccounted for.
Conclusions: Despite the precautions, a significant proportion of morphine and a smaller proportion of fentanyl remain unaccounted for. While there is a system for ensuring the no vials of opioids are missing at the end of the day, the unused drug remains a source of potential abuse. A system of returning unused opioids and disposal of same needs to be considered to minimise the risk of abuse.

13. Triplet pregnancy associated with severe hyponatraemia and preeclampsia

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Severe hyponatraemia associated with pre-eclampsia is rarely seen in pregnancy, with only a small number of reported cases. While often possible to classify hyponatraemia in such cases (hypovolaemic, euvolaemic, hypervolaemic), the underlying mechanism is seldom clear and commonly used drugs are often contraindicated. Urgent delivery may be indicated to prevent life-threatening events including maternal seizures, foetal jaundice, tachypnoea, seizures or polyhydramnios.

A 41 year old female with pre-eclampsia presented at 27 weeks gestation of a triplet pregnancy with lower limb oedema and mild dyspnoea. She was found to be hyponatraemic. A gradual decline in sodium occurred; at 30 weeks serum sodium was 117 with oedema extending to her abdomen and upper extremities. She was admitted to ICU to optimise sodium and had C-section under general anaesthetic when sodium reached 122. Sodium returned to normal 4 days post delivery and triplets were eventually discharged.

Most reported cases to date are of hypervolaemic hyponatraemia and neurological signs and symptoms are often absent. Severe hyponatraemia may, however, precipitate seizures making it difficult to differentiate from eclampsia. Treatment of hyponatraemia in the pre-eclamptic (as in this case) should include blood pressure control, close monitoring of sodium levels and fluid restriction. Worsening severe hyponatraemia is an indication for delivery but low sodium levels should be managed effectively prior to anaesthesia. Early recognition is vital, therefore, and where possible (with multidisciplinary team input) sodium levels should be optimised to prevent further morbidity and ensure that the patient is effectively managed prior to anaesthesia, if ultimately required.

14. Train of four monitoring

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Aims: To determine the usage of peripheral nerve stimulation during neuro-muscular blockade, by the anesthetic doctors in UHG.
Methods: We carried out a survey to determine the current practice in anesthesia department, in UGH, regarding the use of peripheral nerve stimulation during neuro-muscular blockade. Short, anonymous questionnaire were completed by the doctors.
Results: We received completed questionnaires from 39 anesthetic doctors. 64 % of the doctors don't use TOF(train of four) monitoring after administration of muscular relaxant medication; most of them are using facial and ulnar nerve for assessment of TOF; only 3 are usually using mechanomyography; most of the doctors don't give routinely reversal after neuro-muscular blockade; 33 % of them had a case of incomplete reversal in the last 6 months, the most frequent complication being difficulty breathing; for 59 % using of nerve stimulator don't influence the choice to give reversal or the choice of reversal agent. 56 % were NCHDs and 44 % Consultants.
Conclusion: The majority of the doctors in Galway University Hospital, Anesthesia Department, do not use TOF monitoring and don't give routinely reversal after administration of muscular relaxant medication. Even though the incomplete reversal rate was low and the complications were mostly difficulty breathing, there is still room for improvement.

15. Spinal cord infarction as a rare complication of fat embolism syndrome following bilateral intramedullary nailing of femur fractures

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Fat embolism syndrome (FES) is a rare and potentially fatal complication occurring most often after long bone or pelvic fractures and orthopaedic procedures. It can consist of pulmonary, central nervous system and cutaneous manifestations. The exact pathophysiology of emboli reaching the arterial circulation is poorly understood. It is suggested that this may occur by paradoxical embolism or microembolism [1]. Its true incidence is unknown but increases in the presence of multiple closed fractures [2]. It can be a diagnostic dilemma for clinicians and if suspected diffusion weighted magnetic resonance imaging (MRI) is the modality of choice for investigation of the central nervous system.

Here we present the case of a 22 year old man who presented to hospital following a road traffic accident. He had multiple fractures including bilateral femur fractures, a fibular fracture a clavicular fracture and multiple rib fractures. Following bilateral intramedullary nailing of his femur fractures he became drowsy and had a Glasgow Coma Scale of 11. An MRI brain demonstrated multifocal cerebral infarcts, a right-sided cerebellar infarct and an infarct in the anterior cord bilaterally at the level of C5 to C6, with no other evidence of trauma.

While cerebral fat embolism syndrome is documented in the literature, this case highlights the rare occurrence of a spinal cord infarct in the setting of fat embolism syndrome in a patient with no right to left shunt.

16. An audit of management of post dural puncture headache in University Maternity Hospital Limerick

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Post dural puncture headache is a recognised complication of neuroaxial anaesthesia with an incidence of approximately one percent [1]. Accepted management of post-dural puncture headache can be conservative or active, involving epidural blood patch. Epidural blood patch has a success rate of up to 98 percent [2], but may cause complications.

The objective of this study was to look at local practice regarding the management of post-dural puncture headache, including methods and timing of management, and to compare these with current standards.

Patients were identified from a case-log kept by the Department of Anaesthesia in the University Maternity Hospital Limerick, between January and November 2015. Cases of noted dural tap during epidural anaesthesia, those reviewed for headache post-delivery, and those entered into the log as epidural blood patch were considered for chart review. Those with suspected post-dural puncture headache were included. Timing of onset of headache, first review by anaesthetist and time taken for epidural blood patching (if appropriate) were examined.

During this 11 month period, 2636 neuroaxial procedures were carried out. Epidural blood patch was carried out in nineteen cases, giving an overall epidural blood patch rate of 0.7 percent. Time to decision to treat was variable.

Rates of epidural blood patching appear to be in line with recognised rates of post-dural puncture headache. At present, however, there is no clearly defined pathway for management of post-dural puncture headache, and no local written guidelines for the temporal management of this complication.

17. Perceived injustice and resistance to change in chronic pain patients

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Perceptions of injustice are subjective thought processes that result in feelings of blame, unfairness, loss, and suffering. They occur following exposure to various life events, such as violation of basic human rights, transgression of status, challenge to equity norms, unnecessary suffering due to another's actions, or irreparable loss [1]. The Pain Stages of Change Questionnaire (PSOCQ) was developed to help clinicians determine a patient's readiness for a self-management approach to chronic pain. We postulated that chronic pain patients with high levels of perceived injustice are less willing to change their behaviours. In a prospective observational study, associations between perceived injustice scores and pain stages of change scores in patient's first referral to a chronic pain clinic were assessed. One hundred adult patients were included. Pearson correlation coefficients demonstrated that Pre-contemplation was positively associated with IEQ scores, whereas Action and Maintenance showed the opposite findings. Chronic pain patients with high levels of perceived injustice are less willing to change their behaviours. This is useful information in a patient treatment plan.

ORTHOPAEDIC POSTER SESSION

18. Management of torus fractures of the distal radius: a review of the literature

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Torus or buckle fractures of the distal radius are a common reason for presentation to Irish Accident and Emergency Departments. Traditional approaches to this fracture management involved immobilisation in a below elbow circumferential cast. Recent research has investigated the role of removable splints, the need for serial radiology and the efficacy of fracture clinic review. However to our knowledge there are no current guidelines compiling all this data into one succinct evidence based recommendation. Our aim, was to review the literature and compile it into one evidence based protocol.

We performed a structured review of PubMed, EMBASE, BioMed and Cochrane electronic databases using "radius torus fracture" and "radius buckle fracture" keyword searches. Exclusion criteria included non-english, text unavailable online, case reports, commentaries and research not exclusive to torus fractures. 57 publications were identified initially and 17 articles were deemed eligible.

Current research indicated that torus fractures should be managed with a removable splint supplied in A&E and worn for 3 weeks. There is no need for structured fracture clinic follow up or repeat radiological imaging, which represents a cost saving for patients, parents and the health service. All patients should be given an information sheet and informed about possible complications. A&E x-rays should be officially reported on to avoid misdiagnosis.

We, the authors, have no conflicts of interests or disclosures to identify with regard to the above original research paper.

19. The average change in haemoglobin after hip surgery in a trauma orthopaedic service at a Cork university teaching hospital

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Background: For an orthopaedic service to run efficiently, patients should have pre-operative tests performed. Delays in availability of a full blood count (FBC) can delay the operative list, particularly hip operations which can be associated with a large volume of blood loss.
Aims: We calculated the average age of the FBC accompanying patients to theatre and assessed if there was a significant difference between pre-operative and post-operative haemoglobin and haematocrit concentrations.
Methods: This is a retrospective observational study. We recorded unique patient identifiers from patients undergoing hip operations in CUH in October 2015. We measured the change in haemoglobin (Hb) and haematocrit (HCT), the date and time of the pre-operative and post-operative FBC.
Results: There were 51 patients (31 female, 20 male) with a mean age 74.59 years, SD 17.38 years. We recorded data from 52 operations including bipolar hemiarthroplasties (38 %), dynamic hip screws (28 %), total hip replacements (14 %), intramedullary nail/InterTan nail (9 %) and Girdlestone procedure (2 %). average pre-operative FBC was 1.192 days old, 95 % CI (0.680, 1.704). Average pre-opeartive haemoglobin was 11.88 g/L, 95 % CI (11.40, 12.37). Average post-operative Hb was 10.44 g/L, 95 % CI (9.94, 10.93). The average drop in Hb post-procedure was 1.533 g/L, 95 % CI (1.19, 1.876), which is stastistically significant (p-value <0.0001) 95 % CI (−2.137, −.7593). There was a mean drop in haematocrit of 0.0444, 95 % CI (0.033, 0.055) post-procedure meeting statistical significance (p-value <0.0001) 95 % CI (−0.064, −0.024).
Conclusion: We observed a signficant fall in haemoglobin and haematocrit over pre-operative and post-opaerative periods, highlighting the importance in having FBC pre-procedure.

20. Alkaptonuria; the mummy returns

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Here we present 2 cases of alkaptonuria, a rare inherited genetic disorder in which the body cannot process the amino acids phenylalanine and tyrosine caused by a mutation in the HGD gene. Both cases are unique but with some important similarities secondary to the degenerative nature of the disease.

The accumulating homogentisic acid causes damage to cartilage (ochronosis, leading to osteoarthritis) and heart valves as well as precipitating as kidney stones and stones in other organs. Symptoms usually develop in people over 30 years old, although the dark discoloration of the urine is present from birth.

The first a 70 years old female who had severe knee and hip OA, and the second a 55 years old male with significant hip knee and shoulder osteoarthritis, and renal calculi. Both patients had clinical signs pathagonomic of the disease. The average age at requiring joint replacement surgery is 50–55 years.

Alkaptonuria is indeed a rare entity; in most ethnic groups, the prevalence of alkaptonuria is between 1:100,000 and 1:250,000.

While quite a rare disease it is a very significant one none the less as it causes a very heavy burden on healthcare systems, and requires an MDT approach in managing the patient.

21. Trends in the morbidity and mortality of farmyard injuries in Ireland: a 10 year analysis

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Introduction: The farming and agricultural sector remains one of Ireland's primary industries with an occupational exposure to numerous potential injury hazards from livestock to machinery. Despite technological advancement mortality rates remain higher than the European average.
Aim: The aim of this study is to analyze the national trend in farmyard related fractures, injuries and related mortality in Ireland over the last 10 years.
Methods: We evaluated national data in Ireland from 2005 to 2014 using the Hospital InPatient Enquiry system, with inclusion of fractures occurring in the farmyard setting. 61 acute Irish Hospitals are included using the ICD-9/10-AM coding systems.
Results: From 2005 to 2014 there were 2064 farm related fractures recorded compared with 230,226 national all-cause fractures. Total number of farmyard injuries reported has shown an overall declining trend from 2005 to 2014 (n: 235 to n: 197), mirrored in total national fracture trends from the same period (n: 23,442 to n: 19,958). Lower limb injuries are most common, accounting for 39.8 % (n: 822) of total farmyard fractures. This is followed by upper limb 32.6 % (n: 673) and axial skeleton 27.6 % (n: 569). Ankle fractures in isolation remain consistently the most injured area with the neck/cervical spine the least injured. Mortality rate for farmyard injuries remains disproportionately high in Ireland averaging 27.3/100,000 since 1993 when compared with 12/100,000 across the European Union. On average there are 18 fatalities per year in the farming sector accounting for up to 50 % of all workplace deaths and a record high of 30 total fatalities in 2014 recorded.
Conclusion: Despite a decrease in incidence of farmyard fractures over 2005–2014, mortality rates have increased indicating the alarming continued occupational hazards and severity of sustained injuries.

22. Financial impact of missed adverse events in joint arthroplasty content validation of adverse event assessment form

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Introduction: Funding for Joint Arthroplasty Surgery has moved to a 'payment-by-results' model and a national tariff payment system. Within this constraint, adverse clinical events can have a significant effect on institutional income and financial viability, particularly when events are either not recorded or recognized with the tariff system. We depend heavily on administrative 'abstraction method' for collecting complication data to define patient outcomes via HIPE coding systems. In this study we aimed to compare a system of recording postoperative adverse events with a prospective data collection tool for joint arthroplasty.
Methods: An adverse events form adapted from a validated Spine AdVerse Events Severity system was used to prospectively record complications [2]. 51 patients undergoing total hip or knee arthroplasty in MWROH were included. Both data sets were compared, with the prospective data collection method re-coded to determine the funding gap when compared with traditional HIPE coding.
Results: There were 114 postoperative adverse events recorded during the study, compared with only 15 adverse events via HIPE. Wound ooze was the most common (15.8 %) with anaemia/LRTI constituting 7.9 % each and cardiac events 7 %. A total of €61,956 funding deficit was calculated between data sets, with 10 patients generating a higher complexity coding after re-coding. With approximately 600 procedures performed annually in MWROH, the potential funding gap could be up to several-hundred thousand Euros per year of missed funding.
Conclusion: This study demonstrates the ability to improve the adverse events-capturing in arthroplasty using a well-designed assessment tool, clear definition of adverse events and an easy-to-use severity grading system.